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VIA ELECTRONIC MAIL

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Re: Comments on Significant Permit Modification No.: 089-48719-00121

Dear Mr. Noveer:

Environmental Law and Policy Center, Environmental Integrity Project, Gary Advocates for Responsible Development, National Parks Conservation Association, Conservation Law Center, and Abrams Environmental Law Clinic (“Commenters”) submit the following comments regarding the 089-48719-00121 Significant Permit Modification for U.S. Steel Corporation – Gary Works Part 70 Operating Permit issued on May 7, 2025.

Commenters appreciate the opportunity to provide comments on this draft Significant Permit Modification (“SPM”) published by the Indiana Department of Environmental Management (“IDEM”) for the Gary Works plant (“Gary Works”) owned and operated by U.S. Steel Corporation (“USS”). Commenters have significant concerns with the proposed permit revisions, particularly regarding the proposed modifications to the particulate matter emissions limits for the pig iron caster and the equation used to determine compliance with those limits (“Compliance Equation”). Commenters describe these issues below and propose revisions to the permit or other measures to remedy them. Please reach out with any questions.

I. Commenters

Environmental Law and Policy Center (“ELPC”) is the Midwest’s leading environmental legal advocacy organization. Its mission is to ensure that everyone in the Midwest has healthy clean air to breathe, safe clean water to drink, and can live in communities without toxic threats. As part of this work, ELPC focuses on industrial pollution along the Indiana lakeshore, seeking to make industry comply with the environmental regulations to reduce pollution and improve the landscape where people live, work, and play.

The Environmental Integrity Project (“EIP”) is a national nonprofit organization dedicated to advocating for more effective environmental laws and better enforcement. EIP has three goals: (1) to provide objective analyses of how the failure to enforce or implement environmental laws increases pollution and affects public health; (2) to hold federal and state agencies, as well as individual corporations, accountable for failing to enforce or comply with environmental laws; and (3) to help local communities obtain the protection of environmental laws.

II. Background

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 3,700 workers. IDEM issued a Part 70 Operating Permit Renewal No. T089-46943-000121 on May 7, 2025, for the Gary Works steel mill. USS submitted an application to revise the Operating Permit on January 31, 2025. The proposed SPM involves the regulation of particulate matter emissions from USS's pig iron caster.

Particulate matter ("PM") is a dangerous pollutant that causes decreased lung function and increases rates of asthma, heart attacks, and premature death.¹ Particulate matter also causes reduced visibility and haze across the United States. USS is one of Indiana's largest polluters, and its source-wide emissions are over 100 tons per year for PM, PM10, and PM2.5.² Its emissions may contribute to the Indiana Dunes National Park's rankings as among the top 10 National Parks with unhealthy air and hazy skies, due to the high concentrations of particulate matter, ozone, and other pollutants.³

III. Comments on the PM Emissions Compliance Equations for the Pig Iron Caster

A. IDEM Must Revise the Compliance Equations to Include Numeric, Rather than Variable, Emissions Factors.

The Compliance Equation in the revised permit currently uses a variable for the emissions factors for PM, PM10, and PM2.5, which are defined as follows:

- EF, PM = filterable PM emission rate from most recent stack test
- EF, PM-10 = filterable and condensable PM-10 emission rate from most recent stack test
- EF, PM-2.5 = filterable and condensable PM-2.5 emission rate from most recent stack test.⁴

These equations are unenforceable as currently written and thus do not comply with the requirement that part 70 permits must include clear and enforceable terms to ensure compliance with the PM emission limits.⁵ The proposed language indicates that compliance with PM limits is determined using rates "from the most recent stack test," but this term is not specifically defined

¹ U.S. EPA, *Health and Environmental Effects of Particulate Matter (PM)*, available at <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>.

² Technical Support Document for the SPM ("TSD") at 6 (PDF pg. 227 of IDEM's combined SPM permitting file, available at <https://permits.air.idem.in.gov/48719d.pdf>).

³ 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>.

⁴ SPM at 148, Condition D.30.5 (PDF pg. 152).

⁵ 42 U.S.C. § 7661c(a) and (c); see also 40 C.F.R. § 70.6(a)(1) and (3) and *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, at 7 (explaining that a permit's terms must be "sufficient to enable regulators and citizens to determine whether the limit has been exceeded and, if so, to take appropriate enforcement action").

in the SPM. The Compliance Equation uses the variables EF,PM; EF,PM-10; and EF,PM-2.5. The Table on Page 2 of Appendix A to the Technical Support Document (“TSD”) calculates multiple different emissions factors: Outlet Emissions Factor; Controlled Emissions Factor; EF, Controlled Filterable; EF, Controlled Condensable; and EF, Total. It does not include a numeric value for EF,PM; EF,PM-10; and EF,PM-2.5. This makes it unclear what emissions factor USS will actually be using to determine compliance with the PM limits at the pig iron caster if this Permit Modification is approved. IDEM must revise the permit to explicitly state what numeric emissions factor USS is expected to use in the Compliance Equation.

Further, at the Public Meeting, IDEM officials claimed that this Compliance Equation will be “practically enforceable” because the stack test results and monthly throughput will be recorded by USS and made public. But again, the Compliance Equation only states that the Emissions Factor variable will be the “emission rate from the most recent stack test” but does not explain exactly how that emissions rate should be calculated from the stack testing results. The Compliance Equation must be written in clearer and more enforceable terms to comply with the Clean Air Act.⁶

In addition, this term would allow the Compliance Equation to change any time USS conducted new stack testing, without modifying the permit or allowing IDEM or the public to review that change, which is also not allowed under the rules for part 70 permits.⁷ IDEM’s analysis indicates that stack testing results from 04/09/2024 should be used for filterable and condensable PM emissions,⁸ but that explanation does not change the fact that the compliance terms, and thus the underlying PM limits, are unenforceable on their face. Revising the permit term to specifically reference the 04/09/2024 testing would not resolve this issue since those tests resulted in a range of PM emissions, as discussed above.

IDEM must revise the Compliance Equation in the SPM to include specific, numeric emissions rates. If USS conducts additional testing in the future, it can seek to revise the permit as necessary, just as it has requested in this action. For further clarity, we suggest that IDEM revise the permit to include the specific numeric emissions factors, rather than include the equations used to determine the emissions factors.

B. IDEM Must Incorporate Fugitive Controlled Emissions in the Compliance Equation.

USS properly attempted to quantify emissions not captured by the hood in the initial emissions factor calculations contained in the SPM.⁹ The EF, Total calculated in Appendix A of the TSD included a Fugitive Emissions Factor, which was the difference between the Uncontrolled Emissions Factor and the Inlet Emissions Factor. This accounts for the emissions that escape from the hood and are not captured by the baghouse filter. However, the Compliance Equation contained in Condition D.30.5 calculates PM using an Emissions Factor defined as the “emissions rate from the most recent stack test” and Condition D.30.6 states that this testing is only required to be

⁶ *In the Matter Of: Yuhuang Chemical Inc. Methanol Plant St. James Parish, Louisiana*, (August 31, 2016), https://www.epa.gov/sites/default/files/2016-09/documents/yuhuang_response2015_0.pdf at 21 (finding permit term inadequate, due in part, to the permit's failure to "specify the value of [the] emission factor to be used in any compliance demonstration calculations" and because it was "not clear how the accuracy of this emission factor would be verified").

⁷ 40 C.F.R. § 70.7(e).

⁸ TSD App. A at 2 (PDF pg. 252).

⁹ TSD App. A at 2 (PDF pg. 252).

conducted “after controls.” This means that the Compliance Equation does not incorporate a Fugitive Emissions Factor or quantify emissions that are not captured by the hood. The Compliance Equations used to determine whether USS is complying with its emissions limits must include these emissions. The Compliance Equations should either attempt to quantify a percentage to apply to estimate fugitive emissions or should require inlet testing. For instance, the total emission factor for PM was above the stack emissions by 3.7%. IDEM could incorporate that factor into the equation by taking the measured outlet and multiplying by 1.037.

IV. Comments on the Frequency of Testing and Variability

A. IDEM Should Require USS to Conduct Annual Testing of PM Emissions from the Pig Iron Caster.

IDEM should require USS to test the pig iron caster’s PM emissions annually until it can accurately determine whether the emissions are consistent over time. The monitoring requirements included in the permit must “assure compliance by the source with all applicable requirements.”¹⁰ The “time period associated with monitoring or other compliance assurance provisions must bear a relationship to the limits with which the monitoring assures compliance.”¹¹ The current requirement that USS only test PM emissions every 5 years¹² is arbitrary and inconsistent with the variability of the emissions shown by the testing. The emissions results included in the SPM show a wide variability in a relatively new unit over a relatively short period of time.¹³ For example, the most recent set of testing had an average PM condensable outlet emissions factor of 0.020.¹⁴ But the outlet emissions factor from the prior set of testing was much higher, at 0.024 and the average of all nine tests was 0.0226. So, using the most recent value would likely underestimate the PM condensable emissions. Given that, there is little reason to assume that the most recent test will be at all representative of 5 years of emissions. USS should be required to test at least annually until there is a sound basis to believe that emissions are consistent enough to decrease the testing frequency.¹⁵ Without that, there is no reasonable assurance that the pig iron caster will be in compliance with the emissions limits over the 5-year period.

B. IDEM Should Require USS to Conduct Additional Testing to Determine the Seasonal Variability of the Pig Iron Caster’s PM Emissions.

IDEM should require USS to conduct additional testing to determine whether the pig iron caster’s PM emissions vary based on the season. USS initially sought to determine the seasonal variability of emissions, but the winter test results were thrown out due to inconsistencies.¹⁶ This

¹⁰ 40 C.F.R. § 70.1(b).

¹¹ *In the Matter of United States Steel Corporation, Clairton Coke Works Permit No. 0052-OP22* (Sept. 18, 2023), https://www.epa.gov/system/files/documents/2023-10/us-steel-clairton-order_9-18-23.pdf, at 9; *see also* 40 C.F.R. § 70.6(a)(3)(i)(B).

¹² SPM at 148, Condition D.30.6 (PDF pg. 152).

¹³ TSD App. A at 3 (PDF pg. 253).

¹⁴ TSD App. A at 3 (PDF pg. 253).

¹⁵ *In the Matter of United States Steel Corporation – Granite City Works*, (Jan 31, 2011), https://www.epa.gov/sites/default/files/2015-08/documents/uss_response2009.pdf at 14 (stating that if emissions factors are used to demonstrate compliance in a permit, the permit must also “provide sufficient evidence to demonstrate that the emissions will not vary by a degree that would cause an exceedance of the standards.”)

¹⁶ Numbers obtained from Gary Works – Permit Application to Modify Title V Permit – Pig Iron Caster (“Application”), Attachment B at 1 (PDF pg. 11).

left only results from April to September to be used in requesting the revisions contained in the SPM. USS and IDEM cannot determine the seasonal variability of the PM emissions without testing from all seasons of the year. Varying flue temperatures result in varying PM emissions, and the available data shows that the flue temperature was significantly lower during the winter months.¹⁷ Therefore, IDEM should require USS to conduct new testing in winter months to verify that USS can continue to comply with the PM emission limits during that time. Not only is such compliance required under the Clean Air Act, but cold air traps pollutants like PM closer to the ground, so any increases to PM emissions during the winter months would also increase their health risks.¹⁸

V. Comments on Capture Efficiency and Baghouse Reduction Efficiency

A. IDEM Should Require USS to Continuously Monitor the Capture Efficiency of the Baghouse and Building.

USS assumed very high capture efficiency rates: 95% baghouse capture efficiency and 70% building capture efficiency.¹⁹ EPA has created continuous monitoring requirements and methods for Integrated Iron and Steel Sources.²⁰ IDEM should incorporate one of those monitoring methods into the permit. Uncontrolled emissions are very high at this unit, so without proper capture, the project could exceed the threshold for a major source. The Process Flow Diagram for the Gary Works Pig Iron Caster shows that the hood captures many processes, including the torpedo car, casting launcher, and the tundish.²¹ So if the baghouse filter is not achieving its assumed capture efficiency, emissions from these processes will be greater than estimated. Ensuring proper capture is a necessary part of the permit to avoid PSD applying.

At the very least, IDEM should require USS to explain the engineering analysis behind these high capture efficiency estimates. These estimates should have parameters, such as flow rate or facial velocity, to ensure that the estimated capture efficiency is maintained. The only required parameter in the permit is pressure drop,²² which will show that the baghouse is functioning, but pressure drop does not translate into specific PM emission rates that are necessary to determine compliance with the PM limits in the permit.²³ The pig iron caster unit also includes a quenching process, which generates steam that is captured by steam hoods.²⁴ A baghouse pressure drop

¹⁷ TSD App. A at 3 (PDF pg. 253).

¹⁸ Copernicus Atmosphere Monitoring Service, *Cool, dry conditions favour high pollution levels: your CAMS guide to winter's air quality issues*, available at <https://atmosphere.copernicus.eu/cool-dry-conditions-favour-high-pollution-levels-your-cams-guide-winters-air-quality-issues>.

¹⁹ TSD App. A at 2 (PDF pg. 252).

²⁰ 40 C.F.R. § 63.7830(a), (b).

²¹ Phoenix Services LLC Gary Works Pig Caster, New Source Administrative Title V Permit Request, 089-44653-00668, October 22, 2021 (PDF pg. 10 available at https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83232184&dDocName=83233789&Rendition=web&allowInterrupt=1&noSaveAs=1).

²² In the context of revising the Iron and Steel Area Source Rule, EPA “agreed that pressure drop is not a good indicator of baghouse performance and replaced this parameter with other inspection and maintenance requirements for baghouses and other PM control devices in the final rule.” American Foundry Society, *Iron and Steel Area Source Rule*, available at <https://www.afsinc.org/iron-steel-area-source-rule>. This highlights why IDEM should include other compliance monitoring measures in Condition D.30.8.

²³ SPM at 149, Condition D.30.8 (PDF pg. 153).

²⁴ Phoenix Services LLC Gary Works Pig Caster, New Source Administrative Title V Permit Request, 089-44653-00668, October 22, 2021 (PDF pg. 10 available at

monitoring requirement will not provide any information on whether those steam emissions are being properly captured by the steam hoods. USS should be required to explain the engineering analysis that generated the 95% and 70% capture efficiency estimates, and IDEM must explain how specific pressure drop readings correlate to specific PM emission rates and thus permit compliance.

B. IDEM Should Require USS to Analyze the Baghouse Filter's Low Reduction Efficiency.

IDEM should require USS to further analyze and explain the baghouse filter's low reduction efficiency shown in the test results before approving the revised permit. Typical pulse-jet baghouse efficiency is 99%²⁵ and USS is assuming a baghouse efficiency of 95%.²⁶ Here, the testing results, summarized in Table 1, show that the baghouse filter is achieving much lower reduction efficiency rates.

Table 1: Baghouse Reduction Efficiency Rates²⁷

	Inlet Emissions Factor (lb/ton)	Outlet Emissions Factor (lb/ton)	Reduction Efficiency
PM filterable	0.0433	0.0163	62.4%
PM10	0.0307	0.0127	58.6%
PM2.5	0.0182	0.0057	68.7%
PM condensable	0.05	0.0201	59.8%

The control efficiency for filterable particulate matter ranges from 57 to 83% and for condensable particulate matter ranges from 31 to 60%.²⁸ While baghouses take time to build up cake on a new filter and reach maximum efficiency, USS tested the efficiency over the course of a year and all of the reduction efficiency results were much lower than expected. Without understanding why the reduction efficiency is so low, IDEM cannot set proper parameters to ensure that the reduction efficiency does not drop even further. Before IDEM approves the SPM, it should require USS to conduct additional analysis to understand the baghouse operation and reduction efficiency to ensure compliance with the emissions limits.

https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83232184&dDocName=83233789&Rendition=web&allowInterrupt=1&noSaveAs=1); see also Figure 1, *infra* page 8.

²⁵ See U.S. EPA, *Air Pollution Control Technology Fact Sheet*, EPA-452/F-03-025, available at <https://www3.epa.gov/ttnchie1/mkb/documents/ff-pulse.pdf>.

²⁶ TSD App. A at 2 (PDF pg. 252).

²⁷ Numbers derived from the data on TSD App. A at 3 (PDF pg. 253). The inlet and outlet emissions factors are the average of the three stack tests conducted on 04/09/2024.

²⁸ Numbers derived from the data on TSD App. A at 3, (PDF pg. 253). The control efficiency was calculated using the average values of the 3-run test sets.

VI. Comments on the Pig Iron Quenching and Handling Process

A. IDEM Should Not Remove the Pig Iron Handling Process From the Fugitive Emissions Calculations.

The SPM removes both the pig ingot drop discharge bunker and the loader dump discharge bunker as sources of fugitive emissions in A.4(ss).²⁹ It also removes the requirement, contained in Condition D.30.1, that USS control the fugitive emissions from the loader dump discharge and pig ingot casting discharge “by wet suppression with a control efficiency of no less than 50%.”³⁰ USS justifies these changes by stating that “the ingot discharge process was not observed to produce any particulate emissions or opacity, and the addition or usage of further spray water to control emissions would have no further control effect.”³¹ Such observations alone do not support removing the wet suppression control requirement in D.30.1 or the fugitive emissions calculations. Operational practices could degrade or discharge materials could change over time, resulting in visible emissions. Indeed, in the application, USS recommended either eliminating pig ingot discharge and handling from the emissions calculations as “de minimis” or taking an alternative, conservative approach of retaining the “emissions calculation for pig ingot discharge and handling and revising the emissions control factor from 50% to 95%, which is the control factor used for washed stone.”³² USS is proposing to increase its PM emissions limits from the stack to just under the PSD limits based on the SPM’s new fugitive emissions estimates. Therefore, if the fugitive emissions estimates are incorrect, USS will be emitting above the PSD limits. To avoid this possibility, IDEM should be conservative and use the alternative approach proposed by USS and retain the wet suppression requirement and fugitive emissions calculation from pig ingot discharge and handling with an assumed 95% control factor.

B. IDEM Must Account for PM Emissions From the Quenching Process.

Based on the Pig Iron Caster diagram, shown in Figure 1, it appears as if the quenching process occurs outside of the hood leading to the baghouse.

²⁹ TSD at 12 (PDF pg. 234).

³⁰ TSD at 13 (PDF pg. 235).

³¹ Application, Attachment B at 3 (PDF pg. 13).

³² *Id.* at 4 (PDF pg. 14).

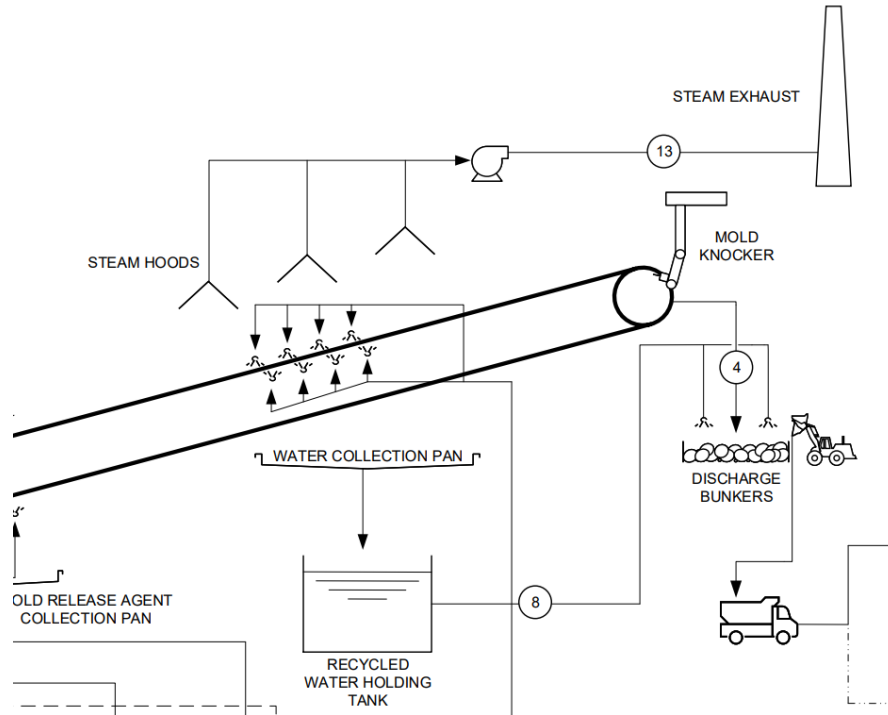


Figure 1: Quenching Process from Pig Iron Caster Diagram³³

Instead, steam generated from the quenching process is captured by steam hoods and sent to a steam exhaust. According to the diagram, there are no air pollution control devices associated with the steam exhaust. The steam from the pig iron quenching process may contain PM emissions which are being released through the steam exhaust. IDEM must explain how the steam emissions from the quenching process are being treated and regulated. Further, the permit must account for any PM emissions generated by the quenching process that are not captured by the baghouse hood, otherwise USS will exceed the PSD emissions limit.

VII. Comments on the PM Emissions Limits Established for the Pig Iron Caster

A. IDEM Should Recalculate the Pig Iron Caster's Potential to Emit PM using the Highest, Rather than Average, Emissions Rate Before it Determines Whether the Compliance Assurance Monitoring Requirements Apply.

A Title V permit must contain Compliance Assurance Monitoring (“CAM”) requirements for any unit that has an uncontrolled Potential to Emit (“PTE”) more than 100 tons/year of a pollutant.³⁴ IDEM must determine the PTE based on “the *maximum* capacity of [the pig iron caster] to emit a pollutant under its physical and operational design.”³⁵ The New Source Review workshop

³³ Phoenix Services LLC Gary Works Pig Caster, New Source Administrative Title V Permit Request, 089-44653-00668, October 22, 2021, available at https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83232184&dDocName=83233789&Rendition=web&allowInterrupt=1&noSaveAs=1 (PDF pg. 10).

³⁴ 40 C.F.R. 64.2.

³⁵ 40 C.F.R. § 51.166(b)(4) (emphasis added); *see also* 326 IAC 1-2-55 (definition of “potential emissions” are based on emissions from a facility without operation of pollution control equipment based on its maximum production capacity).

manual states that, when determining PTE, the reviewer should use “the worst case uncontrolled emissions rate, which is based on the dirtiest fuels, and/or the highest emitting materials and operating conditions that the source is or will be permitted to use under federally-enforceable requirements.”³⁶ The emissions factors used to calculate the unit’s PTE in the SPM do not follow this “maximum capacity” or “worst case” requirement; instead, they are based on the *most recent or average* testing results.³⁷ The SPM removes the pig iron caster from CAM requirements based on this improper calculation of uncontrolled PTE, which found it was below the 100 tons/year CAM threshold.

For filterable PM, the emissions factor is the average of the most recent 3-run set of stack tests. For PM and PM2.5, the most recent average was also the highest average of all the testing sets, but for PM10, the most recent average was the lowest average value.³⁸ The emissions factor used for condensable PM was the average of the 9 valid test runs.³⁹ The testing results demonstrate the variability of PM emissions from Gary Works’ operations and emphasize the importance of using the highest, rather than average, emission value during the permitting process. For example, the highest average of the filterable PM 3-run sets was 0.0163 lb/ton, which is 42% higher than the average result of all 9 test runs. Therefore, IDEM should revise the PTE to be based on the highest recorded emissions rate. IDEM cannot remove the pig iron caster unit from the CAM requirements until it properly calculates the uncontrolled PTE to determine whether it is actually under 100 tons/year.

B. IDEM Should Revise the Limits for Filterable PM and PM10 to be Based on Feasible Production Rates.

IDEM should revise the limits set for different PM emissions so that they are based on the same production rates. Currently, the emissions limits set for PM filterable, PM10, and PM2.5 could only be reached based on extremely different levels of production of pig iron, as shown by Table 2.

³⁶ U.S. EPA, *New Source Review Workshop Manual* (DRAFT October 1990) at A.19, available at <https://www.epa.gov/sites/default/files/2015-07/documents/1990wman.pdf>.

³⁷ TSD App. A at 2 (PDF pg. 252).

³⁸ Based on data on TSD App. A at 3 (PDF pg. 253).

³⁹ TSD App. A at 2 (PDF pg. 252).

Table 2: Production Rates Needed to Reach PM Emissions Limits⁴⁰

	Emissions Factor, total (lb/ton)	Controlled PTE (tons/year)	Permit emissions limit (tons/year)	Production needed to reach emissions limit (tons/year)
PM filterable	0.0169	14.84	17.91	2,199,527
PM10	0.0365	31.93	13.03	713,973
PM2.5	0.0292	25.60	9.73	666,438

In practice, the pig iron production rate will be dictated by the emission limit set for PM2.5 because the unit could not reach the limits for PM filterable or PM10 without significantly exceeding the PM2.5 limit. IDEM should revise the emission limits for PM filterable and PM10 to the emissions that would be generated from the maximum pig iron production that still complies with the PM2.5 limit. These limits are shown in Table 3 below.

Table 3: Revised Emissions Limits Set Based on Production Level That Can Meet PM2.5 Emissions Limit

	Permit emissions limit (tons/year)	Actual PTE based on production level from PM2.5 limit (tons/year)	Difference (tons/year)
PM filterable	17.91	5.63	12.28
PM10	13.03	12.16	0.87
PM2.5	9.73	9.73	0

Further, the pig iron caster has a maximum possible throughput of 1,752,000 tons/year, which is significantly below the production limit needed to achieve the PM filterable emissions limit.⁴¹ This only underscores how excessive the PM filterable emissions limit is.

IDEM should set the emissions limits for PM filterable and PM10 to be based on the same production level as the PM2.5 limit. Otherwise, USS could attempt to claim offset credits or allowances in the future because it is emitting under these limits, even though it could never reach the emissions limits in the first place. Further, under the proposed limits, USS could exceed the production limit set by the PM2.5 emissions limit and only be in violation of one of the PM emissions limits. IDEM should set all three emissions limits to be based on the same production level to further deter USS from exceeding that production limit because it would result in three exceedances rather than just one.

⁴⁰ Application, Attachment B at 6 (PDF pg. 16 of Combined Permit Application Documents available at https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83754101&dDocName=83758144&Rendition=web&allowInterrupt=1&noSaveAs=1).

⁴¹ TSD App. A at 2 (PDF pg. 252).

VIII. Summary and Conclusion

Without the above changes, the proposed SPM would endanger public health by increasing avoidable PM emissions. Therefore, the Commenters request that IDEM do the following before approving the SPM:

- Revise the Compliance Equation to include numeric, rather than variable, emissions factors to increase clarity.
- Revise the Compliance Equation so that it incorporates fugitive emissions not captured by the hood leading to the baghouse.
- Require USS to conduct annual testing of the pig iron caster's particulate matter emissions until it is clear that the emissions are consistent.
- Require USS to conduct additional testing to determine the seasonal variability of the pig iron caster's particulate matter emissions.
- Require USS to continuously monitor the capture efficiency of the baghouse and building, or at least, to further explain the engineering analysis used to derive the capture efficiencies used in the permit.
- Require USS to further investigate and explain the low reduction efficiency of the baghouse filter.
- Revise the permit to retain the fugitive emissions calculations for the loader dump discharge and pig ingot casting discharge processes.
- Revise the permit to account for particulate matter emissions from the quenching process.
- Revise the particulate matter potential to emit for the pig iron caster to be based on the highest, rather than most recent or average, emissions factor.
- Revise the particulate matter emissions limits for PM filterable and PM10 to be based on a reasonable production level that will comply with the PM2.5 emissions limit.

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

Sincerely,

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