

Appendix K

2010 Memorandum of Understanding

Illinois Environmental Protection Agency

and

United States Steel Corporation – Granite City Works

United States Steel Corporation
Granite City Works and
IEPA Memorandum of Understanding

The Memorandum of Understanding (MOU or Agreement) is entered into by and between United States Steel Corporation (U. S. Steel) and the Illinois Environmental Protection Agency (IEPA), and is dated and effective as of the last date of signature in the signature block.

U. S. Steel and IEPA have reached an Agreement that will achieve reductions in emissions of particulate matter from U. S. Steel's Granite City Works, with the specific intent of reducing the emissions of particulate matter_{2.5} (PM_{2.5}). This MOU sets forth the terms of the Agreement between U. S. Steel and IEPA and sets forth the intended regulatory uses for those emission reductions. This agreement does not relieve U.S. Steel from the continuing obligation to comply with requirements of applicable Federal and State regulations, construction or operating permits, and other applicable requirements to control emissions.

1. Enhancements to Compliance Procedures

- a. Within 2 months of the effective date of this agreement, U. S. Steel shall begin installation of an enhanced operational monitoring system for the capture systems for particulate matter emissions from the Basic Oxygen Furnaces (BOF), including installation, operation and maintenance of monitoring devices to verify the performance of each capture system during the various steps in the steelmaking process. This will include establishment of values of operating parameters that reliably indicate and ensure adequate capture of emissions by each existing hood.
- b. Within 3 months of beginning operation of any additional new pollution control equipment at the BOF, as prescribed in this MOU, U. S. Steel shall implement enhanced operational monitoring for such new capture system for particulate matter. Such implementation will include installation, operation and maintenance of appropriate monitoring devices. These devices will verify the performance of the new capture system. Such monitoring devices will be used to establish values of operating parameters that reliably indicate and ensure adequate capture of emissions by each new hood.
- c. Within 2 months of the effective date of this agreement, U. S. Steel shall conduct opacity readings of emissions escaping from any openings in the Basic Oxygen Process Furnace (BOPF) building in accordance with USEPA Method 9 in 40 CFR Part 60, Appendix A. These readings shall be performed for at least five (5) days out of every seven (7). A day is defined as any day when a BOF is in operation for a minimum of four hours during conditions that are acceptable for Method 9 readings. A minimum of 60 consecutive minutes of opacity readings must be obtained and must encompass at least one steel production cycle. A production

cycle is defined as the beginning of scrap charging to the completion of deslagging of the steelmaking vessel. Results of these readings shall be reduced to three (3) minute rolling averages. U.S. Steel shall maintain appropriate records for all opacity measurements and these records shall be made available upon request from the IEPA.

- d. U.S. Steel may, at some later date, submit a formal request to IEPA to streamline the monitoring requirements. This request shall be submitted as an application for a significant modification to the CAAPP permit.

2. Emission Limits

- a. All particulate matter emission limits in this MOU are expressed in terms of particulate as would be measured by USEPA Methods 5, 5D or 17.
- b. As of January 1, 2012, U. S. Steel shall comply with the following requirements for particulate matter emissions:
 - i. Particulate matter emissions from the basic oxygen process (BOP) that exit from the electrostatic precipitator stack must not exceed 0.01 gr/dscf.
 - ii. Particulate matter emissions from hot metal desulfurization and reladling (BOF Hot Metal Transfer and Desulfurization Baghouse(s)) that exit from the baghouse must not exceed 0.005 gr/dscf.
 - iii. Particulate matter emissions from slag skimming (BOF Slag Skimming Baghouse(s)) that exit from the baghouse stack must not exceed 0.005 gr/dscf.
 - iv. Particulate matter emissions from ladle metallurgy operations (LMF Baghouse) that exit from the baghouse stack must not exceed 0.005 gr/dscf.
- c. As of March 31, 2013, or such later date established pursuant to paragraph 4(c)(v) below, U. S. Steel will comply with the following requirements for particulate matter emissions from tapping:
 - i. Emissions shall be controlled by a new baghouse.
 - ii. Emissions that exit from this baghouse stack must not exceed 0.005 gr/dscf.

3. Within 2 months of the effective date of this Agreement U. S. Steel shall submit an application for a federally enforceable permit or permits to incorporate the requirements of Sections 1 and 2 above. The federally enforceable permit or permits shall include the requirements imposed by Sections 1 and 2 and appropriate requirements for emission testing, monitoring, recordkeeping and reporting associated with these requirements.

4. Emission Reduction Projects

- a. Steam Rings for the Oxygen Lances
 - i. Within 6 months of the effective date of the Agreement, U. S. Steel will complete basic engineering of steam rings for the oxygen lances in the BOP shop.

- ii. U. S. Steel will submit a construction permit application and an installation schedule to IEPA within 30 days of completion of the basic engineering. In consideration of the need to begin operation of the steam rings by October 31, 2011, U. S. Steel shall commence construction of the steam rings within 40-days of issuance of a final construction permit, assuming that no appeal(s) or challenge(s) of the Permit or the requirements therein have been filed with the Pollution Control Board or Federal Court within that 40-day period.
- b. U. S. Steel will complete the installation and begin operation of the steam rings no later than October 31, 2011 provided that the required construction permit is obtained in a reasonable time and not appealed.
- c. Secondary Emission Control for Tapping
 - i. Within 9 months of the effective date of the Agreement, U. S. Steel will complete the basic engineering for the installation and operation of a dedicated tapping emission control system that includes a fabric filter control device (baghouse).
 - ii. The tapping emission control system will be designed for optimal capture to minimize emissions from tapping, which have the potential of escaping to the atmosphere from the BOPF building. The air pollution control device for the captured emissions will be designed to comply with a particulate matter emission rate of 0.005 grains per dry standard cubic feet exhaust, at the stack.
 - iii. Within 30 days of the completion of the basic engineering for the new control system, U. S. Steel will submit a construction permit application for the new system to the IEPA that contains a schedule for the design engineering, construction and initial start up of the new tapping emission control system.
 - iv. In consideration of the need to begin operation of the secondary emission controls for tapping by March 31, 2013, IEPA shall act on all required permit(s) within three months of receipt of permit application(s) from U. S. Steel. U. S. Steel shall commence construction of the secondary emission controls for tapping within 40-days of issuance of a final construction permit, assuming that no appeal(s) or challenge(s) of the Permit or the requirements therein have been filed with the Pollution Control Board or Federal Court within that 40-day period.

- v. U. S. Steel will begin operation of the new tapping emission control system no later than March 31, 2013 provided that required permits are obtained in a reasonable time and not appealed.
- d. Secondary Emission Control for Charging
 - i. As part of the engineering for the new tapping emission control system, U. S. Steel will also evaluate the current emission control system for charging and potential projects to reduce particulate matter emissions from charging. As part of this evaluation, U. S. Steel will evaluate improvements to the capture efficiency achieved for charging emissions and ducting some or all of the captured charging emissions, which currently are controlled by the electrostatic precipitator, to the new control device for tapping or another new baghouse.
 - ii. If the evaluation completed in paragraph 4(d)(i) does not support implementing additional projects to reduce particulate emission from charging, U. S. Steel will submit within 9 months of the effective date of the Agreement, an evaluation report that includes a summary of the evaluation, statement on decision criteria for potential projects, and incremental cost per ton of pollutant reduction analysis.
 - iii. If the evaluation completed in paragraph 4(d)(i) does support implementing additional projects to reduce particulate emissions from charging, U. S. Steel will complete within 9 months of the effective date of the agreement the basic engineering for installation and operation of an upgrade to the existing charging control system. Future submittals will coincide with the tapping hood schedule identified in paragraph 4(c)(iii) – 4(c)(v).

5. Regulatory Uses of Emission Reductions

- a. For the Granite City BOP, the particulate emission reductions set forth in the MOU will be incorporated into the Illinois 1997 PM_{2.5} National Ambient Air Quality Standard State Implementation Plan (NAAQS SIP) submitted to U. S. EPA in accordance with 40 CFR §51.1001, et seq., and §§ 110 and 172 of the Clean Air Act
- b. IEPA shall use its best efforts to support and represent that the requirements of this MOU satisfy U. S. Steel's obligations towards Illinois EPA's requirement to demonstrate compliance with the 1997 PM_{2.5} NAAQS.

- c. IEPA will provide U. S. Steel with an opportunity to review and provide comments on the 1997 PM_{2.5} modeled attainment demonstration.
- d. U. S. Steel and IEPA shall mutually support and use best efforts to obtain the appropriate permits and approvals incorporating the terms of this agreement to make the reductions federally enforceable so that they can be incorporated into the Illinois 1997 PM_{2.5} SIP.
- e. U. S. Steel's commitments and obligations under this MOU are subject to and conditioned upon: 1) the issuance and sustained validity of a federally enforceable permit or permits containing the particulate matter emission reductions requirements set forth in the MOU; 2) IEPA's approval that the particulate matter emission reductions satisfy U. S. Steel's requirement for the 1997 PM_{2.5} NAAQS SIP; and 3) IEPA not pursuing a regulation pursuant to the 1997 PM_{2.5} NAAQS containing additional restrictions for the Granite City Works BOP. U. S. Steel and IEPA shall mutually support and use best efforts to obtain the appropriate permits and SIP approvals based on this agreement.
- f. In developing rules, regulations, or state implementation plan revisions designed to comply with the PM_{2.5} NAAQS, IEPA, taking into account all emission reduction efforts and other appropriate factors, will use best efforts to seek PM_{2.5} reductions in regards to future NAAQS from other sources before seeking additional emission reductions from the U. S. Steel BOP.

6. Force Majeure

U. S. Steel shall not be liable for any failure or delay in performance under this MOU (other than for delay for submitting a permit application) to the extent said failures or delays are caused by extraordinary circumstances beyond U. S. Steel's reasonable control and occurring without its fault or negligence, provided that, U. S. Steel gives prompt written notice, with full details following the occurrence of the cause relied upon. Dates by which performance obligations are scheduled to be met will be extended for a period of time equal to the time lost due to any delay so caused.

For United States Steel Corporation
<u>MS Williams</u>
Michael S. Williams Senior Vice President - North American Flat Roll Operations
Date: <u>6 / 30 / 2010</u>

For Illinois EPA
<u>Douglas P. Scott</u>
Douglas P. Scott Director, Illinois EPA
Date: <u>7 / 1 / 2010</u>