Illinois Environmental Protection Agency
Bureau of Air, Permit Section
Springfield, Illinois

December 2012

Responsiveness Summary For Public Questions and Comments on the Revision to Construction Permit/PSD Approval 95010001 To Accommodate an Emission Reduction Project at United States Steel Corporation's Granite City Works Granite City, Illinois

Source Identification No.: 119813AAI
Permit No.: 95010001

DECISION

On December 17, 2012, the Illinois Environmental Protection Agency (Illinois EPA) revised Permit 95010001, for United States Steel Corporation, Granite City Works (US Steel), to accommodate a planned emission reduction project for the two basic oxygen furnaces (BOFs) at this steel mill. In response to comments, the revised permit that has been issued, as compared to the draft of a revised permit prepared by the Illinois EPA, clarifies current compliance procedures for the BOFs, which will continue to apply while the new control system for the BOFs is being constructed. The issued permit also clarifies the compliance procedures that will apply after the new control system begins operation.

BACKGROUND

US Steel requested revisions to Construction Permit/PSD Approval 95010001, originally issued in 1996, to accommodate an emission reduction project for the two basic oxygen furnaces (BOFs). This project will involve the installation of a new control system with a filter or "baghouse" for secondary particulate emissions from the BOFs, i.e., the particulate emissions from charging and tapping of the BOFs. This new control system is the subject of an Agreement between US Steel and the Illinois EPA. The actual construction of this system is the subject of a separate application for a construction permit, Application 11050006, which is still pending with the Illinois EPA, Bureau of Air.[1]

Revisions to Permit 95010001 have been made to address certain operational requirements in this permit for the BOFs that will no longer be appropriate or possible when the new control system begins operation. The revisions to Permit 95010001 will also remove operational requirements for the BOFs that are now considered obsolete or outdated given new requirements that apply to the BOFs, notably new emission standards and associated operating requirements for BOFs adopted by USEPA. However, the revisions do not involve the emission limits for the BOFs that were originally set by Permit 95010001.

COMMENT PERIOD AND PUBLIC HEARING

The Illinois EPA Bureau of Air evaluates applications and issues permits for sources of emissions. Applications for air pollution control permits must appropriately address compliance with applicable air pollution control laws and regulations before a permit can be issued. Following its initial review of US Steel's application for revisions to Permit 95010001, the Illinois EPA Bureau of Air made a preliminary determination that the application met the standards for issuance of a revised permit and prepared a draft of a revised version of Permit 95010001 for public review and comment. The comment period for the revised permit was combined with the comment period for a draft of a construction permit for the new baghouse control system, Application 11050006.

The public comment period began with the publication of a notice in the Granite City Press Record on May 30, 2012. The notice ran again in the Granite City Press Record on June 6th and 13th, 2012. A public hearing was held on July 18, 2012 at the Granite City Township office to receive oral comments and answer

[1] The construction permit application for the baghouse control system, Application 11050006, is being processed using "Integrated Processing." Accordingly, the construction permit for this system, if issued, would also authorize related changes to be made by administrative amendment to the Clean Air Act Permit Program (CAAPP) permit for the Granite City Works. (The Clean Air Act Permit Program (CAAPP) is Illinois' operating permit program pursuant to Title V of the federal Clean Air Act for major source of emissions and certain other sources of emissions.) In the draft of the construction permit for the baghouse control system that the Illinois EPA has prepared, the specific changes that would be authorized to be made by administrative amendment to the CAAPP permit for the Granite City Works to accommodate this system would be identified in Part 2 of the that construction permit.

questions regarding the two applications and the two draft permits (the drafts of revised Permit 95010001 and new Construction Permit 11050006[2]). The comment period closed on August 17, 2012.

Following the close of the comment period, the Illinois EPA reviewed the oral comments that were made at the public hearing and the written comments that were submitted. This document was prepared to document this review of comments by the Illinois EPA to accompany the issuance of revised Permit 95010001. As related to US Steel's application for a construction permit for the new baghouse control system, which is still pending, when the Illinois EPA takes final action on that application, the Illinois EPA will prepare a separate responsiveness summary to accompany that action.[3]

AVAILABILITY OF DOCUMENTS

The revision of Permit 95010001 issued by the Illinois EPA and this responsiveness summary are available by internet, http://www.epa.state.il.us/public-notices/.[4] Copies of these documents may also be obtained by contacting the Illinois EPA at the telephone numbers listed at the end of this document.

APPEAL PROVISIONS

The Illinois EPA administers the federal rules for Prevention of Significant Deterioration of Air Quality (PSD), 40 CFR 52.21, for sources in Illinois pursuant to a delegation agreement with USEPA. When Permit 95010001 was originally issued, it provided approval to construct pursuant to the PSD rules. For PSD permits, USEPA's Procedures for Decision Making, 40 CFR Part 124, provides that individuals who submitted comments on the draft of a PSD permit or otherwise participated in the public comment period for a draft of a PSD permit may petition the USEPA to review the issued PSD permit. In addition, any person who failed to file comments or failed to participate in the public comment period on a draft PSD permit may petition for administrative review but only to the extent changes were made to the draft PSD permit by the final permit decision. If comments were submitted on the draft PSD permit that requested changes in the permit, the PSD permit will not become effective until after the period for filing an appeal has passed. The federal procedures governing appeals of PSD permit are contained in the Code of Federal Regulations, "Appeal of RCRA, UIC and PSD permits," 40 CFR 124.19.

To accommodate an appeal of revised Permit 95010001 to USEPA, the revised permit does not immediately take effect upon issuance. The effectiveness of the permit is delayed to provide time for appeal of the permit to USEPA and, if such an appeal is filed, for the appropriate resolution of the appeal.

If an appeal will be submitted to USEPA for the revised permit by regular mail, it should be sent on a timely basis to the following address. If an appeal will be sent by a means other than regular mail, refer to the website of the USEPA's Environmental Appeals Board for instructions http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf).

U.S. Environmental Protection Agency
Clerk of the Board, Environmental Appeals Board (MC 1103B)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460-0001

[2]The draft construction permit also identifies the related changes that would be authorized to be made by administrative amendment to the CAAPP permit for the Granite City Works to accommodate the new baghouse control system.
[3]This responsiveness summary also addresses certain comments related to the draft construction permit that were made by the public at the public hearing. This has been done to respond to all comments from the public in this document.
[4]This information may also be available on the internet database that USEPA Region 5 maintains for certain air pollution control permits issued in Illinois, Illinois Permit Database, available at http://www.epa.gov/reg5oair/permits/ilonline.html.

Telephone: 202/233-0122

QUESTIONS AND COMMENTS WITH RESPONSES BY THE AGENCY

1. The new baghouse would control emissions from tapping and charging of the BOFs, but emissions from refining would continue to be controlled by the existing ESP. Is there a reason that the baghouse could not also control refining?

   The new baghouse system is not designed to control the refining or "primary emissions" of the BOFs because that is not the main target of the Agreement. The bulk of the improvement in control of particulate emissions that is sought is for the secondary emissions of the BOFs, i.e., emissions from charging and tapping of the BOFs. This is where the current control system on the BOFs may be greatly improved to obtain significant benefits for ambient air quality.

   Moreover, baghouses commonly are not considered suitable for control of the primary emissions of a BOF. If one attempted to use a baghouse to control these emissions, the high moisture level in the flue gas entering the baghouse would quickly blind the filter material, interfering with proper operation of the baghouse. The high moisture level is a consequence of the water sprays that are used to cool the flue gas before it enters the baghouse or other control device. This cooling is needed to both protect the control device from damage and, as the volume of flue gas is reduced by cooling, to facilitate effective control of emissions. Accordingly, the primary emissions of BOFs are controlled with ESPs or scrubbers.[5] In this case, primary emissions would continue to be controlled by the existing ESP. The performance of the existing ESP should be expected to improve significantly when it is no longer being relied upon for control of secondary emissions and can be operated for control of only primary emissions.[6]

2. While I am grateful that a baghouse system will be installed on the BOFs, could the system be better? It has taken many years to get to this point. As long as US Steel is installing a baghouse system for the BOFs, why not install the most protective one available, with the greatest emission reduction that can be made. It will be better for public health and perhaps the area can truly meet the National Ambient Air Quality Standards (NAAQS) for particulate matter.

   The Illinois EPA appreciates this sentiment. However, the planned project for the BOFs is appropriate. Secondary emissions from the BOFs will be controlled by a baghouse control system that is specifically designed for effective capture and control of secondary emissions, with greater capacity that the current hooding. This system will be connected to a large baghouse designed for control of secondary emissions, rather than being served by an ESP that must also control the primary emissions of the BOFs.

3. The baghouse at Gateway Energy, the new coke plant in Granite City, is required to remove 99.99 percent of the $PM_{2.5}$ emission. The baghouse proposed to be used for the BOP furnaces would only have 97 percent removal. Why won't the new baghouse for the BOFs be as good as the baghouse at Gateway Energy?

---

[5]For example, the particulate emissions of the other BOFs in Illinois, at Mittal Steel, in Riverdale, in the Chicago area, is controlled by the combination of an ESP system for primary emissions and a baghouse system for secondary emissions.

[6]Accordingly, the Agreement appropriately provided for a new baghouse system for control of emissions from charging and tapping. The Agreement also sets a more stringent limit for the ESP, 0.01 gr/scf , compared to 0.02 gr/scf, However, it did not provide for a new control system be installed for refining emissions of the BOFs, replacing the existing ESP.

The main baghouse at Gateway Energy and the new baghouse planned for the BOFs at the Granite City Works should not be directly compared in the way that they have been in this comment. In fact, the proposed baghouse at US Steel would be subject to the same performance requirement for as the main baghouse at the existing Gateway Energy plant, i.e., a limit of 0.005 gr/scf for filterable particulate matter in the exhaust from the baghouse.[7]

The cited efficiency values for these baghouses actually address different aspects of the performance of these two control systems. As such, they do not provide a direct comparison of the two baghouses and do not indicate that the new baghouse for the BOFs would not be as "good" as the baghouse at Gateway Energy. For the Gateway baghouse, the efficiency value is actually a specification for the removal capability of the filter fabric, not the overall control efficiency of the baghouse. In contrast, the cited efficiency value for the new control system for the BOFs actually addresses the design control efficiency of the new baghouse for secondary emissions from the existing BOFs at the Granite City Works. As such, it considers the actual nature and loading of particulate matter in the stream that would be entering the baghouse. For baghouses, these are critical factors for the numerical value of control efficiency that is achieved by a baghouse when it is used in a particular application. Accordingly, the performance of filter-type control devices is more appropriately addressed, from a technical perspective, in terms of the outlet dust loading that is achievable or required. On this basis, the requirements for these two baghouses are identical.

4. USEPA has certified numerous filters for 99.99 percent removal efficiency for $PM_{2.5}$. According to the construction permit application, the proposed baghouse for the BOFs will have 97 percent removal efficiency for PM.

The Illinois EPA is not aware of any "filters," i.e., baghouses, that USEPA has certified for their removal efficiency. USEPA has certified various <u>filtration materials</u> for achievement of 99.99 percent removal for $PM_{2.5}$. These certifications are based on evaluations of samples of those materials made in a laboratory using a standardized analytical methodology. This methodology involves introducing a stream of particulate matter of uniform size at a constant rate to the sample of filter material that is being tested. As such, USEPA's certifications for filtration materials do not reflect the performance of the filtration fabrics in actual applications, much less the performance of entire baghouse systems. Accordingly, this comment does not provide meaningful data against which to compare the new baghouse control system for the BOFs.

Incidentally, it is expected that, in practice, the overall performance of the new baghouse will be better than 97 percent, which is a design specification for this device that was provided in the application.

5. Is this the best baghouse and filter available? Comparing the proposed baghouse to other baghouse units, will this be the best baghouse available? Are the full capabilities of the baghouse going to be used? Could the baghouse achieve a higher efficiency?

Since the new control system is an emission reduction project, a case-by-case review of the performance or the efficiency of the baghouse is not required by applicable rules. However, as reflected in the construction permit, the new baghouse control system must meet emission limits for particulate matter established by USEPA as Maximum Achievable Control

[7] **Refer to Condition 4.1.5(a) of Construction Permit/PSD Approval 06070020.**

Technology, under the Iron and Steel NESHAP, 40 CFR 63 Subpart FFFFF. As such, a modern baghouse is required.

6. If there is a baghouse control system or filter that would be more protective, that is what I want. I am thrilled about this project but I think of its cost. USEPA is going to set revised NAAQS for $PM_{2.5}$ and ambient air quality in Granite City is not going to meet them. It seems like this is the appropriate time to just get it done. Otherwise, it might not happen for a long time.

The Illinois EPA appreciates the desire to have the most efficient and protective baghouse control system for the BOFs. However, the planned project for the BOFs is a reasonable project that US Steel has committed to implement for control of secondary emissions. A modern capture system connected to a large baghouse will be installed, taking the place of the existing ESP for control of secondary emissions.[8]

7. The draft construction permit for the new baghouse control system would limit its emissions of particulate as particulate matter (PM) but not as PM_{10} or $PM_{2.5}$. For PM_{10} and $PM_{2.5}$, the permit would only require emissions testing followed by submission of a onetime report evaluating PM_{10} and $PM_{2.5}$ emissions with the new control system, presumably for purposes related to the state implementation plan. Why is there no ongoing accountability for PM_{10} and $PM_{2.5}$ emissions?

The permit addresses the particulate emissions of the BOFs in terms of PM because this currently is the most effective and practical way to address these emissions. This is also reason why the Agreement between US Steel and the Illinois EPA addressed the particulate emissions of the BOFs in terms of PM. This is possible because PM, PM_{10} and $PM_{2.5}$ are all different approaches to the measurement and quantification of particulate.[9] As a consequence, limits on the particulate emissions of an emission unit in terms of PM also act in practice to generally address and restrict the unit's emissions of PM_{10} and $PM_{2.5}$. In the simplest terms, a lower limit for particulate emissions in terms of PM, also results in lower emissions of particulate as PM_{10} and $PM_{2.5}$.

Currently, the most effective way to address control of particulate emissions from BOFs is as PM because this is how the particulate emissions of BOFs and their control systems have historically been addressed. There is a body of emission testing upon which to rely when making projections for the PM emission rates that are or will be achievable from BOFs with the use of certain control technology. A similar body of data does not exist for the control of emissions in terms of PM_{10} or $PM_{2.5}$. As a consequence, emission limits expressed in terms of PM can effectively be more stringent than limits expressed in terms of PM_{10} or $PM_{2.5}$. Since they have a better basis, they do not need to account for the high level of uncertainty that would need to be considered if limits were set in terms of PM_{10} or $PM_{2.5}$.[10] Emission limits in

---

[8] There also have been significant improvements in ambient air quality in the Granite City area, with monitoring in recent years showing attainment of the present federal National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$.

[9] USEPA categorizes particulate as supercoarse, coarse, fine and ultra fine. Supercoarse particulate has an aerodynamic diameter of greater than 10 microns, coarse particulate has an aerodynamic diameter between 2.5 and 10 microns, fine particulate has an aerodynamic diameter between 2.5 and 0.1 microns, and ultrafine particulate has an aerodynamic diameter of 0.1 microns or less. PM_{10} is composed of coarse, fine, and ultrafine particulate. $PM_{2.5}$ is composed of fine and ultrafine particulate. As such, $PM_{2.5}$ is a subset or component of PM_{10}.

[10] For example, if $PM_{2.5}$ makes up approximately 20 percent of the particulate emissions of an emission unit after control, a limit of 0.005 gr/scf for PM is generally equivalent to a limit of 0.001 gr/scf for $PM_{2.5}$. (0.005 gr/scf x 0.20 = 0.001 gr/scf). In actual practice, when relying upon the relationship between different forms for particulate, one should consider the accuracy and reliability of the available data for particle size distribution (i.e., the percentage of the PM emissions that are of different sizes). The better the data for particle size distribution and the lower the variability in this data, the simpler and more consistent the relationship. For example, if the available data is only sufficient to indicate that between 10 and 30

terms of PM are also expected to be more effective because procedures for testing PM emissions have been used for decades and the conditions needed for accurate measurements are well understood. This is not the case for PM_{10} or $PM_{2.5}$.[11] This means that another source of uncertainty that would be present for limits in terms of PM_{10} or $PM_{2.5}$ is avoided when limits are set for PM.

In this case, limits in terms of PM are also more practical because the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Manufacturing Facilities, 40 CFR 63 Subpart FFFFF, addresses particulate emissions from BOFs in terms of PM. Accordingly, the performance testing that is required pursuant to this NESHAP will also serve to address compliance with the permit limits for particulate. As such, compliance with particulate limits in terms of PM will be easier to implement.

Moreover, it should be apparent that the Agreement between US Steel and the Illinois EPA was made possible because it addresses particulate emissions in terms of PM, rather than $PM_{2.5}$. This enabled US Steel to make commitments for the emissions of the new baghouse control system that US Steel was confident could be met. It also minimized US Steel's burden for additional emissions testing that would not be required by the NESHAP. At the same time, limits for the new control system could still be set in the Agreement that should significantly reduce the secondary emissions of the BOFs, including emissions as $PM_{2.5}$.

8. Since there is a difference between $PM_{2.5}$ and PM_{10}, why would the draft construction permit for the new baghouse control system not set limits for $PM_{2.5}$.

As discussed, in this case, the difference between PM and $PM_{2.5}$ is not sufficient to support setting an emission limit in this construction permit in terms of $PM_{2.5}$. Reductions in the particulate emissions of the BOFs can be achieved with an emissions limit for the baghouse system that is in terms of PM.

9. How significant is it that the Agreement between US Steel and the Illinois EPA sets emission limits for particulate in terms of PM? Does this act to preclude the establishment of emissions limits in terms of $PM_{2.5}$ in the construction permit?

The Agreement does not directly preclude the establishment of limits for $PM_{2.5}$ in the construction permit for this emission reduction project. However, the approach taken to particulate emissions in the Agreement is significant as it is a reflection of the various considerations that culminated with an Agreement that addresses particulate emissions with limits that were expressed in terms of PM.

---

percent of the PM emissions are $PM_{2.5}$ (i.e., 20 ± 10 percent), a limit for $PM_{2.5}$ based on a PM emission rate of 0.005 gr/scf would reasonably be set at 0.0015 gr/scf. To provide the necessary assurance that the limit can be complied with and is "achievable," the limit must be based on the upper bound for the fraction of PM that may be $PM_{2.5}$. In this example, this results in a $PM_{2.5}$ limit of 0.0015 gr/scf. (0.005 gr/scf x 0.30 = 0.0015 gr/scf).

Incidentally, if condensable particulate is present, another consideration for this relationship is the data that is available for emissions of condensable particulate. The relationship between emissions of PM, PM_{10} and $PM_{2.5}$ is most direct when condensable particulate is not a significant fraction of the particulate emissions, as is the case for the emissions of BOFs.

The need for any of these considerations is avoided if limits for particulate can simply be set in terms of PM.

[11] For example, USEPA has not yet developed a reference method for testing emissions of filterable PM_{10} or $PM_{2.5}$ from "wet stacks." In a wet stack, moisture in the flue gas may lead to agglomeration of individual particles as they pass through the test apparatus. This prevents reliable and accurate measurements of PM_{10} or $PM_{2.5}$ emissions. The current test methods for filterable PM_{10} and/or $PM_{2.5}$ were developed for "dry stacks," where agglomeration is not a factor, and accordingly are only appropriate for testing of dry stacks.

10. Given that the purpose of the new baghouse control system is to reduce the $PM_{2.5}$ emissions of the BOFs, that the Granite City area is designated nonattainment for $PM_{2.5}$ and could well be nonattainment under revisions to the $PM_{2.5}$ NAAQS that USEPA has proposed, is there anything that prevents Illinois EPA from putting a $PM_{2.5}$ limit in the construction permit?

As discussed, a variety of considerations lead to a construction permit that addresses control of particulate emissions from the BOFs in terms of PM. Most significantly, a limit that addresses the particulate emissions of the BOFs in terms of PM also addresses emissions of $PM_{2.5}$, likely more effectively than if a limit were to be established in terms of $PM_{2.5}$. Accordingly, factors cited by this comment do not provide an adequate basis to set limits in terms of $PM_{2.5}$ in the construction permit for the new baghouse control system.

11. It seems that the draft construction permit for the baghouse control system has many provisions that are not in the Agreement. This suggests to me that the Illinois EPA chose not to put a $PM_{2.5}$ limit in that permit.

The draft construction permit would not set any emission limits that are not established by the Agreement or by applicable emission standards. The "other" provisions in this draft permit, which are broadly referred to by this comment, would deal with testing, operational monitoring, recordkeeping and reporting. These provisions would serve to verify ongoing compliance with the applicable emission limits. These provisions would also be needed to address the transition from the current requirements for testing, operational monitoring, recordkeeping and reporting to the new requirements that will apply with the baghouse control system. Finally, the permit would rely upon the general authority of the Illinois EPA to reasonably require sources to gather emission and emission related data. These provisions in the draft construction permit would be reasonable and appropriate, addressing aspects and implications of this emission reduction project that were not explicitly addressed in the Agreement. The presence of these provisions in the draft construction permit does not show that it would be appropriate for the construction permit for the baghouse system to set limits for $PM_{2.5}$ emissions.

12. Under what circumstances would the Illinois EPA set a $PM_{2.5}$ limit in a construction permit?

Construction permits issued by the Illinois EPA currently include limits for $PM_{2.5}$ emissions when federal or state "New Source Review" (NSR) rules necessitate such limits because of the nature and circumstances of the projects that are the subjects of the permits. The NSR rules do not provide a basis to set limits for emissions of $PM_{2.5}$ in the construction for the new baghouse control system for the BOFs. This is because this project will reduce the emissions of $PM_{2.5}$ from the BOFs.[12]

---

[12]In general, construction permits currently set emission limits in terms of $PM_{2.5}$ for two types of projects relative to emissions of $PM_{2.5}$, "minor projects" and "major projects." For minor projects, which are far more common, construction permits set limits for $PM_{2.5}$ emissions as needed to address applicability of NSR. The limits for $PM_{2.5}$ emissions in these permits restrict emissions or the increases in emissions of $PM_{2.5}$ from a source or project to less than the emission thresholds at which the project would be considered major under the applicable NSR rules for its $PM_{2.5}$ emissions. However, since limits for PM emissions also serve to restrict emissions of $PM_{2.5}$, limits in terms of $PM_{2.5}$ are only set when limits in terms of PM or, in some cases, PM_{10} will also not be sufficient to address applicability of NSR rules to a project for $PM_{2.5}$ emissions.

For major projects for emissions of $PM_{2.5}$, which are far less common, NSR rules now generally require that the construction permits for such projects explicitly address $PM_{2.5}$ emissions, with limits that represent Best Available Control Technology or the Lowest Achievable Emission Rate that are in terms of $PM_{2.5}$ emissions.

The relevant emissions thresholds under the NSR rules that distinguish minor projects from major projects, i.e., major new sources and major modifications, are as follows:

13. Do any BOF shops at steel mills in the United States have limits for $PM_{2.5}$ emissions?

Given the current circumstances for control and regulation of $PM_{2.5}$ emissions, the Illinois EPA does not believe that any <u>existing</u> BOF shops in the United States, similar to this BOF shop, are subject to limits expressed in terms of $PM_{2.5}$ emissions.[13] In any case, it would not be an appropriate use of Illinois EPA resources to conduct a survey to definitively answer this question. This is because even if another existing BOF shop in the country is subject to limits for $PM_{2.5}$ emissions, it would not show that it is appropriate to include such limits in this construction permit. As already discussed, emissions of $PM_{2.5}$ can be addressed and restricted by limits for emissions of PM. This is because $PM_{2.5}$ is a component of PM so limits for PM emissions act in practice to also constrain $PM_{2.5}$ emissions.

14. There are gaps in the description of the new baghouse in the application for the new baghouse control system that make it difficult to evaluate the draft construction permit. On the general data and information form for the baghouse, the manufacturer and model number of the baghouse are shown as "to be determined." On the form for filter control equipment, the filter material is described simply as "polyester." The filtering area is also "to be determined." Inlet emission stream parameters, including mean particle diameter are unknown. Are there reasons why these details are not provided or were marked the way they were? Has Illinois EPA obtained any more information for the baghouse, such as the supplier, model number, or filter area or details concerning the operation of the baghouse?

The application contains the information that is currently available for the new control system. US Steel has not yet entered into a contract for this project and the new baghouse has not yet been designed.[14] The application is based on a preliminary or conceptual design that US Steel had prepared for the project, including the performance specifications that are to be met by the baghouse, i.e., a PM emission rate of no more than 0.005 grains/dry standard cubic foot. Given the cost of this project, US Steel will not enter into a contract for the baghouse until after this project is fully permitted. Only then will a firm be selected to provide the baghouse and the engineering design of this device be started.

15. Even though the draft construction permit would not set limits for emission of $PM_{2.5}$, it would require testing for emissions for $PM_{2.5}$, which I am not questioning. What use does the Illinois EPA plan to make of the results from this testing?

This testing would identify the specific relationship between the emissions of PM, PM_{10} and $PM_{2.5}$ from the BOFs. As such, $PM_{2.5}$ emission data gathered by this testing would improve the data used in future air quality modeling that is conducted for the Granite City area or the St. Louis region for $PM_{2.5}$ air quality. If found to be necessary for the attainment of the NAAQS for $PM_{2.5}$, including attainment of the anticipated future revisions to the $PM_{2.5}$

Thresholds for a major source:
Federal PSD rules, 40 CFR 52.21 - Either 100 or 250 tons/year, depending on the category of source
State nonattainment NSR rules, 35 IAC Part 203 – 100 tons/year
Threshold for a major modification for emissions of $PM_{2.5}$ - 10 tons/year

[13]It is expected that only BOFs that recently underwent permitting for proposed modifications, if any, will be subject to limits that address emissions of $PM_{2.5}$. Such limits would be a consequence of the New Source Review rules that apply to modifications and, even if technically sound, would not provide any insight as to an appropriate limit for these BOFs as they are not being modified.

[14]Due its size and other project-specific considerations, the baghouse for this project will be designed by the selected manufacturer specifically for the project. The baghouse will not be a stock model of baghouse.

NAAQS by USEPA, the data gathered by this testing could assist in development of new standards for the BOFs, either in terms of PM, PM_{10} or $PM_{2.5}$ emissions, as appropriate.[15] Finally, the data gathered by these tests would support future permitting in Illinois and in other states in circumstances in which NSR rules do require that limits be set for particulate emissions as $PM_{2.5}$.[16]

16. Condition 3-1(b)(ii) of the draft construction permit, as it addresses the required testing for emissions of filterable PM_{10} and $PM_{2.5}$, should not specify that this testing must be conducted with USEPA Method 201 or 201A. Rather, use of only Method 201A should be specified. This is because Method 201 only measures PM_{10} emissions, whereas Method 201 can be used for measurements of both PM_{10} and $PM_{2.5}$.

The error in the draft permit identified by this comment will be corrected in any construction permit that is issued. That is, the measurements of PM_{10} and $PM_{2.5}$ emissions that are required must be made using USEPA Method 201A.

17. Condition 3-1 (e)(iii) of the Draft Construction Permit would require the final report for emission testing that is submited to the Illinois EPA to contain the operating parameter limits for the new baghouse control system that are proposed by US Steel based on such testing. Under what circumstances are proposed operating parameters limits considered applicable? When proposed operating parameter limits are submitted, what are the procedure and the timeframe in which Illinois EPA reviews and establishes them?

The provisions of the Iron and Steel NESHAP, including 40 CFR 63.9(h)(2)(ii), 63.7790(b)(1), 63.7800(b)(3) and 63.7824(a) and (c), govern the operating parameters limits for the BOFs with baghouse control system, which are addressed by this comment. This NESHAP does not provide for approval of a source's proposed operating parameters limits by a permitting authority. Rather the limits that are established for operating parameters under this NESHAP are the levels of operating parameters during performance testing. These levels are contained or documented in the current Operating and Maintenance Plan for a subject facility which the source must maintain pursuant to this NESHAP, which plan specifies how the subject facility must be operated.[17]

---

[15] It should not be expected that this testing would ever be used to demonstrate compliance with standards or limits for $PM_{2.5}$ emissions, as there would not be any limits in terms of $PM_{2.5}$ emissions when this testing is conducted.

[16] US Steel would also use the results of this testing in preparing the "performance report" required for this project by Condition 6(d) of the construction permit. In this report, US Steel must evaluate the reduction in emissions that is achieved by this project for emissions of particulate as $PM_{2.5}$.

[17] In this case, to revise or set new operating parameter limits for the capture system on the BOFs under the Iron and Steel NESHAP, US Steel must first submit a written notification or request to the Illinois EPA to conduct performance tests that would be the basis of the new operating parameters limits. In this case, this notification would address the "initial performance test" conducted for the BOFs with the new baghouse control system. It is expected that this notification would also address the initial operation of the BOFs with the baghouse system, until the performance tests are conducted. During this period, the current limits for operating parameters of the capture system, with control of secondary emissions with the existing ESP, would no longer be applicable but testing will not yet have been conducted to demonstrate the adequacy of the new limits for operating parameters with the baghouse system. In conjunction with US Steel's written notification for planned testing, subject to any directives from the Illinois EPA in response to this notification, US Steel must also revise its operation and maintenance plan under the NESHAP. This revision would need to address the levels of operating parameters during the initial operation of the BOFs with the baghouse, consistent with US Steel's description of operation during this period as provided in the written notification for testing.

The next step in setting new operating parameter limits is for performance tests to be conducted for the BOFs to demonstrate the adequacy of the new limits. These performance tests would be conducted with the new baghouse control system operating at the levels of operating parameters that US Steel seeks to establish as the new limits. Following the date

18. Condition 3-2(a) of the draft construction permit would require US Steel to make measurements in order to determine the PM efficiency of the new baghouse. The condition would allow for these measurements to be made directly or indirectly. Would direct measurement likely be more accurate than indirect? If so, why not require direct measurement?

These measurements, which would relate to the efficiency of the new baghouse control system,[18] are being required to obtain information on the amount of PM collected by this system. This information is of interest to the Illinois EPA as related to the overall reduction in particulate emissions of the BOFs that is achieved in actual practice by this new system.[19] The required measurements are not needed to confirm compliance with an applicable limit or control requirement. As such, it is reasonable and appropriate for the construction permit to provide flexibility in the approach that US Steel uses for these measurements. At this time, this is especially true, as neither approach to measurements is preferred. Direct measurements of the PM loading into the baghouse would be expected to be more precise and correlate directly with measurements of emissions. However, these measurements would be taken over a relatively short period of time so would not necessarily be more accurate than indirect measurements, based on the amount of particulate collected by this system over a week or month. Indirect measurements would likely be more accurate as they address a longer period of operation of the BOFs. However, they would be less precise, as much larger amounts of material would be involved. As such, there is not a clear preference for the approach that should be taken to the measurements.

19. Currently with the ESP, the PM emissions of the BOP furnaces are reported to be 439.5 tons/year. With the new baghouse system, they would be 405.4, which boggles my mind.

The emission data cited by this comment, which was provided by US Steel for the application for a construction permit, is a very conservative evaluation of the change in emissions that would accompany this project. It reflects maximum operation of the BOFs, at their annual capacity, and a minimum level of improvement in control of emissions by the new baghouse system. Accordingly, this data overstates both current emissions and future emissions. A better assessment for the change in emissions is provided later, in response to another comment.

20. For certain conditions that are rendered "unnecessary" only after the new baghouse control system becomes operational,[20] revised Permit 95010001 should specify that the current conditions remain

---

of testing, US Steel would be expected to continue to operate at or above the levels of parameters present during testing if testing demonstrated compliance while operating at those levels.

The final step in the process of setting new operating parameter limits is US Steel's submittal to the Illinois EPA of the report for this testing, with the new values for these limits. With this report, US Steel must also certify that the BOFs operated at these values of operating parameters during testing and that the testing was properly conducted for the purpose of setting new limits for operating parameters. As part of this step, US Steel must also revise its operating and maintenance plan to reflect that these new limits for operating parameters are applicable on a continuing basis.

[18]The efficiency of a baghouse, in percent, is calculated as follows:

100 x [1 – (Inlet Mass – Outlet Mass)/Outlet Mass] = Percent Control Efficiency

[19]Based on public comments, this information is also of concern to the public as it would support comparison between the new baghouse control system and baghouse systems at other sources.

[20]The Project Summary indicates that the following conditions that are proposed for deletion would be rendered "unnecessary" only after the baghouse becomes operational: Conditions 11 (flame suppression for tapping), 12(a), b(i) and (c) (requirements for minimum set points), 12(b)(iii) (requirements for staggered operation), 12(d) and (f) (monitoring of ESP stack gas flow rate), 12(e)

in effect until the new baghouse becomes operational. This would ensure that the source continues to demonstrate compliance with permit limits in the manner currently provided while the baghouse is being constructed, until the time that the new baghouse becomes operational.

Revised Permit 95010001, as issued by the Illinois EPA, includes the provision suggested by this comment (new Condition 11(b)). This condition explicitly requires that the source continue to comply with certain conditions or requirements of the previous permit during the period until the new baghouse control system becomes operational.[21] The draft of the revised permit would have relied on the fact that these requirements, which will continue in effect until the new control system begins operation, are also contained in the Clean Air Act Permit Program (CAAPP) permit for the source.[22] However, the continued applicability of these requirements until the new system begins operation can also be explicitly provided for in the revised permit.

The approach that is now being taken in revised permit has added further complexity to the permit. Since the revised permit now provides for compliance with existing requirements while the baghouse control system is being constructed, the various conditions that contain these requirements must be <u>appropriately</u> carried over in the revised permit. In particular, minor technical corrections and updates must also be made to the requirements for continuous operational monitoring for stack gas flow rate and waste gas suction (former Conditions 12 and 13, revised Condition 12), which would not have been needed if these requirements had not been carried over in the revised permit. In particular, in the revised permit, these requirements must reflect developments in permit requirements for monitoring systems, with similar requirements set for both systems and provision for use of computerized systems for recording of data.[23]

21. Please clarify how the revised permit will continue to independently assure compliance with all PSD review requirements after the following permit conditions are deleted from the current PSD permit: Conditions 9(a) through (d) (requirements for opacity observations for the BOF shop and electrostatic precipitator (ESP)),[24] and Condition 10 and Attachment A (procedures to ensure proper operation of the ESP for the BOFs). The Illinois EPA states that these requirements need not be included in the PSD permit because monitoring and operating requirements already exist in the Clean Air Act Permit Program (CAAPP) permit and the federal National Emission Standard for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities, 40 CFR 63 Subpart FFFFF (Iron and Steel NESHAP). *See* Project Summary, Attachment 1, pages 1 - 3. The key element of this rationale is that

---

(recordkeeping for ESP flow rates for charging and tapping), 13(a), (c) and (d) (monitoring for waste gas suction, measured as static pressure in the ESP downcomer duct). *See* Project Summary, Attachment 1, pages 3 - 6.

[21]**New Condition 11(b) also addresses the possibility that the baghouse control system that is now planned does not go forward but another emission reduction project with a control system for secondary emissions from the BOF would occur in the future. This condition generally provides that the subject requirements in the original permit remain in effect until either the new baghouse control system that is now planned begins operation or another control system for secondary emissions begins operation. This is because any other new control system for secondary emissions would present similar issues as the planned baghouse system, making the subject requirements that were originally established in 1995 in Permit 95010001 unnecessary.**

[22]**The changes to the CAAPP permit for the source that are planned to address the new baghouse control system would maintain the effectiveness of the subject conditions until this new control system becomes operational.**

[23]**In addition, former Condition 12(c) improperly suggested that emissions testing to evaluate alternative set points for the capture system would have to be conducted at the established set points. This would paradoxically mean that testing to evaluate alternative set points would not actually be possible, since such testing would have to conducted at the established set points.**

[24]Condition 9(a) of the current permit requires observations of opacity of emissions from the BOF shop on at least a weekly basis. Condition 9(b) requires opacity to be determined using USEPA Method 9 procedures in the event of an outage of the ESP's opacity monitor that exceeds two consecutive hours.

the monitoring provisions of the Iron and Steel NESHAP are sufficient to assure compliance with the relevant permit limits as originally established. Accordingly, the permit should clearly establish a connection between the permit and the Iron and Steel NESHAP. Such a connection could be made by including conditions in the permit that require compliance with the applicable provisions of the NESHAP for purposes of demonstrating compliance with the relevant permit limits. (This information would then be appropriately re-iterated in the CAAPP permit.) This is of concern because the CAAPP permit should not be used to supersede, replace, or otherwise eliminate the independent enforceability of the terms and conditions in the PSD permit.[25]

In place of the current compliance provisions in Permit 95010001 that would be rendered inappropriate or unnecessary with the new baghouse control system,[26] the revised permit that has been issued includes a condition, as requested by this comment, requiring that the source comply with all applicable compliance requirements of the Iron and Steel NESHAP for the BOFs, including operation, maintenance, testing, monitoring and recordkeeping requirements. (See Condition 9 in the revised permit.[27]) When the new baghouse control system begins operation and starts to control particulate emissions from charging and tapping of the BOFs, the requirements of the Iron and Steel NESHAP will take the place of the compliance provisions in Condition 9 of the former permit, which will no longer apply. The requirement of the Iron and Steel NESHAP, 40 CFR 63.7800(b), related to an operations and maintenance plan, will immediately take the place of the requirements in former Condition 10 of the former permit.[28] As a consequence, the revisions that have been made to Permit 95010001 would maintain the "independent enforceability" of this permit.[29]

22. The revised PSD permit should directly refer to the relevant monitoring provisions of the NESHAP that are being relied upon by the permit rather than to the related conditions of the CAAPP permit that address the provisions of the NESHAP. As a construction permit, the permit record should clearly explain whether the revised PSD permit, considered separately from any other permits or state or federal rules, would continue to have sufficient monitoring and recordkeeping to address compliance with all applicable PSD requirements.

---

[25] Also see memorandum from John Seitz, EPA OAQPS, to Robert Hodanbosi and Charles Lagges, STAPPA/ALAPCO. May 20, 1999. Available at http://www.epa.gov/ttn/caaa/t5/memoranda/hodan7.pdf.

[26]As already been discussed, operational and monitoring requirements that will be rendered inappropriate with the new control system have not necessarily been physically removed from revised Permit 95010001. Rather, to maintain continuity of requirements in the revised permit itself, the subject requirements are physically present in the revised permit but will cease to be effective when the new baghouse control system begins operation.

[27]New Condition 9 in Permit 95010001 broadly requires that the source comply with applicable requirements of the Iron and Steel NESHAP for BOFs, without specifying the particular requirements that are applicable. This is sufficient as the Iron and Steel NESHAP is a federal regulation, codified in the Code of Federal Regulations, and is directly enforceable. In addition, relevant requirements of this regulation as applicable to the source are recapitulated in the CAAPP permit for the source. This also avoids the need for future revisions to Permit 95010001 as might be needed if the Iron and Steel NESHAP is revised in the future by USEPA. (Based on the Information Collection Requests made by USEPA in 2011 for the steel industry, it is anticipated that USEPA will be making revisions to this NESHAP.)

[28]As explained in the Project Summary, the specific requirements for operation of the control system for the BOFs in Attachment A are already outdated and obsolete. The Iron and Steel NESHAP generally requires operation of the BOFs in accordance with good air control practice. (See 40 CFR 63.6(e) (1)(i) and 63.7800(a).) The Iron and Steel NESHAP, 40 CFR 63.7800(b), now further requires that US Steel prepare and implement a written operation and maintenance plan for the BOFs. As these obligations are now clearly placed on the source, the requirements for proper operation of the BOFs and ESP system should not be set in the level of detail specified by Attachment A in the former permit.

[29]It is noteworthy that the guidance from USEPA cited by this comment does not directly apply to the current action. The cited guidance addressed actions that may be taken in a Title V permit. In the present action, the Illinois EPA has issued a revised construction permit, taking a permitting action under Title I of the Clean Air Act, not an action under Title V of the Clean Air Act.

The revised permit, as issued, would maintain the independent enforceability of the PSD permit. As discussed above, when the new baghouse control system begins operation, the relevant provisions of the NESHAP would serve in place of the compliance procedures of the current PSD permit that address control of particulate, with procedures that are equal to or better than that provided by the original PSD permit. For example, monitoring of gas flow rates in the duct work would serve in place of operational monitoring of stack flow rate. Operational practices that would be documented in an operation and maintenance plan, which would evolve in response to improvements and other changes in those practices, would serve in place of the operational practices for the ESP that are specifically identifies in the original PSD permit, many of which are already outdated.[30]

23. Please clarify in the permit record what the projected and baseline actual emissions are for each modified or affected emission unit. As presented in the available support information, it is not clear whether the reported "current" and "future" emissions represent "baseline actual emissions" and "projected actual emissions", as defined at 40 CFR 52.21(b)(48) and (b)(41), respectively. *See* Statement of Basis at page 8. Clarification is needed to ascertain the actual amount of the projected overall emissions reduction due to the project.

The Illinois EPA does not believe that the information requested by this comment, which relates to the planned issuance of a construction permit for the new baghouse control system, is needed to support that proposed action. This is because an essential element of a modification under New Source Review is that a proposed project would act to increase emissions of one or more pollutants that are regulated under New Source Review. As discussed, the proposed baghouse system would be an emission reduction project for particulate emissions of the BOFs and would be carried out to meet provisions of the Agreement. The new baghouse system would not increase the capacity or efficiency of the BOFs. There also would not be any collateral increases in emissions of other, non-target pollutants from the operation of the system. As such, the new baghouse system should not be considered a modification for purposes of New Source Review.[31]

Even though the reduction in particulate emissions need not be quantified in response to this comment, the Illinois EPA has further examined the amount of the emissions reduction that may be assumed for this project. This evaluation has been conducted in terms of emissions of PM_{10} because underlying emission data is more reliable for PM_{10} than for $PM_{2.5}$. For purposes of PSD, 40 CFR 52.21, the historic actual emissions of the BOFs are appropriately assumed to be on the order of 314 tons of PM_{10} per year.[32] The future emissions of projected future actual emissions should be expected to be at most about 260 tons of PM_{10} per year.[33] This yields a reduction of approximately 54 tons of PM_{10} per year.

---

[30]The revised PSD permit would not attempt to make other enhancements to the PSD permit, as might be needed to address deficiencies in the compliance procedures in the original PSD permit. As confirmed by the guidance from USEPA cited by this commenter, those enhancements are appropriately made in the CAAPP permit for the source as part of the process of establishing appropriate periodic monitoring for the source.

[31]For example, refer to correspondence from USEPA concerning a proposed improvement of particulate matter control at Lehigh Portland Cement in Mitchell, Indiana (Letter, February 12, 2001, Pamela Blakley, USEPA Region 5, Air Programs Branch, to Paul Dubenetzky, Office of Air Management, Indiana Department of Environmental Management.)

[32]The average of the PM_{10} emissions reported by US Steel in its Annual Emission Reports for the peak years of production during the last ten years, 2004 and 2005, is 313.90 tons per year. In each of these years, the BOFs operated at about 72 percent of their permitted annual rate.

[33]The future emissions were conservatively calculated assuming that the BOFs would actually operate near their permitted annual rate compared to the maximum rate that US Steel has achieved in practice, i.e., 90 percent compared to 75 percent. To account for the normal operation of control devices, the baghouse and ESP were also conservatively assumed to comply with applicable emission standards under the new control configuration by 40 and 20 percent respectively. For example,

24. Condition 8 of Permit 95010001, which limits the opacity of emissions from the BOF shop to 20 percent, would be revised to require compliance with this limit using the procedures in 35 IAC 212.446(c) instead of the procedures prescribed by previous Conditions 9(a) and (b). The permit record does not indicate that Condition 8 was expected to be identical to the opacity standard in 35 IAC 212.446(c). Condition 8 in the current permit appears to be more stringent than in the draft of the revised permit since Conditions 9(a) and 9(b) of the current permit requires opacity observations to be conducted on at least a weekly basis. Even if the PSD requirement was influenced by the opacity standard in 35 IAC 212.446(c), its inclusion in the PSD permit is generally expected to address PSD review requirements such as BACT, ambient impacts analysis and public participation. It is not clear how the proposed emission reduction project necessitates a change to the compliance determination method for the previously established opacity limit.

The changes to the permit addressed by this comment do not act to relax the stringency of the opacity standard for the BOF shop, as suggested by this comment. Rather these changes involve either changes to the compliance procedures that accompany this standard that are appropriate to address the installation of the new baghouse control system[34] or are straightforward clarifications or corrections to technical elements of those compliance procedures.

Former Condition 9(a) dealt with opacity observations that the source was required to conduct for the BOF shop to verify compliance with the established opacity standard for the BOF shop, 20 percent. The source was required to conduct these observations at least weekly. The source of emissions (opacity) from the BOF shop is secondary emissions from the BOFs that are not captured. Former Condition 9(a) set a frequency for these opacity observations by the source for a BOF shop in which the BOFs did not have a separate control system for their secondary emissions. However, when secondary emissions of the BOFs are controlled with the new baghouse control system, weekly observations of opacity from the BOF shop by the source should not be needed. The new baghouse control system, with its improved capture hooding and baghouse, will control secondary emissions more effectively than the current control system, which uses one ESP for control of both primary and secondary emissions. In this regard, the Iron and Steel NESHAP does not require any observations for the opacity of emissions from a BOF shop by a source other than observations made in conjunction with periodic testing of stack emissions of particulate matter. Rather, this NESHAP appropriately relies on continuous operational monitoring for the capture system for secondary emissions from BOFs to address continuous compliance with an opacity standard of 20 percent, 3-minute average. This NESHAP provides appropriate base compliance procedures for this permit recognizing that the control measures used on the BOFs may improve over time, as will be addressed in future construction permits and in the CAAPP/Title V operating permits for the source.[35]

---

rather than having emissions of 31.9 pounds per hour (745,200 scfm/min x 60 min/hr ÷ 7,000), on annual basis, actual PM_{10} emissions would be 19.2 pounds/hr (31.9 x {1.0 - 0.4} = 19.14 pounds/hour).

[34]The stringency of this opacity limit is unaffected by the revision of the permit. The limit continues to apply at all times. The source is not excused from an obligation to conduct opacity observations as needed in practice to confirm compliance with this limit. Compliance can also be independently determined by observations by members of the Illinois EPA staff that are certified opacity observers.

[35]Under the CAAPP program, the compliance procedures that are appropriate for the current configuration of emission units and control(s) at a source must be addressed each time that the CAAPP permit for the source is renewed. This is because CAAPP permits must provide for Periodic Monitoring.

The procedures by which opacity observations are to be made for the BOF shop was addressed by former Condition 9(c), not former Condition 9(b).[36] The removal of former Condition 9(c) from the permit does not affect the stringency of the opacity limit. This is because Condition 8 now cites 35 IAC 201.446(c), the state standard that limits opacity from the BOF shop to 20 percent. Like former Condition 9(c), 35 IAC 212.446(c) provides that compliance with the 20 percent opacity limit is to be determined using USEPA Method 9. Unlike former Condition 9(c), 35 IAC 212.446(c) also further provides that "compliance shall be determined by averaging any 12 consecutive observations taken at 15 second intervals." This is a necessary clarification as Method 9 would otherwise provide that compliance with the opacity limit is to be determined as a 6 minute average, based on 24 individual observations.[37]

25. In a separate permit application, US Steel has applied for a construction permit for an emissions reduction project that involves a new baghouse control system for secondary emissions of the BOFs. Because operation of this new control system will render certain requirement of existing Permit 95010001 obsolete, US Steel requested that this permit be revised to remove those obsolete conditions and the Illinois EPA has granted this request. In order to denote where conditions have been removed, the draft of revised Permit 95010001 would have included explanatory notes identifying where conditions had been removed. For consistency, a note should also be included after Condition 18 in the revised permit stating that the "note" that previously accompanied this condition has been removed from the permit.

Revised Permit 95010001 includes the explanatory note requested by this comment. The purpose of the various explanatory notes that have been included in the revised permit is generally to avoid possible future confusion. Most importantly, they enable a person who is referring to the revised permit to understand why the conditions in the permit are not numbered consecutively and there are gaps in the numbering.[38] The change requested by this comment could also serve to avoid possible future confusion. It would make clear that

---

[36]Former Condition 9(b) dealt with actions to be taken in the event of an outage of the continuous opacity monitoring system on the ESP. At this time, that condition is considered obsolete as it "contemplated" and directly provided for an interruption in the operation of the continuous opacity monitoring system on the ESP. Given the reliability of opacity monitors, it is not reasonable to expect such outages to now be a normal occurrence. Accordingly, any outages of the opacity monitoring system that would occur should be addressed in the context of potential enforcement. It should not be "condoned" as such outages have been contemplated and addressed by a condition in a permit that specifies the consequences that accompany any such outage. This is particularly true now that this opacity monitoring system for the ESP is required by the Iron and Steel NESHAP, as well as being implicitly required by this permit.
Moreover, former Condition 9(b) was also flawed as it indicated that in the event of monitor outage, human observations of opacity from the ESP stack were to be conducted during "any normal work day (i.e., Monday through Friday)." In the event of such outages, the timing of such observations should be a matter that is determined on an event-specific basis. For example, if an upset of the ESP occurred during an outage of the opacity monitor, it could well be appropriate for the source to immediately arrange for opacity observations to be made even if the event occurred on a Saturday or Sunday.

[37] Incidentally, the 20 percent opacity limit for the BOF shop in 35 IAC 212.446(c) should "be expected" to be identical to the 20 percent opacity limit in Condition 8, as set in Permit 95010001 in 1995. This is because 35 IAC 212.446(c) was subsequently adopted to codify the 20 percent opacity limit for the BOF shop set by the permit as part of Illinois' State Implementation Plan (SIP). The 20 percent opacity for the BOF shop is more stringent than the 30 percent opacity limit that would otherwise apply pursuant to 35 IAC 212.123.

[38]The preferred practice of the Illinois EPA when issuing revised construction permits is to retain the numbering of conditions from the previous permit as this can be practically and reasonably accomplished. This maintains continuity in the numbering of conditions between the old and new versions of a permit. It minimizes possible confusion that might occur if the conditions in a permit were simply renumbered when a revision adds or removes conditions from the permit.
In the absence of the explanatory notes that have been included in the revised permit, someone who was referring to the revised permit would be uncertain whether they were reviewing a complete copy of the permit or whether certain conditions had been in some way omitted from the particular copy of the permit.

the previous note, which provided a definition of a "BOF cycle," was intentionally removed in the revised permit.[39] Accordingly, the change requested by this commenter was made.

26. I appreciate the potential air quality benefits of this project and the work that US Steel and the Illinois EPA and have done for this project.

This comment, which does not request any changes to the draft permits, is acknowledged.

27. In the Project Summary for the revisions to Permit 95010001, the procedures that are being used to process this application are addressed in Footnote 13, which provides in relevant part:

> This application is being processed separately from the construction permit application for the emission reduction project. This will enable the revision to Permit 95010001 to be subject to the administrative procedures that commonly apply to processing of PSD permits, 40 CFR Part 124, Procedures for Decisionmaking, rather than the administrative procedures that apply for a construction permit that is being subjected to integrated processing. Handling the revision to Permit 95010001 in this way should eliminate any doubt that the outdated provisions of the PSD approval are no longer applicable.

In an effort to avoid any further delay in the issuance of a construction permit for the baghouse control system (Permit 11050006), US Steel agreed to a public comment period for the revisions to Permit 95010001. However, this should not be viewed as precedent for processing these type of administrative changes to a PSD permit, where the changes result in no increase in emissions and have no adverse impact on air quality.

The Illinois EPA agrees with the general observation made by this comment. The approach taken by the Illinois EPA in the processing of the revisions to Permit 95010001 should not be taken as a general precedent precluding the processing of revisions to PSD permits by administrative amendment, whereby certain revisions to PSD permits may be directly made by the permitting authority without a public comment period. Rather, the procedural approach that was taken for the revisions to Permit 95010001 reflects a narrow finding by the Illinois EPA for the appropriate procedures for this permitting action, considering the entirety of the circumstances for this action.[40]

28. The proposed revisions to Permit 95010001 are administrative in nature and are not required to be subject to a public comment period. Illinois EPA, on its own, could have administratively amended Permit 95010001 without a public comment period.

---

[39] The note that has been removed from the permit defined the BOF cycle as the period from the beginning of charging through the end of the tapping process. It is no longer appropriate to include this definition for the BOF cycle n the permit. It is inconsistent with the related definition for steel production cycle that USEPA adopted in the Iron and Steel NESHAP, 40 CFR 63.7852. USEPA defined the steel production as the operations conducted at a BOF to produce each batch of steel, beginning with charging of scrap and ending with deslagging.

[40] Moreover, as the changes to Permit 95010001 involve emissions of particulate, it is debatable whether changes have even been made to a "PSD permit." The changes do not involve "PSD review requirements," e.g., Best Available Control Technology (BACT), because the project addressed by this permit was not a major modification for emissions of particulate. However, the Illinois EPA chose to proceed as if the entirety of Permit 95010001 is a PSD permit. As discussed, this should preclude any future question whether the procedures used for this revision of Permit 95010001 were adequate and sufficient, thereby assuring that the revised permit is legally authorized and the outdated provisions of the previous version of this permit are no longer applicable.

As observed by this comment, the Illinois EPA could arguably have elected to revise Permit 95010001 by administrative amendment. However, this was not the approach that the Illinois EPA elected to take. Based on the nature of the requested revisions and the various surrounding circumstances, the Illinois EPA found that a public comment period was warranted before the permit was revised. Accordingly, the Illinois EPA prepared a draft of the revised permit. In response to the comments that were received on the draft permit, the revised permit that has now been issued differs from the draft permit in a number of respects, as has already been discussed.

29. USEPA developed a draft of guidance addressing the procedures for processing modifications of PSD permits, Revised Draft Policy on Permit Modifications and Extensions, USEPA, July 5, 1985 (Draft Guidance). Although this guidance was never finalized, it still provides direction on the appropriate procedures to be used for different categories of modifications to PSD permits. In this guidance, USEPA categorized proposed changes to PSD permits as administrative, minor, significant, or fundamental, based on the significance of the proposed changes and the extent of review that the permitting authority must conduct.[41] Of particular relevance for this action, is the guidance that is provided for proposed modifications to PSD permits that are categorized as administrative changes.[42, 43] In this regard, this guidance provided:

> Changes to a permit or application are classified as amendments if they are administrative in nature and result in no increase in either the emission or the air quality impact of a PSD source. In addition, neither the nature nor the size of the source or emissions unit can be altered to the extent that the change would be considered fundamental. Amendments may be quickly processed without any major reevaluation of the decision originally made in permitting the source. Examples of the type of change which would often be treated as an amendment include company name or operator changes, requirements for more frequent monitoring or reporting by the permittee, correction of typographical errors, emission decreases (although such decreases, to be used in netting or trading, must be carefully documented) and minor work clarifications. ...
>
> The lack of emissions and impact increases for amendment results in little or no review. Proposed amendments (which are nearly always administrative changes) to PSD permits do not require any reanalysis of the basic review originally submitted and need not be subject to public participation requirements as a general rule. However, the Agency emphasizes that there may be instances where changes which are normally administrative may be sufficiently important that the reviewing authority determines that review or public participation is necessary, e.g., a change of ownership of a proposed source to a company which has been involved in

[41]The categorization of proposed changes also considers whether the source or project is operating. USEPA explained that the guidance typically imposes a less rigorous process for changes at operating units because, among other factors, "a project in its earlier phases is much more flexible than one already operating."

[42]In the Draft Guidance, USEPA characterizes minor changes as entailing changes to applications or issued permits and a certain amount of additional review by the permitting authority, but not constituting either a fundamental or significant change. Emissions or impacts increase as a result of minor changes but not above the significance level.

Significant and fundamental changes were characterized as increasing emissions above significance levels and/or changing the basic nature of an emissions source.

Minor, significant, and fundamental changes to PSD permits are collectively described as revisions of PSD permits, as distinguished administrative amendments of PSD permits. For revisions of permits, unlike administrative amendments, the Draft Guidance would require public participation prior to issuance of any revised permit. Draft Guidance, page 15.

[43]In this case, these changes to Permit 95010001 would not constitute "revisions," as these changes do not address changes in the method of operation or result in a net significant emissions increase. Because the changes would not constitute revisions, a public comment period was not needed for these proposed changes to Permit 95010001.

highly controversial projects or has received public attention as a result of the manner in which other air pollution sources owned by this company are operated. See Draft Guidance, page 11.

Based on the Draft Guidance, the Illinois EPA should have treated the requested changes to Permit 95010001 as administrative amendments, without holding a public comment period. The changes will not increase emissions and do not involve any fundamental changes at the source. Very little review and no reanalysis of the original PSD permit application was needed. The changes also would not adversely impact air quality or change regulatory requirements.

Based on the Draft Guidance, it was clearly reasonable and appropriate for the Illinois EPA to have provided for public participation on the proposed changes to Permit 95010001. This is because, as stated in the passage from the Draft Guidance cited by this comment, this guidance directs permitting authorities to provide for public participation on administrative amendments to PSD permits in instances where the proposed changes are sufficiently important to necessitate public participation.[44] Given both the nature of the proposed changes and the public interest in this source, the Illinois EPA reasonably found that this was the case.

The project is "important" as it relates to a significant improvement in control of particulate emissions in an area that is designated nonattainment for $PM_{2.5}$. This improvement will be the result of the Agreement between the Illinois EPA and US Steel While the overall objective in revising Permit 95010001 is simple, to accommodate this improvement, implementation has required consideration of a variety of changes to a number of conditions in the previous permit. The actual nature and reason for the various changes to affected conditions was not necessarily readily apparent or obvious.[45] This permitting action must also appropriately consider and be coordinated with the processing of the construction permit for the new baghouse control system and the CAAPP permit that has been issued for the Granite City Works. Because of this complexity, it was reasonable to provide a public comment period on this proposed action.

It is also unquestioned that the Granite City Works has historically been of interest to the public, as demonstrated by the interest in other recent permitting actions for this source.[46] This further supports the decision of the Illinois EPA to provide a public comment period on a draft of the planned revisions to Permit 95010001. Moreover, a public comment period is mandatory for the application for construction permit for the new baghouse control system,

---

[44] As noted by this comment, the Draft Guidance provides that there may be instances "where changes which are normally administrative may be sufficiently important that the reviewing authority determines that review or public participation is necessary." The example given for a case where public participation may be justified for an administrative amendment is a change in ownership of a "proposed source to a company which has been involved in highly controversial projects or has received public attention as a result of the manner in which other air pollution sources owned by this company were operated." Draft Guidance, page 11.

[45] The current changes to Permit 95010001 required the Illinois EPA to again, consider the requirements that were applicable to the BOFs in light of both the existing ESP and the new baghouse. In particular, the Illinois EPA had to evaluate the removal of operational requirements that had become outdated or would become infeasible with the new baghouse control system. The Illinois EPA's review also considered the removal of operational requirements for the BOFs that had been made obsolete by new regulatory requirements that now apply.

[46] Indeed, USEPA recently acted on a petition from the American Bottom Conservancy for USEPA review of the CAAPP permit for this source issued by the Illinois EPA. In its decision, *Order Granting in Part and Denying in Part Petition for Objection to Permit,* December 3, 2012, USEPA granted the petition in part and the Illinois EPA will in the future be appropriately responding to USEPA's Order.

Application 11050006.[47] Because the public comment period for processing the revision to Permit 95010001 was combined with the public comment period for Application 11050006, it should not significantly affect the overall timing for permitting of the new baghouse control system.

30. USEPA has issued administrative amendments to PSD permits without providing for public participation.[48]

The fact USEPA has made revisions to PSD permits administratively, without providing for public participation, shows that this may be appropriate in certain cases. However, it does not show that the procedures used by the Illinois EPA for the revision of Permit 95010001 were not appropriate given the specific circumstances of this action. As already explained, the Illinois EPA's decision to hold a public comment period considered the entirety of circumstances for this requested permit revision.[49]

31. State and local permitting authorities have also approved administrative amendments to PSD permits.[50, 51]

The fact that state and local permitting authorities may have made revisions to PSD permits administratively, without providing for public participation, shows that this may be appropriate in certain cases. However, it does not show that the procedures used by the Illinois EPA for the revision of Permit 95010001 were not appropriate given the particular circumstances in this case.[52]

---

[47] A public comment period is mandatory on the application for the construction permit for the new baghouse control system as part of the Integrated Processing of that application, whereby the construction permit that is issued would authorize certain changes to the CAAPP permit for the Granite City Works by administrative amendment.

[48] For example, in 2008, Hovensa requested the removal of provisions for rolling averages from the CO emission limits for certain emission units in its PSD permit, since continuous emissions monitoring was not required, making rolling averages impractical. USEPA agreed with Hovensa, concluding that "there is no benefit in requiring compliance based on rolling averages." USEPA revised the PSD permit accordingly, further explaining " . . .these requested changes will not result in any increase in emissions or cause any adverse air quality impacts. Therefore, EPA is approving these revisions administratively." (Letter to K. Antoine, Environmental Director, Hovensa, LLC, from B. Finazzo, Director, Division of Environmental Planning and Protection, USEPA, Region II, October 13, 2008.)

[49]Incidentally, the changes to the PSD permit for the Hovensa facility, which was cited in this comment, merely entailed the removal of provisions for 365-day rolling averaging from the CO limits for certain units at this facility. As such, the nature and effect of these changes is readily apparent. Without annual averaging, the stringency of the CO limits was, in fact, increased, with compliance with limits now required on a short-term basis, rather than on a long-term basis.

[50] For example, a Nebraska facility obtained an administrative amendment to its PSD permit to extend compliance dates for new control equipment. In issuing this administrative amendment, the Nebraska Department of Environmental Quality (NDEQ) stated, "[t]he emissions and regulatory requirements for this facility will not change due to this modification." (Administrative Amendment to Prevention of Significant Deterioration Construction Permit for Abengoa Bioenergy Corporation, Nebraska Department of Environmental Quality, January 21, 2004.)

[51] In March 2012, in its Permit Evaluation and Statement of Basis for Minor Revision to the Major Facility Review Permit for Los Medanos Energy Center, LLC, Facility No. B1866, the Bay Area Air Quality Management District (BAAQMD) referenced USEPA's Draft Guidance, explaining that the change to the PSD permit for the Medanos Energy Center was considered administrative. In particular, on page 6 and 7 of this document, the BAAQMD stated, "The facility received an Authority to Construct and a PSD permit on 9/10/99. … The changes to the changes in clearances in the compressor section, installation of the dry Low NOx combustors, and change out of the exhaust gas path components are considered an administrative change under the 1985 policy memorandum from Darryl D. Tyler to EPA Air Division Directors dated July 5, 1985 regarding Revised Draft Policy on Permit Modifications and Extensions. The memorandum describes the policy towards administrative changes or amendments to the PSD permit after appropriate review has been conducted. The scope of these changes will not increase permitted emissions of any PSD pollutants (e.g. NO_2, CO, PM_{10}, $PM_{2.5}$, VOC, Lead, Fluorides, Sulfuric Acid Mist, Hydrogen Sulfide, Total Reduced Sulfur) and will not require any changes to permit conditions established during the original PSD permitting action. PSD does not apply to this permitting action."

[52] **Incidentally, with respect to the permitting action by the NDEQ cited by this comment, the Illinois EPA could not find an "administrative amendment" issued to Abengoa Bioenergy on January 21, 2004 that extended certain compliance dates in**

32. In the Project Summary, Footnote 13, the Illinois EPA stated that the changes to Permit 95010001 are being processing separately from the processing of the baghouse construction permit in order to subject the changes to Permit 95010001 "to the administrative procedures that commonly apply to processing of PSD permits, 40 CFR Part 124… ." Although 40 CFR 124.1 indicates that Part 124 contains USEPA's "procedures for issuing, modifying, revoking and reissuing, or terminating all . . . PSD . . . 'permits' . . . ," Part 124 does not actually include procedures for revising PSD permits. In fact, 40 CFR 124.5(g)(1) is "Reserved for PSD Modification Provisions." Thus, Part 124 arguably does not apply to processing changes to PSD permits.

The observation made in this comment provides legal support for the administrative judgment that permitting authorities currently exercise in practice with respect to procedures that are used for processing revisions to PSD permits, including their reliance on USEPA's Draft Guidance. As USEPA has not codified the appropriate procedures for processing various types or classes of revisions to PSD permits, permitting authorities must exercise administrative judgment when selecting the appropriate procedure to use when processing a particular application for revisions to a PSD permit.

33. Based on the Draft Guidance, the Illinois EPA should have treated the requested changes to Permit 95010001 as administrative amendments, without holding a public comment period. The requested changes result in no emissions increase at the source and no fundamental changes at the source. Very little review, if any, and no reanalysis of the original application, was necessary. The proposed changes in this case also would not increase emissions, adversely impact air quality or change any emissions or regulatory requirements. Accordingly, the proposed changes should have been made by administrative amendment.

As already discussed, the Illinois EPA does not disagree with the classification of the changes to Permit 95010001 as "administrative amendments" under the Draft Guidance. However, this guidance still directs permitting authorities to exercise discretion to provide for public participation for administrative amendments to PSD permits in instances where it may be warranted. More generally, irrespective of the Draft Guidance, the Illinois EPA had the authority and duty to appropriately consider whether public participation should be provided for the proposed changes to Permit 95010001. Given the circumstances of the proposed changes to this permit, including the nature of the changes and the public's previous interest in this source, the Illinois EPA reasonably elected to provide for public participation on a draft of the revised permit.

FOR ADDITIONAL INFORMATION

Questions about the permit decision should be directed to:

Bradley Frost, Community Relations Coordinator
Illinois Environmental Protection Agency
Office of Community Relations
1021 North Grand Avenue, East
P.O. Box 19506

---

an issued PSD permit. Rather, the Illinois EPA found a permit issued on this date to Abengoa Bioenergy for modifications to this source, for which the draft permit had been subject to public participation. (Prevention of Significant Deterioration (PSD) Construction Permit for Abengoa Bioenergy Corporation, NDEQ, January 21, 2004.)

Springfield, Illinois 62794-9506

217-782-7027 Desk line
217-782-9143 TDD
217-524-5023 Facsimile

brad.frost@illinois.gov

ATTACHMENT 1:

LISTING OF SIGNIFICANT CHANGES BETWEEN THE DRAFT PERMIT AND THE ISSUED PERMIT

Findings

Finding 1(a)*(revised)*: The scope of this finding, which generally describes the nature of revisions that have been made in the revised permit, has been reduced. In the issued permit, like the draft permit, this finding explains that the permit has been revised to remove requirements that would be inconsistent with the use of a separate control system for secondary emissions of the BOFs, as is planned. In the issued permit, this finding no longer mentions revision because of inconsistency with requirements of the Iron and Steel NESHAP. It also does not mention inconsistency with requirements in the Clean Air Act Permit Program (CAAPP) permit for the source. This change responds to a comment that the Illinois EPA, in the Project Summary, improperly indicated that certain operational and monitoring requirements need not be included in the revised PSD permit because of requirements that now exist in the Iron and Steel NESHAP and in the CAAPP permit for the source. As observed by this comment, the relationship between the revised permit, the Iron and Steel NESHAP, and the CAAPP permit is not as simple as would have been indicated by this finding in the draft permit. In particular, as the revised permit would rely on provisions of the Iron and Steel NESHAP, this should be and is now explicitly provided for by the revised permit. Accordingly, in the issued permit, this finding only generally explains that revisions have been made in the revised permit to address the new control system planned for the BOFs.

Finding 3(c)*(new)*[53]: This new finding provides that the revised permit will not become effective when it is issued. Rather, the effectiveness of the revised permit will be appropriately delayed to address the possibility that a petition for review of this permit is submitted to the USEPA's Environmental Appeals Board (Board), appealing the revised permit. In addition, if the revised permit is appealed, the revised permit would not become effective until either the Board declines the petition for review or it makes a decision on the merits that does not remand the permit back to the Illinois EPA. These provisions are consistent with the relevant provisions of 40 CFR Part 124 that deal with issuance of PSD permits.[54] This change to the permit resulted from further evaluation in response to comments concerning the administrative process being used for the revision of this permit. These comments, which are addressed in the body of this Responsiveness Summary, argued that the Illinois EPA could have issued this revised permit without holding a public comment period. While considering those comments, the Illinois EPA realized that the draft of the revised permit would not include provisions to accommodate an appeal of the issued permit in accordance with 40 CFR Part 124. The revised permit should accommodate such an appeal because the Illinois EPA has processed the revision of this permit as a revision to a PSD permit. Accordingly, new Finding 3(c) has been included in the revised permit to enable an appeal of the permit in a manner that is consistent with the provisions of 40 CFR Part 124.[55]

---

[53]In the issued permit, a cross-reference to this new finding is now provided after the "Date Revision Issued" in the information block at the top of the permit.

[54]The USEPA's Environmental Appeals Board hears appeals of PSD permit actions taken by USEPA and by other delegated permitting authorities. The USEPA's administrative rules for these appeal proceedings are found in 40 CFR Part 124, Procedures for Decisionmaking.

[55]It should be noted that new Finding 1(c) does not indicate that the Illinois EPA has determined that the issuance of this revised permit is a PSD permit action. Rather, it reflects a belief that it is appropriate to proceed as if the changes that have been made to this permit entail issuance of a revised PSD permit. Among other things, this is because of the form of the original permit, the extent of the changes that have been made to the permit, and US Steel's expressed desire for certainty in the authoritativeness of the revised permit. However, this does not mean that the Board, in response to a petition for review of the revised permit, could not conclude that the issuance of this revised permit was

Conditions

Condition 8*(revised)*: Wording in this condition, which restates the applicable state standard for opacity of emissions from the roof monitor of a BOF shop, 35 IAC 212.446(c), has been corrected. In the issued permit, this condition addresses a standard that applies to the "opacity of emissions" rather than to "visible emissions." It is evident that this condition addresses opacity as the limit is expressed as a percentage.[56] The change is a result of a comment, which is addressed in the body of this Responsiveness Summary, that expressed concern about the addition of a regulatory citation to this condition. As part of the further consideration that occurred, it was decided that this simple correction should be made to the wording of Condition 8.[57]

Condition 9/ Former Conditions 9 and 10 *(revised)*[58]: Condition 9 now requires US Steel to operate and maintain the BOFs and associated capture and control systems in accordance with applicable requirements of the Iron and Steel NESHAP. This change was made in response to a comment that the removal of previous Conditions 9 and 10, as proposed in the draft of the revised permit would act to eliminate independent enforceability of the permit. To maintain such enforceability, this comment further suggested that, as the revised permit would rely on provisions of the Iron and Steel NESHAP in place of the provisions that would be removed, the revised permit should require compliance with applicable provisions of this NESHAP. This would make the requirements of the Iron and Steel NESHAP that would now take the place of Conditions 9 and 10 actually enforceable under the permit. As the change suggested by this comment would merely memorialize the basis for removal of former Conditions 9 and 10 from the permit and enhance the practical enforceability of the substantive requirements in the permit, the Illinois EPA has proceeded as requested by this comment.

In the issued permit, Condition 9 clarifies the relationship between the revised permit and the Iron and Steel NESHAP. Since provisions of this NESHAP will serve in place of the compliance procedures in former Conditions 9 and 10 of the permit, Condition 9 in the issued permit addresses operational and maintenance requirements for the BOFs and associated capture and control systems. It specifically requires US Steel to comply with applicable provisions of this NESHAP for operational monitoring, performance testing, operating parameter limits, and operation and maintenance of equipment. With regard to performance testing, Condition 9 also further provides that unless US Steel is willing to consider all particulate measured by NESHAP testing to be PM-10, tests must also be conducted for emissions of PM-10. This additional requirement was needed because this NESHAP does not require performance testing for PM-10 emissions, since it sets particulate limits in term of PM. This further provision will require testing to also be conducted for PM-10 emissions if US Steel elects to consider the distinction between PM and PM-10 when determining compliance with Condition 8 (35 IAC 212.458(b)(23)), which sets limits for particulate emissions in terms of filterable PM-10.

---

not a PSD permit action. Notably, emissions of particulate, which are addressed through the provisions of the permit that have been revised, were not originally subject to PSD review.

[56]Standards for visible emissions do not set limits for the percentage of visible emissions. Such standards may simply prohibit such emissions. They may also restrict the amount of time during which such emissions occur. For example, visible emissions from flares are commonly restricted to a total of 5 minutes in any two-hour period.

[57]In addition, other changes have been made between the draft and issued revised permit that involve conditions that the draft permit would not have retained. As these other conditions will now be "temporarily" retained in the permit until the new control system starts operation, as will be discussed later, it was necessary to make corrections to the wording and structure of those conditions. As these changes have now been made to those other conditions, it was also appropriate that Condition 8 be changed so that it now refers to opacity of emissions.

[58]The parenthetical notes in the issued permit, which identify provisions of the previous permit that are not in the revised permit, have also been appropriately adjusted to address this change. In the revised permit, these notes no longer indicate that Condition 9, Conditions 11, 12 and 13 and Condition 39 have been removed from the permit.

In the issued permit, Condition 9 is also accompanied by a note that explains that compliance with the operational and maintenance requirements of the Iron and Steel NESHAP has been required as the means to verify ongoing compliance with the requirements of Conditions 7 and 8 of the permit and to address implementation of good air pollution control practice for the BOFs. This note is appropriate to clearly document the role of Condition 9 in the revised permit. In the absence of this explanation, one might improperly assume that the purpose of Condition 9 in the revised permit is merely to facilitate ongoing compliance with the Iron and Steel NESHAP.

Condition 11*(revised)*: In the issued permit, this condition, which deals with use of flame suppression to minimize emissions from tapping of the BOFs, has been revised rather than being removed, as was proposed. Condition 11 in the issued permit now requires that flame suppression be used until the new baghouse control system begins operation. The original Condition 11, which requires use of flame suppression, has been retained as Condition 11(a). New Condition 11(b) now provides that this requirement for flame suppression will terminate when US Steel begins operation of a capture and control system for secondary emissions from the BOFs, as now planned, which makes flame suppression infeasible or unnecessary. This change was made in response to a comment suggesting that the revised permit should retain requirements that would be applicable until the new baghouse control system begins operation, rather than simply relying on the presence of these requirements in the CAAPP permit for the source to maintain their continued effectiveness until they actually cease to apply. As the approach suggested by this comment would maintain the enforceability of the subject requirements under the PSD permit, where they originated, the Illinois EPA has proceeded as requested by this comment.

Because this comment also addressed other requirements that would only continue in effect until the new baghouse control system begins operation, new Condition 11(b) also addresses the effectiveness of those other requirements. In particular, Condition 11(b) also provides that the operational requirements and associated monitoring requirements that have now been retained in the permit as Conditions 12 and 13 would also terminate upon startup of a new control system for secondary emissions.

Conditions 12 and 13 *(revised)*: In the issued permit, these conditions, which deal with operational requirements for BOFs and associated monitoring requirements, have been revised rather than being removed, as was proposed. This change was also made in response to the comment that suggested that the revised permit should retain requirements that would be applicable until the new control system begins operation, rather than relying on the source's CAAPP permit to maintain the effectiveness of requirements until such time. As the suggested approach would maintain the enforceability of the subject requirements under the PSD permit, the Illinois EPA has proceeded as requested by this comment.

Since the revised permit now explicitly requires compliance with existing operational and monitoring requirements until the new baghouse control system begins operation, these requirements had to be appropriately carried over in the revised permit with editorial and technical corrections and updates to these requirements. First, the organization and order of requirements in the issued permit have been revised for clarity. The operational requirements have been kept in Condition 12.[59] All monitoring requirements are now in Condition 13.[60] Second, the wording of both Conditions 12 and 13 has been simplified to improve

[59]In Condition 12 in the revised permit, the first requirement (Condition 12(a)), is now the general requirement to operate the BOFs with the stack gas flow rate of the ESP at certain minimum levels. Condition 12(b) now addresses the values of minimum set points while only a single furnace is in operation. Condition 12(c) now addresses the operational requirements when both BOFs are operating.

[60]In Condition 13, the first requirement (Condition 13(a)), is that US Steel operate and maintain a continuous operational monitoring system for the gas flow rate in the stack for the ESP, with recordkeeping for the monitored flow rates for each steel production cycle for the different phases of BOF operation (former Conditions 12(c) and 12(e)). Condition 13(b) now addresses operational monitoring for waste gas suction in the main downcomer duct of

clarity and facilitate practical enforceability.[61, 62] Lastly, the contents of Condition 13 have been revised to reflect developments in permit requirements for operational monitoring systems, with similar requirements now set for both systems.[63] These revisions were needed because requirements for these monitoring systems have now been included in the revised permit and the permit should now reflect current practice in permitting for establishing requirements for operational monitoring systems, with similar requirements for both systems.

Explanatory note following Condition 18 *(new)*: This new note explains that the previous note that followed Condition 18 has not been included in the revised permit. This change was made in response to a comment requesting this change. The parenthetical explanatory notes in the revised permit generally explain where conditions have been removed as part of the revision of the permit to avoid possible future confusion. They enable someone who is referring to the revised permit to understand that the gaps in the numbering of conditions in the permit is intentional. The change requested by this comment could also serve to avoid possible future confusion. It would make clear that the previous note, which provided a definition of a "BOF cycle," was also intentionally removed in the revised permit.[64] Accordingly, the change requested by this comment was made.

Condition 39 *(revised)*: In the issued permit, this condition, which deals with reporting of deviations, has been revised rather than being removed, as was proposed. This change was made in response to a comment

---

the ESP, again requiring recordkeeping for each production cycle for the different phases of operation (former Conditions 13(a) and 13(d)). Condition 13(c) now provides for quarterly calibration of both the monitoring system for waste gas suction, as well as the monitoring system for stack gas flow rate (former Condition 13(f)). Condition 13(d) now contains the general obligations for these monitoring systems, addressing both the monitoring system for stack gas flow rate, as well as the system for waste gas suction (former Condition 13(b)).

[61]For example, in revised Condition 12, the wording of Condition 12(a) (former Condition 12(c)), now clearly provides that the ESP does not need to be operated at the established set points for purposes of emissions testing. While allowing for alternative set points to be approved, the wording of the former condition improperly suggested that testing to evaluate alternative set points would have to be conducted while operating at the established set points. If applied literally, this would have meant that testing to evaluate alternative set points could not actually be conducted, since the ESP would have to be operated at the established set points during such testing.

Condition 12(c) (former Condition 12(b)) also imposes requirements related to overlapping of charging and tapping when both BOFs are in use. The revised condition now provides that all four of these requirements must be part of US Steel's Operating Procedures for the BOFs. As there are four distinct requirements, the Operating Procedures for the BOFs must include them all, rather than only two of them, as was formerly specified.

[62]In Condition 13 of the revised permit, various flaws in the wording of the requirements for monitoring in the former permit have been eliminated. For example, the basic provision for monitoring of ESP stack gas flow rate in the revised permit, Condition 13(a), now explicitly requires US Steel to conduct continuous operational monitoring for this parameter. The previous condition (former Condition 12(d)), did not directly require such monitoring. Instead, it required US Steel to calibrate, operate and maintain a continuous strip chart recorder for this parameter "as measured by the stack gas flow meter during ESP use." As such, the former condition permit did not directly address operation of a continuous monitoring system for ESP stack gas flow rate. In addition, this condition did not actually require "monitoring" whenever the BOFs were being operated, only when the ESP was being operated.

[63]In the issued permit, identical requirements are set for both the continuous monitoring system for stack flow rate and the continuous monitoring system for waste gas suction. Both systems must be operated, maintained and calibrated by US Steel. The data that is recorded for both systems must include data for each steel production cycle for each phase of operation (charging, refining and tapping). Both systems must be calibrated on at least a quarterly basis. Finally, both systems must be operated at all times that a BOF is in operation and shall be used as mechanisms to ensure that adequate draft is maintained.

[64]The note that has been removed from the permit defined the BOF cycle as the period from the beginning of charging through the end of the tapping process. It is no longer appropriate to include this definition for the BOF cycle in the permit since it is inconsistent with the related definition for steel production cycle adopted by USEPA in the Iron and Steel NESHAP, 40 CFR 63.7852. USEPA defined the steel production cycle as the operations conducted at a BOF to produce each batch of steel, beginning with charging of scrap and ending with deslagging.

that the removal of Conditions 9 and 10, as was proposed in the draft of the revised permit, would act to eliminate independent enforceability of the permit. Changes were made in the revised permit to directly respond to this comment, as have been discussed. Changes with respect to Condition 39 were also appropriate in responsed to this comment. In particular, Condition 39 is now retained so that the revised permit independently addresses reporting of deviations from permit requirements and does not rely solely on the parallel provisions of the CAAPP permit for reporting of any deviations from the requirements of the permit. As Condition 39 is now retained in the revised permit, necessary technical and editorial corrections have been to this condition.[65]

[65] In the revised permit, Condition 39 requires reporting of "deviations" rather than "exceedances," with such reporting required even if the deviations have been determined or identified by US Steel by a means other than the records required by the permit. As deviations are now addressed, which may include matters other than emissions exceedances, information is not required for the amount of emissions released. If a deviation involves excess emissions, information on the amount or nature of excess emissions would typically be included as part of the required description of the deviations. Finally, as reporting of deviations is also now addressed in the CAAPP permit for the source, the condition recognizes that the CAAPP permit may specify other requirements for reporting of deviations.