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FINDINGS

1. A Finkl and Sons (Finkl), has applied for a construction permit for a plant to produce specialty steel and manufacture metal forgings from steel and other metals. The proposed plant will include a melt shop with an electric arc furnace and ladle metallurgical station. The melt shop would have the capability of producing 525,000 tons of steel annually. Other downstream operations would include a vacuum tank station for degassing and decarburization of molten steel, forging and reheat furnaces, heat treating furnaces, surface preparation operations, other associated processes and ancillary operations.
2. The proposed plant would be located in the greater Chicago area, which is designated nonattainment for ozone and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM_{2.5}).
- 3a. The project is subject to 35 IAC 203, Major Stationary Sources Construction and Modification (MSSCAM), for emissions of nitrogen oxides (NO_x). This is because NO_x is regulated as a precursor to ozone and the proposed plant would be a major source for NO_x, with potential NO_x emissions of 100 tons per year or more, as summarized in Attachment 1.
- b. This permit is issued based on this project not being a major source for purposes of MSSCAM for emissions of PM_{2.5}. This is because the plant would not be a major source for particulate matter (PM). In particular, consistent with current USEPA guidance that provides that PM₁₀ should be used as a surrogate for PM_{2.5} for purposes of nonattainment New Source Review programs, the potential emissions of particulate measured as PM₁₀ from the proposed plant are less than 100 tons per year.
- c. This project is subject to PSD review for emissions of, carbon monoxide (CO), nitrogen oxide (NO_x), sulfur dioxide (SO₂) and particulate matter (PM) emissions. This is because the potential emissions of the project are major for CO and NO_x (equal to or more than 100 tons per year) and significant for SO₂ and PM (equal to or more than 40 and 25 tons per year, respectively), as summarized in Attachment 1.
- d. This project is not major or significant for emissions of other PSD pollutants as summarized in Attachment 1.
4. After reviewing the application submitted by Finkl, the Illinois EPA has determined that the application for the proposed plant shows (i) compliance with applicable state and federal emission standards, (ii) utilization of Best Available Control Technology (BACT) for emissions of CO, NO_x, SO₂ and PM, and (iii) the Lowest Achievable Emission Rate (LAER) for emissions of NO_x. (See the Control Technology Determinations in Section 2 of this permit for the determinations of BACT and LAER for different emission units.)

- 5a. The air quality analysis submitted for the project and reviewed by the Illinois EPA shows that the proposed project will not cause violations of the ambient air quality standards and applicable PSD increments for NO₂, SO₂, PM₁₀ and CO.
- b. Based on the permitted NO_x emissions of the proposed plant, 302 tons/year, Finkl must obtain 347 tons of NO_x emission offsets from existing sources in the Chicago nonattainment area for this project. (Refer also to Condition 1.5.)
6. Finkl has certified that the existing major stationary source that it operates in Illinois, which will be replaced by the proposed plant, is in compliance or on a schedule for compliance with all applicable state and federal air pollution control requirements, as required by 35 IAC 203.305.
7. The Illinois EPA has considered alternatives to this project, as required by 35 IAC 203.306 and found that the benefits of this project outweigh its impacts on air quality.
8. The Illinois EPA has determined that the application for the proposed plant shows that it would comply with all applicable Illinois Pollution Control Board Regulations and the federal PSD regulations.
9. A copy of the application, the Illinois EPA's summary for the review of the applications and a draft of the permit were forwarded to a location in the vicinity of the plant, and the public was given notice and opportunity to examine this material, to submit comments, and to request and participate in a public hearing on this matter.

SECTION 1: SOURCE-WIDE CONDITIONS

1.1 Effect of Permit

- a. This permit does not relieve the Permittee of the responsibility to comply with all local, state and federal regulations that are part of the applicable Illinois' State Implementation Plan, as well as all other applicable federal, state and local requirements.
- b. In particular, this permit does not relieve the Permittee from the responsibility to carry out practices during the construction and operation of the project, such as application of water or dust suppressant sprays to unpaved traffic areas, as necessary to minimize fugitive dust and prevent an air pollution nuisance from fugitive dust, as prohibited by 35 IAC 201.141.

1.2 Validity of Permit and Commencement of Construction

- a. As provided by 40 CFR 52.21(r)(2), this permit shall become invalid if construction is not commenced within 18 months of the PSD approval becoming effective, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable period of time. The Illinois EPA may extend the 18-month period upon a satisfactory showing that an extension is justified. This condition supersedes Standard Condition 1 of the permit. (See Attachment 3)
- b. For purposes of the above provisions, the definitions of "construction" and "commence" at 40 CFR 52.21(b) (8) and (9) shall apply, which requires that a source must enter into a binding agreement for on-site construction or begin actual on-site construction. (See also the definition of "begin actual construction," 40 CFR 52.21(b)(11)).

1.3 Applicability of PSD and MSSCAM

- a. In its application, the Permittee has addressed the applicability of PSD, 40 CFR 52.21, to the proposed plant. The conditions of this permit are intended to ensure that the plant does not constitute a major source for purposes of PSD for pollutants other than CO, NO_x, PM and SO₂. (See also Attachment 1.)
- b. In its application, the Permittee has addressed the applicability of MSSCAM, 35 IAC Part 203, to the proposed plant. The conditions of this permit are intended to ensure that the plant does not constitute a major source for purposes of MSSCAM for pollutants other than NO_x. (See also Attachment 1.)

1.4 Emission Offset Requirement of MSSCAM

a. The Permittee shall maintain 347.0 tons of NO_x emission offsets generated by the following activities/projects:

b. i. These NO_x emission offsets are provided by permanent emission reductions that occurred or will occur at the following sources, as identified below. These emission reductions have been relied upon by the Illinois EPA to issue this permit and cannot be used as emission reduction credits for other purposes. The reductions at the sources identified below have been or will be made enforceable by the withdrawal of the air pollution control permits for the units generating the permanent emission reductions.

Activity/Project	Amount (Tons/Year)
Shutdown of existing Finkl plant	74.8
Shutdown of ADM, ID 031600ATR	74.0
Corn Products	198.2
Total	347.0

ii. If the Permittee proposes to rely upon emission offsets from other sources or other activities or projects, the Permittee shall apply for and obtain a revision to this permit prior to relying on such emission offsets, which application shall be accompanied by detailed documentation for the nature and amount of those alternative emission offsets.

c. The acquisition of NO_x offsets shall be completed prior to commencement of construction of the proposed plant, unless the Permittee requests an extension and it is approved by the IEPA. The implementation of emission offsets shall be completed prior to startup of the proposed plant.

1.5 Status of the Plant for Emissions of Hazardous Air Pollutants (HAPs)

a. This permit is issued based on the plant not being a major source for emissions of hazardous air pollutants (HAP). For this purpose, emissions of HAPs from the plant shall not exceed 8 tons per year of any individual HAP and 20 tons per year of total HAPs.

Note: This permit limits HAP emissions from the plant to less than the thresholds for a major source of HAPs, i.e., annual emissions of 10 tons or more of any individual HAP and 25 tons or more of total HAPs, with a substantial margin to assure that the actual emissions of this source are both enforceably and practically constrained to levels at which the plant would be a major source of HAPs.

- b. i. At least once every 12 months, the Permittee shall predict future annual HAP emissions based on forecasted or projected production and the nature and level of operations at the plant that would accompany such production. The projection of HAP emissions shall be based on past experience, adjusted for planned changes in the production. The projections of HAP emissions shall also consider emissions from secondary operations and support activities at the plant.
- ii. A new prediction of HAP emissions shall be expeditiously completed if projections in Condition 1.5(b)(i) for operation of emissions units changes in a way that would act to significantly increase HAP emissions from the plant.
- c. i. If the above prediction of HAP emissions show levels of emissions that are more than 90 percent of a limit in Condition 1.5(a), the Permittee shall also identify measures that could reasonably be taken to maintain HAP emissions within the limits of Condition 1.5(a) and trigger levels of production or emissions at which it would begin to implement such measures.
- ii. If the trigger levels of operation or emissions identified in Condition 1.5(c)(i) are reached, the Permittee shall expeditiously implement measures to assure that operation and HAP emissions do not exceed the limits in Conditions 1.5(a).

1.6 State Emission Standards of General Applicability

- a. In addition to other applicable requirements, each emission unit at the plant shall comply with 35 IAC 212.123(a), which provides that no person shall cause or allow emissions of smoke or other particulate matter with an opacity greater than 30 percent, except as allowed by 35 IAC 212.123(b) and 212.124. Compliance with this limit shall be determined in accordance with by 35 IAC 212.109, i.e., by 6-minute averages of opacity measurements in accordance with USEPA Reference Method 9.
- b. In addition to other applicable requirements, the opacity of fugitive particulate matter emission from emission units at the plant other than the melt furnace, roadways and parking areas, and storage piles shall comply with the applicable limit in 35 IAC 212.316, which provides that person shall cause or allow the opacity of fugitive particulate matter emissions to exceed 20 percent, unless an unit has been assigned a particulate matter, PM₁₀, or fugitive particulate matter emissions limitation elsewhere in 35 IAC 212.316 or 35 IAC Part 212 Subparts R or S. [35 IAC 212.316(f)]
- c. In addition to other applicable requirements, each emission unit at the plant shall comply with 35 IAC 212.301, which

provides that no person shall cause or allow emissions of fugitive PM to be visible from any process, including any material handling or storage activity, when looking generally toward the zenith at a point beyond the property line of the source, except when the wind speed exceeds 25 miles per hour, as provided by 35 IAC 212.314.

- d. In addition to other applicable requirements, each process emission unit at the plant shall comply with 35 IAC 214.301, which provides that no person shall cause or allow emissions of SO₂ from a process emission unit to exceed 2000 ppm.

1.7 Applicability of Regulations for the Lake Calumet Area

- a. This permit is issued based on the plant being located in the Lake Calumet area, as defined by 35 IAC 212.324(a)(1), so that certain emission units at the plant are subject to emission standards and other requirements contained in 35 IAC 212.316 and 212.324, as further addressed in the unit-specific sections of this permit.

1.8 PM₁₀ Contingency Plan

- a. The Permittee shall comply with the applicable requirements of 35 IAC Part 212 Subpart U: Additional Control Measures if the criteria of 35 IAC 212.700 are met, i.e., the plant's actual emissions of PM₁₀ (filterable only) are 15 tons per year or more, as either reported in the Annual Emission Report for the plant submitted by the Permittee or as described in the application for operating permit for the source. In particular, if the criteria of 35 IAC 212.700 are met by the source:
 - i. In accordance with 35 IAC 212.701 within 90 days after the date that the source becomes subject to the requirements of 35 IAC Part 212 Subpart U, the Permittee shall prepare and submit to the Illinois EPA a contingency measure plan for reductions in the PM₁₀ emissions of the source as specified by 35 IAC 212.703, which plan shall become federally enforceable when approved by the Illinois EPA.
 - ii. As provided by 35 IAC 212.701, the Permittee may, consistent with the requirements of 35 IAC Part 212, Subpart U and applicable permitting requirements, propose revisions to its contingency measure plan by submittal of a revised plan to the Illinois EPA for review and approval. If the Illinois EPA disapproves the initial submittal of a plan or the Permittee fails to revise a plan so that it is approvable, the Illinois EPA shall so notify the Permittee in writing and the Permittee may treat such notice as a permit denial.

- iii. In accordance with 35 IAC 212.704 or 212.705, the Permittee shall implement relevant contingency measures for the source as set forth in its plan following a finding by the Administrator of USEPA of a failure to attain the National Ambient Air Quality Standard for PM₁₀ or notification by the Illinois EPA that there has been an exceedance of the National Ambient Air Quality Standard for PM₁₀.

1.9 Good Air Pollution Control Practices

The Permittee shall operate and maintain the emission units at this plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practice, as follows:

- a. At all times, including periods of startup, shutdown, malfunction or breakdown, operate as practicable to minimize emissions.
- b. Conduct routine inspections and perform appropriate maintenance and repairs to facilitate proper functioning of equipment and minimize or prevent malfunctions and breakdowns.
- c. Install, calibrate and maintain required monitoring devices and instrumentation in accordance with good monitoring practices, following the manufacturer's recommended operating and maintenance procedures or such other procedures as otherwise necessary to assure reliable operation of such devices.

1.10 Records for Required Monitoring Systems and Instrumentation

- a. The Permittee shall keep records of the data measured by required monitoring systems and instrumentation. Unless otherwise provided in a particular condition of this permit, the following requirements shall apply to such recordkeeping:
 - i. For required monitoring systems, data shall be automatically recorded by a central data system, dedicated data logging system, chart recorder or other data recording device. If an electronic data logging system is used, the recorded data shall be the hourly average value of the particular parameter for each hour. During periods when the automatic recording device is out of service, data shall be recorded at least once per shift for periods when the associated emission unit(s) are in service.
 - ii. For required instrumentation, the measured data shall be recorded manually at least once per day, unless otherwise specified, with data and time both recorded, for periods when the associated emission unit(s) are in service, provided however that if data from an instrument is

recorded automatically, the above provisions for recording of data from monitoring systems shall apply.

- b. The Permittee shall keep records for the operation, calibration maintenance and repair of required monitoring systems and instrumentation.

1.11 Compliance with Annual Limitations

- a. Unless otherwise specified in a particular provision, compliance with annual limitations established by this permit shall be determined from a running total of 12 months of data, i.e., from the sum of the data for the current month plus the preceding 11 months (12 month total).

1.12 Records of Opacity Measurements and Observations for Visible Emissions

- a. The Permittee shall keep records for all opacity measurements made in accordance with USEPA Method 9 for emission units at the plant that it conducts or that are conducted on its behest by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to this permit or a request from the Illinois EPA, or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the relevant emission units or operations, the observed opacity, and copies of the raw data sheets for the measurements.
- b. The Permittee shall keep records for all observations for visible opacity measurements made in accordance with USEPA Method 22 for emission units at the plant that it conducts or that are conducted on its behest. For each occasion on which such observations are made, these records shall include the written report for the observations if conducted pursuant to this permit or otherwise the identity of the observer, a description of the observations that were made, the operating condition of the relevant emission units or operations, and whether visible emissions were observed.

1.13 Retention and Availability of Required Records

- a. The Permittee shall retain all records and logs required by this permit for at least five years from the date of entry (unless a longer retention period is specified by a particular provision, keep the records at a location at the plant that is readily accessible to the Illinois EPA and USEPA, and make records available for inspection and copying by the Illinois EPA or USEPA upon request.
- b. The Permittee shall retrieve and print on paper during normal plant office hours any records retained in an electronic format

(e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a plant inspection.

1.14 Illinois EPA Addresses

- a. Any required reports and notifications shall be sent to the Illinois EPA at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Enforcement Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

Telephone: 217/782-5811 Fax: 217/524-4710

- b. A copy of all required reports and notifications, except the Annual Emission Report required by 35 IAC Part 254, shall also be sent to the Illinois EPA at the following address:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison Street
Des Plaines, Illinois 60016

Telephone: 847/294-4010

1.15 Authorization to Operate

- a. The affected plant may be operated under this construction permit until issuance of the source's CAAPP permit, provided a timely and complete CAAPP permit application is submitted for the plant as provided by Section 39.5(5)(x) of the Act. This condition supersedes Standard Condition 6.

SECTION 2.0: UNIT-SPECIFIC CONDITIONS

2.1 Melt Shop - Melt Furnace, Ladle Metallurgy Station and Scrap Cutting

2.1.1 Description

The melt furnace produces raw molten steel from metal scrap. The melt furnace is an electric arc furnace (EAF), with most of the heat to the furnace supplied by electricity using three carbon electrodes. The remainder of the heat input to the furnace is supplied by burners that fire natural gas and oxygen. The particulate emissions from the EAF are controlled by both direct evacuation of the EAF and enclosure of the EAF in a closed melt shop building with all emissions exhausted through a large melt shop baghouse. Emissions of other pollutants from the EAF are minimized by design of the EAF and work practices.

The ladle metallurgy station (LMS) is used to adjust the composition of the molten metal from the EAF by adding additional alloy material. The LMS is covered by a hood that also vented to the melt shop baghouse.

The scrap cutting operation reduces the size of the scrap as necessary to safely be able to fit into the EAF and to facilitate melting. The scrap cutting operation will generally handle "scrap" that is produced in-house, since delivered scrap is normally properly sized by the supplier. The scrap cutting operation is conducted in an area that is also vented to the melt shop baghouse.

2.1.2 List of Emission Units

Emission Unit	Description	Control Equipment
Electric Arc Furnace	Electric arc furnace with oxygen-natural gas burners. Max burner firing rate 41 mmBtu/hour.	Melt Shop Baghouse
Ladle Metallurgy Station	Refining of molten steel in the ladle to produce desired alloy.	
Scrap Cutting	Cutting of scrap metal with oxygen-natural gas fired torches.	

2.1.3-1 Applicability Provisions

- a. The "affected furnaces" for the purpose of these unit-specific conditions are the melt furnace and ladle metallurgy station described in Conditions 2.1.1 and 2.1.2.
- b. The "affected scrap operation" for the purpose of these unit-specific conditions is the scrap cutting operation described in Conditions 2.1.1 and 2.1.2.

2.1.3-2 Control Technology Determination

- a. i. Emissions of particulate matter from the affected units shall be vented to a baghouse at all times when the units are in operation.
- ii. The melt furnace shall be operated with a direct-shell evacuation control system with enlarged fourth hole collection duct to promote oxidation of CO and VOM as well as facilitate capture of PM emissions.
- iii. The fuel burners on the melt furnace shall be oxygen/natural gas burners or other similar low-NO_x burners, designed and maintained to emit no more than 0.14 pound NO_x per million Btu heat input from fuel.
- iv. Scrap cutting shall be conducted using oxygen-fuel torches or other similar low-NO_x torches, designed and maintained to emit no more than 0.10 pound NO_x per million Btu heat input from fuel.
- b. i. Particulate matter emissions from the control devices for the melt shop shall not exceed 0.0018 and 0.0032 gr/dcsf for PM₁₀ filterable and PM₁₀ total, respectively, on a 24-hour average.
- ii. The affected units shall be operated and maintained to achieve emission rates, in tons of steel produced by the melt furnace, that are no more than the following, as measured in the exhaust from the control system:

Emission Rate (Lbs/Ton)			
CO	NO _x	SO ₂	VOM
5.41	0.421	0.340/1.00*	0.322

* A rate of 1.0 lb SO₂/ton applies for resulfurized grades of steel.

- c. There shall be no visible emissions of particulate matter from the building that houses the melt furnace.
- d. The good air pollution control practices for the affected melt furnace and affected ladle metallurgy station shall include specific practices to minimize the emissions of VOM and SO₂ attributable to contaminants in the scrap supply, including use of low-sulfur carbon (charge and injection) for the furnace that contains no more than 0.50 percent sulfur by weight.
- e. The supply of scrap for the melt furnace shall be managed with a scrap management program that is developed and maintained to minimize the level of organics and other contaminants in the scrap accepted for the furnace that contribute to VOM and SO₂ emissions from the furnace, as further addressed in Condition 2.1.5-2.

2.1.3-3 Applicability of Federal Emission Standards

- a.
 - i. The affected melt furnace is subject to the federal New Source Performance Standards (NSPS) for Steel Plants: Electric Arc Furnaces, 40 CFR 60 Subpart AAa.
 - ii. The affected melt furnace shall comply with the emission standards of the NSPS, 40 CFR 60.272a, which, except during startup, shutdown and malfunction as defined by 40 CFR 60.2, limits PM emissions, filterable only, from the affected melt furnace (fabric filter) to no more than 0.0052 gr/dscf and 3 percent opacity and particulate emissions from the furnace shop from the operation of the melt furnace to no more than 6 percent opacity. [40 CFR 60.11(b) and 60.272a]

Note: As PM emissions of the melt furnace are combined with emissions of other units, compliance with the PM standard of the NSPS shall be based on the control of combined emissions, as provided by 40 CFR 60.275a(h).
 - iii. At all times, the Permittee shall operate and maintain the affected melt furnace, including the associated control system, in a manner consistent with good air control practice, as required by the NSPS, 40 CFR 60.11(d).
 - iv. The Permittee shall comply with other applicable requirements and provisions of the NSPS.
- b.
 - i. The affected melt furnace is subject to the federal National Emission Standards for Hazardous Air Pollutants (NESHAP) for Electric Arc Furnaces Steel Making Facilities, 40 CFR 63 Subpart YYYYYY.
 - ii. The Permittee shall comply with the applicable work practices of this NESHAP for management of the scrap supply to the affected melt furnace, 40 CFR 63.10685.
 - iii. The affected melt furnace shall comply with the applicable emission standards of the NESHAP, 40 CFR 63.10686.
 - iii. The Permittee shall comply with other applicable requirements and provisions of the NESHAP.

2.1.3-4 Applicable State Emission Standards

- a. The PM emissions of the affected melt furnace shall comply with 35 IAC 212.448, which provides that the total particulate emissions from meltdown and refining, charging, tapping, slagging, electrode port leakage, and ladle lancing from an

electric arc furnace shall not exceed the allowable emission rate specified in 35 IAC 212.321.

- b. The PM emissions from both the affected ladle metallurgy station and scrap operation shall comply with 35 IAC 212.321 and 212.324(b) or (d) and the Permittee shall comply with the associated compliance procedures in 35 IAC 212.324(f) and (g). (Refer to Conditions 3.1(a) and (b).)
- c. Notwithstanding Condition 2.1.3-4(a) and (b), the Permittee is authorized to operate an affected melt furnace and ladle metallurgy station in excess of the applicable state emission standards during a malfunction or breakdown, pursuant to 35 IAC 201.262, as necessary to prevent injury to persons or severe damage to equipment. This authorization is subject to the following:
 - i. This authorization only extends for the period of time to complete processing of the current heat (i.e., the metal in the melt furnace) when the malfunction or breakdown occur.
 - ii. The Permittee shall take the following measures to minimize the emissions from malfunction or breakdown, the duration of malfunctions or breakdowns, and the frequency of malfunctions or breakdowns:
 - A. Implementation of established written malfunction and breakdown procedures, so as to minimize the duration and emissions of any malfunction or breakdown event.
 - B. Implementation of established maintenance practices so as to minimize the frequency and duration of malfunction or breakdown events.
 - C. Suspend all scrap cutting operations until the control system is operating normally.
 - iii. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 2.1.9(g).
 - iv. The Permittee shall fulfill the applicable reporting requirements of Condition 2.1.10(c).
 - v. The Permittee shall comply with all reasonable directives of the Illinois EPA with respect to malfunction and breakdown events, as provided by 35 IAC 201.163.

2.1.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected metallurgy station not being subject to emission standards for arc furnaces because it does not meet the definition of an electric arc furnace

in 40 CFR 60.271, i.e., it does not consist of a furnace but a station in which alloy additions are made to a ladle of molten steel.

- b. This permit is issued based on certain monitoring requirements of the NSPS not being applicable for the affected melt shop pursuant to the NSPS, as the Permittee will implement other alternative monitoring procedures specified by the NSPS, as follow:
 - i. Monitoring of opacity from the melt shop baghouse, because the baghouse will be equipped and operated with a bag leak detection system in accordance with 40 CFR 60.273a(e) and (f) and daily observations of opacity from the baghouse will be conducted, as provided for by 40 CFR 60.273(c).
 - ii. Monitoring of furnace static pressure of the melt furnace because daily observations of opacity from the building in which the melt shop is located will be conducted in accordance with 40 CFR 60.273a(d).

2.1.5-1 Operational Limits and Work Practices for the Melt Furnace

- a. The production of the affected melt furnace shall not exceed 52,500 tons per month and 525,000 tons per year. Compliance with this annual limitation shall be determined from a running total of 12 months of data.
- b. Natural gas shall be the only fuel for the burners in the affected melt furnace.
- c. The affected units and their burners system, including associated control systems, shall be operated in accordance with written operating procedures developed and maintained by the Permittee that set forth good air control practice for normal operation, and startup, shutdown, and malfunction, which procedures may incorporate the manufacturers' recommended procedures.
- d. The Permittee shall take corrective actions for the melt shop as provided by 40 CFR 60.273a(f) and (g) in response to an alarm from the bag leak detection system required by Condition 2.1.8-1(a)

2.1.5-2 Operational Requirements for Scrap for the Melt Furnace

- a. The Permittee shall operate in accordance with a written plan for the management of scrap to minimize, to the extent practicable, the amount of organics (oil, other organic liquids, paint, rubber, etc.) or other contaminants in the charge materials for the affected melt furnace that would potentially contribute to emissions of VOM or SO₂. This plan shall be prepared and maintained by the Permittee and include

the following elements. This plan must be kept onsite, with copies readily available to all plant personnel with duties related to acquisition, inspection or acceptance of scrap.

- i. Procedures for scrap acquisition to restrict organic contamination in scrap delivered to and accepted by the plant, including specifications for scrap materials to be depleted (to the extent practicable) of the presence of oil, plastic parts and organic liquids and to be drained of free liquids, a copy of which specification must be provided to each scrap vendor or supplier for the furnace.
- ii. Procedures for inspection and acceptance of incoming scrap shipments to the plant to ensure that materials meet the above specifications, which shall be accompanied by documentation for each inspection, with results, and records for each rejection of a shipment, with description and explanation.
 - A. The inspection procedures must provide for inspection of a representative portion of the incoming scrap to the plant, including inspection of shipments from all suppliers and at least 25 percent of all shipments. The procedures must also identify the location(s) where inspections are to be performed for different types of shipments and provide reasonable vantage points and facilities for inspections considering worker safety. If inspections are performed at suppliers' sites, the procedures shall further identify the practices that are followed to ensure that such inspections are representative of material as delivered to the plant.
 - B. The acceptance procedures must provide for rejection of entire or partial shipments of scrap that do not meet specifications and additional punitive consequences for vendors whose shipments repeatedly fail to meet specifications.
 - C. Retention of the documentation for inspections of scrap shipment in accordance with the Permittee's established procedures for document retention and in no case for less than 12 months from the date of the inspection.
- b. Upon written notification from the Illinois EPA of an observed or potential deficiency in the scrap management plan or a portion thereof, the Permittee shall submit a revised document addressing the cited deficiencies to the Illinois EPA within 45 days for its review. This submittal shall be accompanied with an explanation of the revisions to the plan that have been made and how they appropriately respond to the cited deficiencies.

2.1.6 Emission Limitations

- a. Emissions from the melt shop, i.e., the affected melt furnace, ladle metallurgy station and scrap cutting operation (melt shop baghouse), shall not exceed the following limits. Compliance with these limits shall be determined from: 1) emission testing; and 2) operating information for the affected units and associated control system and appropriate emission factors, that reflect the actual operating conditions of the units, and are derived in order of preference from source-specific testing, source-specific evaluation, published USEPA factors, and other published factors.

Limit	CO	NO _x	PM	PM ₁₀	SO ₂	SO ₂ *	VOM	Lead
Lbs/Ton Melted	5.41	0.421	0.185	0.141	0.34	1.00	0.322	0.0023
Tons/Year	1422	111	48.4	36.8	97.46		84.50	0.59

* SO₂ emissions limit for resulfurized metals

2.1.7 Testing Requirements

- a. i. Within 180 of commencement of operation the Permittee shall have testing conducted for the affected units (melt shop baghouse) for emissions of CO, NO_x, PM, PM₁₀, SO₂, VOM, and lead and other metals the affected units in accordance with Condition 3.2.
- ii. Upon request by the Illinois EPA, the Permittee shall have measurements conducted for from the affected furnace.
- b. If the melt shop baghouse is a positive pressure baghouse, USEPA Method 5D shall be used to test PM emissions, as provided by 40 CFR 60.275a(e)(1).
- c. The methods and procedures used for testing of PM emissions shall also be in accordance with 40 CFR 60.275a. For example, the sampling time and sample volume for each run shall be at least 4 hours and 160 dscf and the sampling time shall include an integral number of heats of the melt furnace, as provided by 40 CFR 60.275a(e)(1).
- d. During PM emission testing, the Permittee shall also obtain the information needed for purposes of 40 CFR 60.274a(h) and 60.275a(c), (d), (g) and (h) and this information shall be included in the emission test report, as provided by 40 CFR 60.274a(h) and 60.275a(f).

2.1.8-1 Monitoring and Instrumentation Requirements

- a. For the melt shop, the Permittee shall perform applicable operational monitoring required by NSPS, 40 CFR 60 Subpart AAa, including: installation, operation and maintenance of a bag

leak detection system of the melt shop baghouse in accordance with 40 CFR 60.274a(e).

- b. Unless using a two or three position damper the Permittee shall install, operate and maintain a monitoring system to measure the volumetric flow rate through each hood or duct collecting emissions from the affected units and the melt shop baghouse, which system shall meet the performance specifications of 40 CFR 60.274a(b).
- c. The Permittee shall install, operate and maintain the instrumentation on the melt furnace and the control system for the melt shop for the following parameters, which devices shall meet applicable performance specifications of 40 CFR 60.274a. Data from these devices shall be recorded on at least a weekly basis if not otherwise recorded as part of normal operating records for the melt shop.
 - i. Positions of the various dampers the duct work.
 - ii. Pressure drop across the melt shop baghouse.
 - iii. Amperage of the fan motor for the melt shop baghouse.

2.1.8-2 Opacity Observations

- a. The Permittee shall have observations of the opacity of the melt shop baghouse and the building enclosing the melt furnace conducted each day when the melt furnace is operating by a certified observer, in accordance with the NSPS, 40 CFR 60.273a, 60.274a and 60.276a or such alternative procedures approved by USEPA pursuant to 40 CFR 60.13i. For these opacity observations, the Permittee shall include in the records for the observations whether the melt furnace is in melt down or refining mode and the Permittee shall keep such other operating records as necessary to enable opacity observation to be correlated with the operation and mode operation of the melt furnace. For this purpose, the Permittee shall have at least two individuals on the plant staff whose duties include participating in sessions for certification in observation of opacity.

2.1.8-3 Inspection Requirements

- a. Pursuant to 40 CFR 60.274a(d), the Permittee shall perform detailed operational inspections for the melt shop, on at least a monthly basis of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed.

2.1.9 Recordkeeping Requirements

- a. For the melt shop baghouse and the burners in the melt furnace, the Permittee shall maintain a file containing the manufacturer's specifications for the capacity and emissions and any recommended operating and maintenance procedures.
- b. The Permittee shall keep a file containing the specifications for the maximum sulfur content of each charge carbon product used in the affected melt furnace (percent by weight), with supporting documentation.
- c. The Permittee shall keep the following operating records for the affected melt furnace:
 - i. Steel production (tons/day, tons/month, and tons/year).
 - ii. Fuel consumption, (million scf/month), as determined directly from fuel meters or indirectly from operating hours of the burners and their rated capacity.
- d. The Permittee shall maintain the following logs or other similar records for the affected units:
 - i. Operating log(s), in accordance with Condition 3.4(a).
 - ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.4(b).
- e.
 - i. The Permittee shall keep an operating log or other records for the affected furnace which includes information on unit status and operating schedule.
 - ii. The Permittee shall maintain an operating and maintenance log for the baghouse for the affected furnace, including the following as applicable:
 - A. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired and nature of repair.
 - B. Data for damper positions for the evacuation system (percent open/closed) and the amperage of the baghouse fans, once per shift.
- f. The Permittee shall maintain records of the following items related to emissions of the affected units:
 - i. The standard emission factors (lbs/ton) used by the Permittee for estimating controlled emissions from the furnace, which information shall be based on site-specific test data, representative test data or emission

determination methodology published by USEPA, with supporting explanation and calculations.

- ii. Emissions of PM, PM₁₀, SO₂, NO_x, VOM, CO, and lead (tons/month and tons/year), with supporting calculations.
- g. The Permittee shall maintain records of the following items related to malfunction and breakdown of the affected units:
 - i. Date and duration of the malfunction or breakdown, i.e., start time and time normal operation was achieved or time furnace was shutdown.
 - ii. Description of the event, impact on emissions, probable cause, and corrective actions.
 - iii. Verification that the malfunction and breakdown procedures were performed and met the requirements of Condition 2.1.3-4(d).
 - iv. If normal operation or shutdown was not achieved, an explanation of why normal operation or shutdown could not be achieved with the date and time the Illinois EPA's regional office was contacted, the person spoken to, items discussed, and follow-up instructions.
- h. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 2.1.3, 2.1.5, or 2.1.6, which shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

2.1.10 Notification and Reporting Requirements

- a. The Permittee shall fulfill all applicable notification and reporting requirements of the NSPS for the affected melt furnace and associated control system, as required by 40 CFR 60.8 and 60.276a.
- b. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for an affected unit as follows. These notifications shall include the information specified by Condition 3.5.

- i. If there is an exceedance of a state emission or opacity standard due to a malfunction or breakdown event, the Permittee shall notify the Illinois EPA in accordance with Condition 2.1.10(c).
 - ii. If there is a deviation from other applicable requirements for PM emissions, opacity or visible emissions that is not repaired or otherwise corrected within 4 hours, the Permittee shall notify the Illinois EPA within 30 days.
 - iii. The deviations addressed above and all other deviations shall be reported in a quarterly compliance report, which shall be submitted no later than 30 days following the end of the calendar quarter.
- c.
- i. Pursuant to 35 IAC 201.263, the Permittee shall immediately report to the Illinois EPA, Regional Office, by telephone or fax upon continued operation of an affected unit during a malfunction or breakdown of the unit or associated control equipment when such continued operation would cause an exceedance or violation of the applicable state emission standard.
 - ii. The Permittee shall submit a written follow-up report to the Illinois EPA within five business days providing a detailed explanation of the event and explanation why continued operation of the unit was necessary, the length of time during which operation continued under such conditions, the measures by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the unit source was taken out of service.

2.2 Roof Monitor - Uncaptured Emissions, including Teeming

2.2.1 Description

In addition to the process emissions of the melt shop from the baghouse, emission also occur through the open roof monitor at the top of the teeming area other than the fully enclosed area over the arc furnace itself. The majority of the emissions from the roof monitor are from teeming, which is the process of pouring molten steel into molds to cool and solidify. Particulate emissions from teeming are minimized by bottom filling of the molds using a "trumpet." The trumpet extends into the empty mold and, as the steel rises in the mold it covers the only open point to the atmosphere reducing emissions over the more traditional top pour teeming process.

The metallurgical station and scrap cutting operation also contribute to the emissions from the roof monitor as complete capture of the emissions from these operations is not practical. These particulate matter emissions are minimized by requirements for effective capture of emissions.

Finally, the handling of slag from the melt furnace and ladle metallurgical station may also contribute to particulate emissions. This slag is poured into slag ladles in the melt shop and transported to an area outside the melt shop for cooling. Emissions are minimized by the nature of the slag, which is not combustible.

2.2.2 List of Emission Units

Emission Unit	Description
Teeming	Pouring of molten steel into ingot molds
Metallurgical Station and Scrap Cutting	Uncaptured emissions
Slag Handling	Handling of slag in the melt shop

2.2.3-1 Applicability Provisions

- a. An "affected unit" for the purpose of these unit-specific conditions is a process or activity process described in Conditions 2.2.1 and 2.2.2.

2.2.3-2 Control Technology Determination

- a. Teeming shall be conducted using mechanical or chemical shrouds to minimize exposure of molten steel to the atmosphere.
- b. The opacity of PM emissions, as measured at the roof monitor shall not exceed 3.0 percent from the affected units.

2.2.3-3 Applicable State Regulations

- a. The emissions of particulate matter from each affected unit shall comply with 35 IAC 212.321 and 212.324(b) or (d) and the

Permittee shall comply with the associated compliance procedures in 35 IAC 212.324(f) and (g). (Refer to Conditions 3.1(a) and (b).)

2.2.4 Non-Applicability of Regulations of Concern

None

2.2.5 Operational and Production Limits and Work Practices

- a. Power shall not be supplied to the LMF unless the LMF lid is in place.

2.2.6 Emission Limitations

- a. The emissions of PM/PM₁₀ from affected units shall not exceed the following limits:

Unit	Limits		
	Lbs/Ton	Lbs/Hour	Tons/Year
Teeming	0.05	---	13.13
Uncaptured Emissions	0.02	---	4.81
Slag Handling	---	0.1	0.44
Total	---	4.2	18.38

- b. This permit is issued based on negligible emissions of pollutants other than PM/PM₁₀ from the affected units. For this purpose, emissions of each unit shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.

2.2.7 Testing Requirements

- a. The Permittee shall have the opacity of the exhaust of the buildings housing the affected units determined by a qualified observer in accordance with USEPA Method 9 while affected units are operating, as further specified below.
- b. The duration of opacity observations for each test shall be at least 18 minutes (three 6-minute averages) unless no visible emissions are observed as determined by USEPA Method 22 or the average opacities for the first 12 minutes of observations (two six-minute averages) conducted for the point of release that displays the greatest opacity are both less than 3.0 percent.
- c. i. Observations of opacity shall be conducted on the following frequency unless absence of adequate daylight or weather conditions preclude scheduled observation, in which case, the next observations shall be conducted on the next operating day of the unit during which observations of opacity can reasonably be conducted in accordance with USEPA Method 9:
 - A. On a weekly basis (at least once every 7 operating days of the affected unit) except as provided below.

B. On a daily basis (at least 5 days out of 7 operating days of the affected unit) if any of the five previous observations measured opacity of 2.5 percent or more, continuing on a daily basis until the maximum opacities measured in five consecutive daily observations are all less than 2.5 percent, at which time observations on a weekly basis shall resume.

ii. Upon written request by the Illinois EPA, additional opacity observations for an affected unit shall be conducted within 5 operating days from the date of the request by the Illinois EPA or on the date agreed upon by the Illinois EPA, whichever is later. For these observations, which are conducted pursuant to a request from the Illinois EPA, the Permittee shall comply with Condition 3.3(d), (e), (f) and (g). In addition, for opacity observation for the metallurgical station or teeming, the duration of these observations shall cover a complete operating cycle of the station or the pouring of an entire ladle of steel.

2.2.8 Monitoring Requirements

None

2.2.9 Recordkeeping Requirements

- a. The Permittee shall maintain written work procedures for the affected units.
- b. The Permittee shall maintain the following logs or other similar records for the affected units:
 - i. Operating log(s), in accordance with Condition 3.4(a).
 - ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.4(b).
- c. The Permittee shall maintain records of the following items related to emissions of the affected units:
 - i. A file containing the PM/PM₁₀ emission factors used by the Permittee to determine emissions from the affected units, with supporting documentation.
 - ii. Records of emissions of PM/PM₁₀ of each unit, tons/month and tons/year, with supporting calculations.

2.2.10 Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the

affected units as follows. These notifications shall include the information specified by Condition 3.5.

- i. If the affected units are damaged so there is a deviation from applicable requirements that is not repaired or otherwise corrected within 10 days, the Permittee shall notify the Illinois EPA within 30 days.
- ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report required by Condition 2.1.10(b)(ii).

2.3 Lime and Carbon Handling Systems

2.3.1 Description

The lime and carbon handling systems receive, store and transfer lime and carbon that is used in the melt furnace.

2.3.2 List of Emission Units

Emission Unit	Description	Emission Control Equipment
Lime System	Bulk storage and handling of lime	Filter
Carbon System	Bulk storage and handling of carbon	Filter
Point-of-Use-Bins	Point-of-Use storage and handling of lime and carbon	Filter

2.3.3-1 Applicability Provisions

- a. The "affected units" for the purpose of these unit-specific conditions are the system described in Conditions 2.3.1 and 2.3.2.

2.3.3-2 Control Technology Determination

- a. The emissions of PM from the affected units shall be controlled by enclosure and aspiration to filter-type control devices.
- b. There shall be no visible emissions from the affected units.
- c. The PM/PM₁₀ emissions from the control devices for affected units shall not exceed 0.0050 gr/scf, as measured by Method 5, and shall not exhibit any visible emissions.

2.3.3-3 Applicable State Emission Standards

- a. The emissions of particulate matter from each affected unit shall comply with 35 IAC 212.321 and 212.324(b) or (d) and the Permittee shall comply with the associated compliance procedures in 35 IAC 212.324(f) and (g). (Refer to Condition 3.1(a) and (b).)

2.3.4 Non-Applicability of Regulations of Concern

None

2.3.5 Operational and Production Limits and Work Practices

None

2.3.6 Emission Limitations

- a. Emissions of PM from the affected units shall not exceed the following limits:

Emission Unit	PM/PM ₁₀ Emissions	
	Lbs/Hour	Tons/Year
Lime Handling System	0.043	0.19
Carbon Handling System	0.043	0.19
Point-of-Use Bin	0.086	0.38

2.3.7-1 Emission Testing Requirements

- a. The Permittee shall conduct emissions testing for the affected carbon handling system in accordance with Condition 3.2.

2.3.7-2 Opacity Observations

- a. The Permittee shall conduct opacity observations for the affected units in accordance with Condition 3.3:
 - i. No later than 45 days after the date initial emission testing of the melt furnace is performed, as required by Condition 2.1.7.
 - ii. Upon written request by the Illinois EPA, in which case observations shall be conducted within 45 days or such later date specified by the Illinois EPA.

2.3.8-1 Operational Instrumentation

- a. The Permittee shall install, operate and maintain systems to measure the pressure drop across each baghouse used to control affected units, other than cartridge-type filters and other similar filtration devices. The Permittee shall maintain records of the measurements made by these systems on at least a weekly basis.

2.3.9 Recordkeeping Requirements

- a. The Permittee shall maintain a file containing the manufacturer's specifications and recommended operating and maintenance procedures for the baghouses for the affected units.
- b. The Permittee shall maintain records of the throughput of each affected unit, tons/month, by type of material.
- c. The Permittee shall maintain the following logs or other similar records for the affected cooling towers:
 - i. Operating log(s), in accordance with Condition 3.4(a).

- ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.4(b).
- c. The Permittee shall maintain the following records related to the emissions of each affected unit
 - i. A file containing the PM/PM₁₀ emission factors used by the Permittee to determine emissions from the affected units, with supporting documentation.
 - ii. Records of PM/PM₁₀ emissions, tons/month and tons/year, with supporting calculations.

2.3.10 Notification and Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for an affected unit as follows. These notifications shall include the information specified by Condition 3.5.
 - i. If the affected unit is damaged so there is a deviation from applicable requirements for visible emissions that is not repaired or otherwise corrected within 1 hour, the Permittee shall notify the Illinois EPA within 30 days.
 - ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report required by Condition 2.1.10(b)(ii).

2.4 Handling of Furnace Dust

2.4.1 Description

Furnace dust, i.e., particulate collected by the melt shop baghouse, is transferred from the baghouse to "super sacks" for transfer off-site. PM emissions from this operation are controlled by the use of enclosed mechanical conveyors to move dust from the baghouse to the area in which super sacks are filled. Emissions during filling of supersacks are prevented by use of deflated sacks so that air is not displaced during loading.

Alternatively, furnace dust may be handled through an enclosed conveyor system to a storage silo with emissions controlled by a filter on the silo. Emissions when transferring the dust from the silo for outbound transport would be controlled by a bulk material loading system equipped with a negative pressure capture system which would also be controlled by a filter.

2.4.2 List of Emission Units

Emission Unit	Description
Dust Handling System	Transfer of dust (particulate collected by the melt shop baghouse) from the baghouse to "super sacks" or to a silo for off-site disposal

2.4.3-1 Applicability Provisions

- a. The "affected operations" for the purpose of these unit-specific conditions are the activities described in Conditions 2.4.1 and 2.4.2.

2.4.3-2 Control Technology Determination

- a.
 - i. Emissions of PM from affected operations shall be controlled by enclosure and work practices that prevent airborne release of dust.
 - ii. If dust is stored in a silo, the emissions of PM from the silo and dust load shall be controlled by enclosure and aspiration to a filter-type control device.
- b.
 - i. There shall be no visible emissions, as determined by USEPA Method 22, from the affected operations.
 - ii. The PM/PM₁₀ emissions from any control devices for affected operations shall not exceed 0.0050 gr/scf, as measured by method 5, and shall not exhibit any visible emissions.

2.4.3-3 Federal Emission Standards

- a. The affected operations shall comply with the NSPS, 40 CFR 60.272a, which provides that no owner or operator shall cause

to be discharged into the atmosphere from the dust-handling system associated with an electric arc furnace that is subject to the NSPS, 40 CFR 60, Subpart AAa, any gases that exhibit 10 percent opacity or greater.

- b. At all times, the Permittee shall operate and maintain the affected operations, including the associated control measures, in a manner consistent with good air control practice, as required by the NSPS, 40 CFR 60.11(d).

2.4.3-4 State Emission Standards

- a. The emissions of particulate matter from the affected operations shall comply with 35 IAC 212.321 and 212.324(b) or (d) and the Permittee shall comply with the associated compliance procedures in 35 IAC 212.324(f) and (g). (Refer to Condition 3.1(a) and (b).)
- b. The affected operations shall comply with 35 IAC 212.307 and 212.308, which provide that PM emissions from all transporting and unloading of materials collected by emission control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent control methods and PM emissions from bagging operations and fine product truck loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent control method in accordance with an dust control operating program pursuant to 35 IAC 212.309.

Note: This permit does not approve equivalent methods of control for the affected operations, which will either control emissions with enclosed screw conveying and choke-feeding or enclosure and control devices.

- c. The Permittee shall develop and implement an operating program designed to significantly reduce fugitive particulate matter emissions from the affected operations in accordance with 35 IAC 212.309, 212.310 and 212.312. (Refer to Condition 3.1(c).)

2.4.4 Non-Applicability of Regulations of Concern

None

2.4.5 Operational and Production Limits and Work Practices

- a. Any spills of dust shall be immediately collected in a manner that prevents the dust from being dispersed or becoming air borne. (See also Condition 2.4.3-3(c).)

2.4.6 Emission Limitations

- a. This permit is issued based on negligible emissions of PM/PM₁₀ from the affected operations. For this purpose, PM/PM₁₀

emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.

2.4.7 Testing Requirements

None

2.4.8 Inspection Requirements

- a. The Permittee shall conduct inspections of the affected operations on at least a weekly basis with personnel who are not engaged in the transfer and load out of furnace dust on a day-to-day basis for the specific purpose of verifying that measures required to control emissions are being properly implemented.
- b. On at least a quarterly basis, these inspections shall be conducted by individual who are certified observers for Method 9.
- c. The Permittee shall keep records documenting the performance of these inspections and their findings.

2.4.9 Recordkeeping Requirements

- a. The Permittee shall maintain written work procedures for the affected operations.
- b. The Permittee shall maintain the following logs or other similar records for the affected operations:
 - i. Operating log(s), in accordance with Condition 3.4(a), which records shall include information addressing any incidents when dust was spilled.
 - ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.4(b).
- c. The Permittee shall maintain records of the following items related to emissions of the affected operation:
 - i. A file containing the PM/PM₁₀ emission factors used by the Permittee to determine emissions from the affected operations, with supporting documentation.
 - ii. Records of emissions of PM/PM₁₀, tons/month and tons/year, with supporting calculations.

2.4.10 Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected unit as follows. These notifications shall include the information specified by Condition 3.5.

- i. If the affected unit is damaged so there is a deviation from applicable requirements for visible emissions that is not repaired or otherwise corrected within 1 hour, the Permittee shall notify the Illinois EPA within 30 days.
- ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

2.5 Vacuum Tank Station

2.5.1 Description

In the vacuum tank station, the ladles of molten steel from the ladle metallurgy station (LMS) are further processed under a vacuum to obtain the desired composition in the steel.

In vacuum degassing, the application of a vacuum to the molten steel acts to remove hydrogen, oxygen and carbon from the steel. Any emissions of PM are minimized as the system operates under a vacuum and by the multi-stage steam ejector vacuum system itself, which has inter-stage spray coolers.

To produce certain steel alloys, vacuum oxygen decarburization is performed after degassing to reduce the carbon level in the steel to a very low level as necessary for particular alloys. In oxygen decarburization, oxygen is blown against the surface of the molten metal while maintaining the vacuum so that the oxygen selectively react to remove carbon from the molten metal but not other metallic constituents necessary for specific alloys. This generates an exhaust that contains sufficient CO for control of CO by a flare system.

2.5.2 List of Emission Units

Emission Unit	Description	Control Equipment
Vacuum Tank Station	Vacuum Tank Degassing (VTD)	---
	Vacuum Tank Oxygen Decarburization (VOD)	Flare

2.5.3-1 Applicability Provisions

- a. The "affected station" for the purpose of these unit-specific conditions is the station described in Conditions 2.5.1 and 2.5.2.
- b. An "affected process" for the purpose of these unit-specific conditions is a process described in Conditions 2.5.1 and 2.5.2.

2.5.3-2 Control Technology Determination

- a. The emissions of CO from vacuum tank oxygen decarburization (VOD) shall be controlled by sending the exhaust from this process to a flare, which flare shall be maintained with a pilot flame whenever the VOD process is performed.
- b. The flare for the VOD process shall be designed and operated with no visible emissions as determined by USEPA Method 22 except for periods not to exceed a total of 2 minutes during any hour (60 minutes) of operation of the VOD process.

2.5.3-3 Applicable State Emission Standards

- a. The emissions of particulate matter from the affected station shall comply with 35 IAC 212.321 and 212.324(b) or (d) and the Permittee shall comply with the associated compliance procedures in 35 IAC 212.324(f) and (g). (Refer to Condition 3.1(a) and (b).)

2.5.4 Non-Applicability of Regulations of Concern

None

2.5.5 Operational and Production Limits and Work Practices

- a. The VOD process shall be conducted in accordance with written procedures developed and maintained by the Permittee that ensure exhaust is sent to the flare.

2.5.6 Emission Limitations

Emissions from the affected station shall not exceed the following limits:

Limits	CO	NO _x	PM/PM ₁₀	SO ₂	VOM
Lbs/Hour Flare	1.88	1.34	0.17	0.01	0.12
Lbs/Ton Melted VTD-VOD	0.233	---	---	---	---
Tons/Year	69.40	5.89	0.75	0.06	0.54

2.5.7 Inspection Requirements

- a. The Permittee shall conduct inspections of the affected station, including the associated flare, on at least a monthly basis with personnel who do not operate this equipment on a day-to-day basis for the specific purpose of verifying that the measures that control emissions from the affected station are functioning properly and the flare is operating correctly to control CO emissions from the VOD process.
- b. The Permittee shall keep records documenting the performance of these inspections and their findings.

2.5.8 Monitoring Requirements

- a. The Permittee shall install, operate and maintain a continuous monitoring system for the pilot flame on the flare controlling the VOD process.

2.5.9 Recordkeeping Requirements

- a. The Permittee shall maintain a file containing the manufacturer's specifications and recommended operating and maintenance procedures for the flare for the affected VOD process.

- b. The Permittee shall maintain the following logs or other similar records for the affected station:
 - i. Operating log(s), in accordance with Condition 3.4(a).
 - ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.4(b).
- c. The Permittee shall maintain the following records related to emissions of the affected station:
 - i. A file containing the maximum emission rates of CO, NO_x, PM/PM₁₀, SO₂ and VOM from the affected station, when operating normally and verifies compliance with the applicable emission limits in Condition 2.6.6, with supporting documentation.
 - ii. Emissions of CO, NO_x, PM/PM₁₀, SO₂ and VOM from affected processes, tons/month and tons/year, with supporting calculations.

2.5.10 Notification and Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected processes as follows. These notifications shall include the information specified by Condition 3.5.
 - i. If the affected unit is damaged so there is a deviation from applicable requirements for opacity or visible emissions or control of CO emissions that is not repaired or otherwise corrected within 24 hours, the Permittee shall notify the Illinois EPA within 30 days.
 - ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report required by Condition 2.1.10(b)(ii).

2.6 Ingot and Forging Surface Preparation Operations

2.6.1 Description

Various operations are performed to physically prepare the surfaces of ingots and forgings including abrasive cutting, grinding and shot blasting. Emissions of PM are controlled by enclosure of the operations with aspiration of to filter-type control devices.

The interior surfaces of the copper crucibles used in the Vacuum Arc Remelt furnaces must also be cleaned of slag deposits before being reused. Emissions of PM from the operation are also controlled by enclosure, with the crucible itself serving to enclose this operation, with aspiration of to filter-type control devices.

2.6.2 List of Emission Units

Emission Unit	Description	Control Equipment
Abrasive Saw	Sawing of hot forgings	Filter
Shot Blasting	Cleaning of forgings	Filter
Grinding	Surface grinding of billets and ingots	Filter
Crucible Cleaning	Cleaning of crucibles for the Vacuum Arc Remelt (VAR) Furnaces	Filter

2.6.3-1 Applicability Provisions

- a. An "affected unit" for the purpose of these unit-specific conditions is a process described in Conditions 2.6.1 and 2.6.2.

2.6.3-2 Control Technology Determination

- a. The emissions of PM from the affected units shall be controlled by enclosure, capture and control by filter-type control devices.
- b. There shall be no visible emissions from the affected units from the buildings in which the units are located.
- c. The PM/PM₁₀ emissions from the control devices for affected units shall not exceed 0.0050 gr/scf, as measured by Method 5, and shall not exhibit any visible emissions.

2.6.3-3 Applicable State Regulations

- a. The emissions of particulate matter from the affected units shall each comply with 35 IAC 212.324(b) or (d) and the Permittee shall comply with the associated compliance procedures in 35 IAC 212.324(f) and (g). (Refer to Condition 3.1(b).)

- b. The emissions of particulate matter from the affected units, other than surface grinding and shot blasting operations, shall comply with 35 IAC 212.321. (Refer to Condition 3.1(a).)

2.6.4 Non-Applicability of Regulations of Concern

- a. Pursuant to 35 IAC 212.681, the affected surface grinding and shot blasting units are not subject to 35 IAC 212.321 or 212.322, but are instead subject to 35 IAC Part 212, Subpart K: Fugitive Particulate Matter.

2.6.5 Operational and Production Limits and Work Practices

None

2.6.6 Emission Limitations

- a. Particulate matter (PM) emissions from the affected units shall not exceed the following limits:

Emission Unit	Limits	
	Lbs/Hour	Tons/Year
Hot Abrasive Saw	0.39	1.69
Grinding	0.64	2.84
Shot Blasting	0.43	1.88
Crucible Cleaning	0.06	0.28

2.6.7 Testing Requirements

- a. The Permittee shall have testing for PM/PM₁₀ emission conducted for the affected units (associated filter system) in accordance with Condition 3.2 as follows:
 - i. No later than 45 days after testing of the melt shop is conducted, the Permittee shall have testing conducted for either the Hot Abrasive Saw, Grinding or Shot Blasting operation, as specified by the Illinois EPA or otherwise selected randomly.
 - ii. The Permittee shall have testing conducted for an affected operation as requested by the Illinois EPA within 45 days of a written request by the Illinois EPA or such later date agreed to by the Illinois EPA. The operating conditions during such testing shall be consistent with those specified by the Illinois EPA.

2.6.8-1 Operational Instrumentation

- a. The Permittee shall install, operate and maintain systems to measure the pressure drop across each baghouse used to control affected units, other than disposable cartridge-type filters.

2.6.8-2 Inspections

- a. The Permittee shall conduct inspections of the affected units, including the control systems, on at least a monthly basis with personnel who do not operate this equipment on a day-to-day basis for the specific purpose of verifying that the measures that control emissions from the affected units are functioning correctly.
- b. The Permittee shall keep records documenting the performance of these inspections and their findings.

2.6.9 Recordkeeping Requirements

- a. The Permittee shall maintain a file containing the manufacturer's specifications for emissions of the filter devices for the affected units and any recommended operating and maintenance procedures for these devices.
- b. The Permittee shall maintain the following logs or other similar records for the affected units:
 - i. Operating log(s), in accordance with Condition 3.4(a).
 - ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.4(b).
- c. The Permittee shall records of the following items related to emissions of the affected units:
 - i. A file containing a demonstration that the maximum PM emission rates of each affected unit, when operating normally complies with the applicable emission limits of 35 IAC 212.321, with supporting documentation.
 - ii. Records of PM emissions of PM from each affected unit, tons/month and tons/year, with supporting calculations.

2.6.10 Notification and Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected unit as follows. These notifications shall include the information specified by Condition 3.5.
 - i. If the affected unit is damaged so there is a deviation from applicable requirements for opacity that is not repaired or otherwise corrected within 24 hours, the Permittee shall notify the Illinois EPA within 30 days.
 - ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

2.7 Natural Gas Fired Burners and Furnaces

2.7.1 Description

Natural gas fired burners are used with the ladles that handle molten metal from the melt furnace. Burners are used to preheat the empty ladles that will be filled with molten metal. A burner is also used to dry and cure the refractory linings in the ladles after repairs are made to the lining.

The ingot hot boxes used to keep hot ingots warm, for energy efficiency, are also heated with natural gas burners.

Direct fired, natural gas furnaces are used to reheat ingots for forging and for heat treating completed forgings.

2.7.2 List of Emission Units

Type of Emission Unit	Description	Control Equipment
Ladle Burners	3 ladle burners, maximum rated capacity 5 mmBtu/hour ea.	Low-NO _x combustion systems
Ingot Hot Boxes	2 ingot hot boxes, maximum rated capacity 5 mmBtu/hour ea.	Low-NO _x combustion systems
Reheat and Forging Furnaces	Up to 16 direct fired furnaces, maximum rated capacity 32 mm Btu/hour	Ultra Low-NO _x combustion systems
Heat Treatment Furnaces and Hot Boxes	Up to 47 direct fired furnaces, maximum rated capacity 16 mmBtu/hour	Low-NO _x combustion systems

2.7.3-1 Applicability Provisions

- a. An "affected unit" for the purpose of these unit-specific conditions is a burner or furnace described in Conditions 2.7.1 and 2.7.2.

2.7.3-2 Control Technology Determination

- a. Natural gas shall be the only fuel fired in the affected unit.
- b. The affected unit shall be operated and maintained with the following features to control emissions:
 - i. Ultra-low-NO_x burners for reheat and forging furnaces.
 - ii. Low-NO_x burners for other affected units.
 - iii. Good combustion practices.
- c. The burners in each affected units shall be designed, operated and maintained to emit no more than the following:

Emission Units	Emission Rate (lbs/mmBtu)			
	CO	NO _x	PM/PM ₁₀	VOM
Ladle Burners & Ingot Hot Boxes	0.084	0.100	0.0076	0.0055
Reheat and Forge Furnaces	0.084	0.099	0.0076	0.0055
Heat Treatment Furnaces & Hot Boxes	0.084	0.060	0.0076	0.0055

2.7.3-3 Applicable State Regulations

- a. The emissions of particulate matter from each affected unit shall comply with 35 IAC 212.321 and 212.324(b) or (d) and the Permittee shall comply with the associated compliance procedures in 35 IAC 212.324(f) and (g). (Refer to Conditions 3.1(a) and (b).)

2.7.4 Non-Applicability of Regulations of Concern

None

2.7.5 Operational and Production Limits and Work Practices

- a. Natural gas shall be the only fuel used in the affected units.
- b. Total capacity of the affected units shall not exceed 535 mmBtu/hour.
- c. As part of its operation and maintenance of the affected units, the Permittee shall perform formal "combustion evaluation" on at least an annual basis for units that are in routine service. For units that are equipped with stacks that enable sampling of flue gas, this evaluation shall consist of diagnostic measurements of the concentration of CO and NO_x or oxygen in the flue gas of the unit, with adjustments and preventative and corrective measures of the burner systems to maintain efficient combustion.

2.7.6 Emission Limitations

- a. Emissions from the affected units shall not exceed the following limits:

Emission Units	CO		NO _x		PM/PM ₁₀		SO ₂		VOM	
	Lb/Hr	T/Yr	Lb/Hr	T/Yr	Lb/Hr	T/Yr	Lb/Hr	T/Yr	Lb/Hr	T/Yr
Ladle Burners & Ingot Hot Boxes	2.02	8.83	2.40	10.51	0.18	0.80	0.01	0.06	0.13	0.58
Reheat & Forge Furnaces	16.46	72.11	19.40	84.99	1.49	6.52	0.12	0.52	1.08	4.72
Heat Treatment Furnaces & Hot Boxes	26.09	114.28	19.04	83.38	2.36	10.34	0.19	0.82	1.71	7.48
Total	44.57	195.22	40.84	178.88	4.03	17.66	0.32	1.39	2.92	12.78

2.7.7 Testing Requirements

- a. The Permittee shall conduct emission testing for two randomly selected units in each of the Reheat and Forge Furnaces and Heat Treatment and Hot Box categories of units for emissions of NO_x and CO in accordance with Condition 3.2.

2.7.8 Monitoring Requirements

None

2.7.9 Recordkeeping Requirements

- a. The Permittee shall maintain a file that contains the rated heat input capacity of each affected unit, with supporting documentation, a copy of the manufacturer specifications for the emissions of each unit, and a copy of any operating and maintenance procedures for each unit, including the burner system, recommended by the manufacturer.
- b. The Permittee shall maintain records of the total fuel usage for each category of affected unit, million scf/month and million scf/year.
- c. The Permittee shall maintain the following logs or other similar records for the affected units:
 - i. Operating log(s), in accordance with Condition 3.4(a).
 - ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.4(b).
- d. The Permittee shall maintain records of the following items related to emissions of the affected units:
 - i. A file containing a demonstration that the maximum emission rates of CO, NO_x, PM/PM₁₀, and VOM, in lbs/mmBtu, of each affected unit when operating normally comply with the applicable emission limits in Condition 2.7.3-3, with supporting documentation.
 - ii. Records of the aggregate CO, NO_x, PM/PM₁₀, SO₂, and VOM emissions from each type of affected unit, based on fuel consumption and the applicable emission factors, tons/month and tons/year, with supporting calculations.

2.7.10 Notification and Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected units as follows. These notifications shall include the information specified by Condition 3.5.
 - i. If an affected unit is damaged so there is a deviation from applicable requirements for opacity that is not

repaired or otherwise corrected within 24 hours, the Permittee shall notify the Illinois EPA within 30 days.

- ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report required by Condition 2.1.10(b)(ii).

2.8 Natural Gas-Fired Steam Generator

2.8.1 Description of Emission Unit

The steam generator is be used to supply steam for the vacuum tank in which the vacuum degassing and vacuum decarburization processes are performed (refer to Section 2.5.). Given this function, the load of the steam generator varies to match the steam demand of the vacuum processes.

2.8.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Steam Generator	Natural gas fired steam generator. Rated capacity not to exceed 30 mmBtu/hour.	Low NO _x Combustion System

2.8.3-1 Applicability Provisions

- a. The affected unit for the purpose of these unit-specific permit conditions is the steam generator described in Condition 2.8.1 and 2.8.2.

2.8.3-1 Control Technology Determination

- a. Natural gas shall be the only fuel fired in the affected unit.
- b. The affected unit shall be operated and maintained with the following features to control emissions:
 - i. Low-NO_x burner
 - ii. Good Combustion Practices
- c. The CO and NO_x emissions of the affected unit shall not exceed 0.084 and 0.060 lb/mmBtu, respectively, on a 24-hour block average.

2.8.3-2 Applicable Federal Emission Standards

- a. The affected unit is subject to the New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc and related provisions of 40 CFR 60 Subpart A.
- b. At all times, the Permittee shall maintain and operate the affected unit, including associated air pollution control equipment, in a manner consistent with good air pollution control practice as required by the NSPS, 40 CFR 60.11(d).

2.8.3-3 Applicable State Emission Standards

- a. The affected unit is subject to 35 IAC 216.121, which provides that emissions of carbon monoxide (CO) into the atmosphere shall not exceed 200 ppm, corrected to 50 percent excess air.

2.8.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected unit not being subject to any emission standards under the NSPS, 40 CFR 60, Subpart Dc, because the unit only burns natural gas.

2.8.5 Operational Limits and Work Practices

- a. Natural gas, as defined by 40 CFR 60.41, shall be the only fuel fired in the affected unit.
- b. The rated heat input capacity of the affected unit shall not exceed 30 mmBtu/hour.
- c. As part of its operation and maintenance of the affected unit, the Permittee shall perform formal "combustion evaluation" on at least an annual basis. This evaluation shall consist of diagnostic measurements of the concentration of CO and NO_x or oxygen in the flue gas of the unit, with adjustments and preventative and corrective measures of the burner systems to maintain efficient combustion.

2.8.6 Emission Limitations

- a. The emissions of the affected unit shall not exceed the following limitations. Compliance with short-term limits in lbs/million Btu and lbs/hour shall be determined on a 24-hour average for NO_x and CO and a 3-hour average for other pollutants.

Pollutant	Limitations	
	Lbs/Hour	Tons/Year
CO	2.11	9.24
NO _x	1.51	6.60
PM/PM ₁₀	0.19	0.84
SO ₂	0.02	0.07
VOM	0.14	0.61

2.8.7 Testing Requirements

- a. The Permittee shall have emission testing conducted for the affected unit in accordance with Condition 3.2 as follows:
 - i. Within 45 days of emissions testing of the melt shop baghouse, the Permittee shall have tests conducted for emissions of NO_x, PM/PM₁₀, CO and VOM.

- ii. The Permittee shall have testing conducted as requested by the Illinois EPA within 45 days of a written request by the Illinois EPA or such later date agreed to by the Illinois EPA. The operating conditions during such testing shall be consistent with those specified by the Illinois EPA.
- b. In addition to other required information, the Final Reports for these tests shall also include the following information:
 - i. Unit load in mmBtu during the period of testing, steam produced, and oxygen content in the flue gas from the unit).
 - ii. Proposed emission factors for the unit, expressed in terms of the pounds of different pollutant emitted per mmBtu heat input.
- c. The Permittee shall conduct opacity observations for the affected units in accordance with Condition 3.3:
 - i. Within 45 days of emissions testing of the melt shop baghouse.
 - ii. Upon written request by the Illinois EPA, in which case observations shall be conducted within 45 days or such later date specified by the Illinois EPA.

2.8.8 Monitoring Requirements

None

2.8.9 Recordkeeping Requirements

- a. The Permittee shall maintain a file that contains the rated heat input capacity of the affected unit, with supporting documentation, a copy of the manufacturer specifications for the emissions of the unit, and a copy of any operating and maintenance procedures for the unit, including the burner system, recommended by the manufacturer.
- b. The Permittee shall maintain records of the fuel usage of the affected unit, million scf/month.
- c. The Permittee shall maintain the following logs or other similar records for the affected unit:
 - i. An operating log, in accordance with Condition 3.3(a), which shall also include the information specified by the NSPS, 40 CFR 60.8(b).
 - ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.4(b).

- d. The Permittee shall keep the following records related to emissions of the affected unit:
 - i. A file containing a demonstration that the maximum emission rates of CO, NO_x, PM/PM₁₀, SO₂ and VOM, in lbs/mmBtu and lbs/hour, of the unit when operating normally comply with the applicable emission limits in Condition 2.8.3-2(c) and 2.8.6(a), with supporting documentation.
 - ii. Records of the emissions of CO, NO_x, PM, SO₂, and VOM from the affected unit, tons/month and tons/year, based on operating information and appropriate emission factors, with supporting calculations.

2.8.10 Reporting and Notification Requirements

- a. The Permittee shall fulfill applicable notification requirements of the NSPS, 40 CFR 60.7(a) and 60.48c, for the affected unit.
- b. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected unit as follows. These notifications shall include the information specified by Condition 3.5.
 - i. If the affected unit is damaged so there is a deviation from applicable requirements for opacity that is not repaired or otherwise corrected within 24 hours, the Permittee shall notify the Illinois EPA within 30 days.
 - ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report required by Condition 2.1.10(b)(ii).

2.9 Roadways

2.9.1 Description

Fugitive dust/particulate matter emissions will be generated by vehicle traffic and wind erosion on roadways, parking areas and other open areas at the plant.

2.9.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control
Roadways, Parking Areas and Other Open Areas	PM emissions from vehicle traffic and wind erosion	Fugitive Dust Control Program

2.9.3-1 Applicability Provisions

- a. The affected units for the purpose of these unit-specific conditions are the units described in Conditions 2.9.1 and 2.9.2.

2.9.3-2 Control Technology Determination

- a. The opacity of fugitive particulate emissions from the affected units shall not exceed 5 percent opacity. For this purpose, opacity shall be determined in accordance with 35 IAC 212.109.
- b. Good management practices shall be implemented for the affected units to minimize and significantly reduce emissions of fugitive dust from the affected units. These practices shall provide for pavement, collection of any spilled material to minimize carryout of such material, and regular treatment (flushing, sweeping, or vacuuming) to control fugitive dust.

2.9.3-3 Applicable State Regulations

- a. The opacity of fugitive particulate matter emission from the affected units shall comply with the applicable limitations in 35 IAC 212.316, which provides that no person shall cause or allow the opacity of fugitive particulate matter emissions to exceed the following limits:
 - i. Roadways and parking areas: 10 percent. [35 IAC 212.316(c)]
 - ii. Storage piles: 10 percent, as measured four feet from the pile surface. [35 IAC 212.316(d)]
- b. The affected units shall comply with 35 IAC 212.306, which provides that all normal traffic pattern roads and parking facilities that are located on manufacturing property shall be paved or treated with water, oils or chemical dust suppressants, all paved areas shall be cleaned on a regular basis and all areas treated with water oils or chemical dust

suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the fugitive dust operating program required by 35 IAC 212.309, 212.310.

- c. The Permittee shall develop and implement an operating program designed to significantly reduce fugitive particulate matter emissions from the affected units in accordance with 35 IAC 212.309, 212.310 and 212.312. (Refer to Condition 3.1(c).)

2.9.4 Non-Applicability of Regulations of Concern

- a. The affected units are not subject to the requirements of 35 IAC 212.321 ("the process weight rate" rule) because of the disperse nature of these units. [35 IAC 212.323]

2.9.5 Work Practices

- a. The Permittee shall carry out control measures for fugitive dust for the affected units in accordance with a written control program maintained by the Permittee, which shall set forth the measures being implemented to demonstrate compliance with Conditions 2.9.3-2. This program shall include: (1) a description of the emissions control technique(s) (e.g., vacuuming or sweeping), that will routinely be implemented; (2) triggers for implementation of additional control, e.g., observation of extended dust plumes following passage of vehicles; and (3) the estimated effectiveness of the various control techniques in reducing PM emissions, with supporting documentation.

2.9.6 Emission Limitations

- a. Emissions of PM/PM₁₀ from the affected units shall not exceed 0.86 tons per year. Compliance with this limit shall be determined from the amount and type of vehicle traffic for the affected plant, appropriate emission factors and engineering calculations with appropriate USEPA methodology for estimating emissions of fugitive dust from roads and open areas.

2.9.7 Opacity Observations

- a. The Permittee shall conduct opacity observations for the affected units in accordance with Condition 3.3:
 - i. No later than 45 days after the date initial emission testing of the melt furnace is performed, as required by Condition 2.1.7.
 - ii. Upon written request by the Illinois EPA, in which case observations shall be conducted within 45 days or such later date specified by the Illinois EPA.

2.9.8-1 Inspections

- a. The Permittee shall conduct inspections of the affected units on a monthly basis with personnel who do not implement the control program on a day-to-day basis for the specific purpose of verifying that the measures identified in the program and other measures required to control emissions from affected units are being properly implemented.
- b. On at least a quarterly basis, these inspections shall include observations of the opacity of PM emissions from affected units by individual who are certified observers for Method 9.
- c. The Permittee shall keep records documenting the performance of these inspections and their findings.

2.9.8-2 Measurements of Silt Loading

- a. No later than 45 days after conducting emissions testing of the melt shop baghouse the Permittee shall conduct measurements of the silt loading on affected units, as follows:
 - i. Sampling and analysis of the silt loading shall be conducted using the "Procedures for Sampling Surface/Bulk Dust Loading," Appendix C.1 in Compilation of Air Pollutant Emission Factors, USEPA, AP-42. A series of samples shall be taken to determine the average silt loading and address the change in silt loadings as related to the amount and nature of vehicle traffic.
- b. Measurements shall be performed by the following dates:
 - i. Measurements shall first be completed in conjunction with emission testing for the melt furnace.
 - ii. Measurements shall be repeated within 30 days in the event of changes involving affected units that would act to increase the silt loading (so that data that is representative of the current circumstances of the affected units has not been collected), including changes in the amount or type of traffic on affected units, changes in standard operating practices for affected units, such as application of salt or traction material during cold weather, and changes in the operating program for affected units.
 - iii. Upon written request by the Illinois EPA, the Permittee shall conduct measurements, as specified in the request, which shall be completed within 75 days of the Illinois EPA's request.
- c. The Permittee shall submit test plans, test notifications and test reports for these measurements as specified by Condition 3.3, provided, however, that once a test plan has been accepted

by the Illinois EPA, a new test plan need not be submitted if the accepted plan will be followed or a new test plan is requested by the Illinois EPA.

2.9.9 Recordkeeping Requirements

- a. The Permittee shall maintain a file containing:
 - i. The Permittee's assumptions, with supporting explanation, for the typical and maximum quantity and nature of vehicle traffic for the affected units, including truck traffic related to the receipt of raw materials and shipment of products from the plant.
 - ii. The maximum PM emissions from the affected units (tons/year), with supporting calculations, based on the maximum vehicle traffic at the plant (as recorded above), the silt loading on the different classes of affected units (as measured pursuant to Condition 2.9.8-2), and the effectiveness of the current fugitive dust control program (as addressed in Condition 2.9.5(a)).
- b. The Permittee shall maintain records of the amount of different material received or shipped from the plant by truck (tons, by type of material).
- c. The Permittee shall comply with applicable recordkeeping requirements of 35 IAC 212.316(g), which provides that the owner or operator of any fugitive particulate matter emission unit subject to 35 IAC 212.316 shall keep written records of the application of control measures as may be needed for compliance with the opacity limitations of 35 IAC 212.316, which records include at least the information specified by 35 IAC 212.316(g)(2) (which includes the following) and shall maintain and handle such records in accordance with 35 IAC 212.316(g)(3), (4) and (5). [35 IAC 212.316(g)]
 - i. A map or diagram showing the location of all emission units controlled, including the location, identification, length, and width of roadways;
 - ii. For each application of water or chemical solution to roadways by truck: the name and location of the roadway controlled, application rate of each truck, frequency of each application, width of each application, identification of each truck used, total quantity of water or chemical used for each application and, for each application of chemical solution, the concentration and identity of the chemical;
 - iii. For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent, and, if diluted, percent of concentration, used each day; and

- iv. A log recording incidents when control measures were not used and a statement of explanation.
- d. The Permittee shall maintain other records needed to document implementation of the operating program for the affected units including:
 - i. For each cleaning of affected units the date and time; the reason for treatment, if not routine;; the type of treatment; the identity of the treatment vehicle or equipment; and a description of any unusual observations or events related to control of dust that occurring during treatment; and
 - ii. Detailed information for incidents when control measures were not carried out as scheduled or were not fully implemented and incidents when additional control measures were carried out, with description of each such incident and explanation. This log shall address any adjustments to the scheduling of control measures made by the Permittee due to weather conditions that either acted to reduce or increase the level of potential dust, such as extended periods of dry weather.
- e. The Permittee shall maintain records on at least an annual basis of the PM emissions from the affected units, with supporting documentation and calculations.

2.9.10 Notification and Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected units as follows. These notifications shall include the information specified by Condition 3.5.
 - i. If the availability of treatment for the affected units is interrupted for 5 or more days and there is a deviation from applicable requirements for the affected units, the Permittee shall notify the Illinois EPA within 30 days.
 - ii. The deviations addressed above and all other deviations shall be reported with the quarterly reports required by Condition 2.1.10(b)(i).
- b. For the affected units, the Permittee shall comply with applicable reporting requirements of 35 IAC 212.316(g), which provides that the owner or operator of any fugitive particulate matter emission unit subject to 35 IAC 212.316 shall submit to the Illinois EPA:
 - i. Quarterly reports stating the following: the dates any necessary control measures were not implemented, a

listing of those control measures, the reasons that the control measures were not implemented, and any corrective actions taken. This information includes, but is not limited to, those dates when controls were not applied based on a belief that application of such control measures would have been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to the requirements of 35 IAC 212.316. This report shall be submitted to the Illinois EPA 30 calendar days from the end of a quarter, i.e., by April 30, July 30, October 30 and January 30. [35 IAC 212.316(g)(5)]

- ii. Annual reports containing a summary of the records that are maintained pursuant to 35 IAC 212.316(g) (See Condition 2.9.9(c)). [35 IAC 212.316(g)]

2.10 Cooling Towers

2.10.1 Description

The cooling towers supply cool water as needed by certain processes at the plant. For example, the metal shell of the melt furnace is protected from the high temperatures inside the furnace by circulating cool water through a cooling system on the outside of the shell.

2.10.2 List of Emission Units and Pollution Control Measures

Emission Unit Description	Control Measures
Cooling Towers	Drift Eliminator

2.10.3-1 Applicability Provision

- a. The "affected cooling towers" for the purpose of these unit specific conditions are the cooling towers described in Conditions 2.10.1 and 2.10.2.

2.10.3-2 Control Technology Determination

- a. The affected cooling towers shall be equipped with drift eliminators that are designed to reduce drift loss to no more than 0.005 weight percent of the circulating water flow.
- b. The total dissolved solids (TDS) content of the water circulated in the affected cooling tower shall not exceed 1250 ppm, annual average.

2.10.3-3 Applicable Federal Emission Standards and Control Requirements

- a. Chromium-based water treatment chemicals, as defined in 40 CFR 63.401, shall not be used in the affected cooling tower.

2.10.3-4 Applicable State Emission Standards

- a. The emissions of particulate matter from each affected cooling tower shall comply with 35 IAC 212.321 and 212.324(b) or (d) and the Permittee shall comply with the associated compliance procedures in 35 IAC 212.324(f) and (g). (Refer to Conditions 3.1(a) and (b).)

2.10.4 Non-Applicability of Regulations of Concern

None

2.10.5 Operational Requirements

None

2.10.6 Emission Limitations

- a. Emissions of PM from the affected cooling towers shall not exceed 3.9 tons/year. Compliance with this limit shall be calculated using a material balance based on design data for the drift eliminator and actual data for other operating parameters of the cooling tower.

2.10.7 Testing Requirements

None

2.10.8 Sampling and Analysis Requirements

- a. The Permittee shall sample and analyze the water circulated in the affected cooling towers on at least a quarterly basis for the TDS concentration, taking either grab samples or a daily composite sample of the water.
- b. The Permittee shall keep records for this sampling and analysis activity, including documentation for sampling and analysis as well the resulting data that is collected.

2.10.9 Recordkeeping Requirements

- a. The Permittee shall maintain a file containing the following information for the affected cooling towers:
 - i. The manufacturer's specifications or design data for each tower, including water circulation rate (gallons/hour) and design loss rate of the drift eliminators (percent), with supporting documentation.
 - ii. The maximum PM emissions from each tower (tons/year), based on maximum operating rate of the tower and factors that with greatest loss of PM as emissions, with supporting calculations.
- b. The Permittee shall maintain the following records for the actions that it uses to routinely verify the solids contents of the water circulating in the affected cooling towers, such as periodic grab sampling and analysis, conductivity measurements, etc., including:
 - i. A written description of the procedures, with explanation of how they act to address compliance.
 - ii. Records for implementation of the procedure, including measured value(s) of relevant parameter(s).
- c. The Permittee shall maintain the following operating records for the water supply for the affected cooling towers:

- i. Total dissolved solids concentration of the water circulated in the cooling towers, recorded on at least a quarterly basis (ppm).
 - ii. The amount of water circulated in the affected cooling towers, gallons/month, with supporting calculations.
- d. The Permittee shall maintain the following logs or other similar records for the affected cooling towers:
 - i. Operating log(s), in accordance with Condition 3.4(a).
 - ii. Inspection, maintenance and repair log(s) in accordance with Condition 3.4(b).
- e. The Permittee shall maintain records for the PM emissions from the affected cooling towers (tons/month and tons/year), with supporting documentation and calculations.

2.10.10 Notification and Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected cooling towers as follows. These notifications shall include the information specified by Condition 3.5.
 - i. If an affected cooling tower is damaged so there is a deviation from applicable requirements for the drift eliminators that is not repaired or otherwise corrected within 10 days, the Permittee shall notify the Illinois EPA within 30 days.
 - ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report.

2.11 Miscellaneous Operations

2.11.1 Description

A number of other operations occur at the proposed plant as part of the production of steel ingots and metal forgings including the following activities.

In scrap handling operations, scrap for the melt furnace is received from suppliers, inspected, sorted, and stored pending use, and then picked up and transferred to the furnace in scrap buckets. Emissions of PM are minimized by storage in a covered scrap building, the type of scrap used, and a scrap management program.

The Vacuum Arc Remelt (VAR) furnaces "reprocess" certain ingots made at the plant by the teeming process by slowly remelting carefully machined ingots to form ingots of very high quality steel. The VAR furnaces are operated under a vacuum, with the bottom of the ingot itself serving as one electrode for the electric arc that supplies the heat to gradually remelt the ingot. As the arc heats the bottom of the ingot, gradually melting away the ingot, the molten metal falls by gravity and then resolidifies in the bottom of the furnace, which is copper-lined and water-cooled. The VAR furnaces are at most trivial sources of emissions as these furnaces process fully refined steel ingots and operate under a vacuum. In particular, air (oxygen) is not present in the furnaces, which could otherwise react with the molten steel to form pollutants and transport any particulate that may be formed from the furnaces.

Quenching is a process for quickly cooling hot forgings in order to enhance hardness or other desired metallurgical properties in the finished forging that could not be obtained if the forging were allowed to cool at a slower rate. Emissions from this process will be minimized by use of water or water-based fluids for quenching, rather than oil.

Slag from the melt furnace and ladle metallurgical station is transferred by slag ladles to an area outside the melt shop for cooling and storage pending transport off-site. Emissions of PM are controlled by the nature of the slag, the water that is applied to accelerate the cooling of the slag, and the nature of metal recovery, which is performed with mobile heavy equipment.

2.11.2 List of Emission Units

Emission Unit	Description
Scrap Handling	Charge handling of scrap for the melt furnace.
Vacuum Arc Remelt (VAR) Furnaces 1 and 2	Vacuum furnaces to remelt certain ingots to further improve steel quality.
Quenching	Heat treatment of forging through rapid cooling.
Slag Handling	Outdoor handling of slag from the melt shop.

2.11.3-1 Applicability Provisions

- a. An "affected unit" for the purpose of these unit-specific conditions is a process described in Conditions 2.11.1 and 2.11.2.

2.11.3-2 Control Technology Determination

- a.
 - i. The Vacuum Arc Remelt (VAR) Furnaces shall only be used to refine ingots that have been degassed and cleaned of surface imperfections.
 - ii. The Permittee shall operate in accordance with a written plan for the management of scrap to minimize, the amount of organics(oil, other organic liquids, paint, rubber, etc.) or other contaminants in the charge materials for the affected melt furnace that would potentially contribute to emissions of particulate.
- b.
 - i. There shall be no visible emissions from the affected units from the buildings in which the units are located.
 - ii. The opacity of PM emissions from the outdoor slag handling shall not exceed 5.0 percent.

2.11.3-3 Applicable State Regulations

- a. The emissions of particulate matter from each affected unit shall comply with 35 IAC 212.321 and 212.324(b) or (d) and the Permittee shall comply with the associated compliance procedures in 35 IAC 212.324(f) and (g). (Refer to Conditions 3.1(a) and (b).)

2.11.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected slag handling operation not involving use of crushers or screening equipment as defined by 35 IAC 212.308 or 212.316(b)and therefore is not subject to these subparts.

Note: If crushers or screening equipment were used as defined by 35 IAC 212.308 and/or 212.316(b), PM emissions from that equipment would have to be controlled by spraying with water or a surfactant solution or treated by an equivalent method and the opacity of fugitive particulate matter emission from the equipment would be limited to no more than 10 percent.

2.11.5 Operational and Production Limits and Work Practices

- a. This permit does not authorize use of crushers or screening equipment to convert slag into a product for final use.

2.11.6 Emission Limitations

- a. This permit is issued based on negligible emissions of PM/PM₁₀ and VOM, from the affected units. For this purpose, emissions of each unit shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.

2.11.7 Requirements for Opacity Observations

- a. The Permittee shall have the opacity of outdoor slag handling determined by a qualified observer in accordance with USEPA Method 9 while outdoor slag handling is performed, as further specified below.
- b. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless no visible emissions are observed as determined by USEPA Method 22 or the average opacities for the first 12 minutes of observations (two six-minute averages) conducted for the point of release that displays the greatest opacity are both less than 2.5 percent.
- c.
 - i. Observations of opacity shall be conducted on the following frequency unless absence of adequate daylight or weather conditions preclude scheduled observation, in which case, the next observations shall be conducted on the next day in which outdoor slag handling is performed during which observations of opacity can reasonably be conducted in accordance with USEPA Method 9:
 - A. On a weekly basis (at least once every 7 operating days) except as provided below.
 - B. On a daily basis (at least 5 days out of 7 operating days of the affected unit) if any of the five previous observations measured opacity of 4.0 percent or more, continuing on a daily basis until the maximum opacities measured in five consecutive daily observations are all less than 4.0 percent, at which time observations on a weekly basis shall resume.
 - ii. Upon written request by the Illinois EPA, additional opacity observations for outdoor slag handling shall be conducted within 5 operating days from the date of the request by the Illinois EPA or on the date agreed upon by the Illinois EPA, whichever is later. For these observations, which are conducted pursuant to a request from the Illinois EPA, the Permittee shall comply with Condition 3.3(d), (e), (f) and (g). In addition, the duration of these observations shall cover each stage of outdoor slag handling, i.e., pouring, cooling, breakup, metal recovery (if routinely performed), and load out.

2.11.8 Monitoring Requirements

None

2.11.9 Recordkeeping Requirements

- a. The Permittee shall maintain records of the consumption* of oil by the vacuums pump for Vacuum Arc remelt furnaces, lbs/month and lbs/year.

* Oil consumption for the purpose of the vacuum pumps shall be defined as oil loss for the units calculated by:

$$\text{Oil Consumption} = \text{Total Oil Added} - \text{Total Oil Removed}^{**}$$

** i.e. when pump oil changes are required.

- b. The Permittee shall maintain records of the following items related to emissions of the affected units:

i. Records of emissions of PM/PM₁₀ and VOM from each affected unit, tons/month and tons/year, with supporting calculations.

2.11.10 Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA of any deviations from the requirements of this permit for the affected units as follows. These notifications shall include the information specified by Condition 3.5.

i. If the affected units are damaged so there is a deviation from applicable requirements that is not repaired or otherwise corrected within 10 days, the Permittee shall notify the Illinois EPA within 30 days.

ii. The deviations addressed above and all other deviations shall be reported with the quarterly compliance report required by Condition 2.1.10(b)(iii).

SECTION 3: GENERAL CONDITIONS

3.1 State Standards and Control Requirements for PM Emissions

- a. Emissions of PM from process emission units at the plant that are subject to 35 IAC 212.321 shall not exceed the applicable emission rate specified by 35 IAC 212.321(a) and (c).

Note: 35 IAC 212.123 provides that no person shall cause or allow the emission of PM into the atmosphere in any one hour period from a new process emission unit which, either alone or in combination with the emission of PM from all other similar new process emission at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321(c).

- b.
 - i. Emissions of PM₁₀ (filterable only) from each process emission unit at the plant that is subject to 35 IAC 212.324(b) (i.e., process emission units other than the affected melt furnace, which is subject to a specific standard for particulate in 35 IAC Part 212, Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture (35 IAC 212.441 through 212.458)) shall not exceed 0.03 gr/scf or there shall be no visible emissions from the unit other than fugitive particulate matter, as defined by 35 211.2490.

Note: 35 IAC 212.324(b) and (d) provides that no person shall cause or allow the emission into the atmosphere, of PM₁₀ (filterable only) from such process emission units to exceed 0.03 gr/scf during any one hour period, with the following exception. Exception: This limitation shall not apply to emission units with no visible emissions other than fugitive particulate matter; provided, however, that if emission testing is performed, this exception is not a defense to a finding of a violation of this emission limitation. [35 IAC 212.108 and 212.324(a), (b) and (d)]

- ii. The Permittee shall comply with applicable work practice requirements of 35 IAC 212.324(f), which provides that for any process emission unit subject to 35 IAC 212.324, the owner or operator shall maintain and repair all air pollution control equipment in a manner that assures that the emission limits and standards in 35 IAC 212.324 shall be met at all times (except as provided by 35 IAC 201.149) and that proper maintenance shall include the following minimum elements: visual inspections of air pollution control equipment; maintenance of an adequate inventory of spare parts; and expeditious repairs, unless the emission unit is shutdown. [35 IAC 212.324(f)]
 - iii. The Permittee shall comply with applicable recordkeeping requirements of 35 IAC 212.324(g), which provides that the owner or operator of a process emission unit subject

to 35 IAC 212.324 shall keep the following records and shall maintain and handle such records in accordance with 35 IAC 212.324(g)(4) and (5). [35 IAC 212.324(g)]

- A. Records documenting inspections, maintenance, and repairs of all air pollution control equipment in accordance with 35 IAC 324(f). [35 IAC 212.324(g)(1)]
 - B. Records documenting any period during which any process emission unit was in operation when the air pollution control equipment was not in operation or was malfunctioning so as to cause an emissions level in excess of the emissions limitation. These records shall include documentation of causes for pollution control equipment not operating or such malfunction and shall state what corrective actions were taken and what repairs were made. [35 IAC 212.324(g)(2)]
 - C. A list of the inventory of all spare parts not readily available from local suppliers, which list shall be kept up to date. [35 IAC 212.324(g)(3)]
- iv. The Permittee shall comply with applicable reporting requirements of 35 IAC 212.324(g)(6), which provides that the owner or operator of a process emission unit subject to 35 IAC 212.324 shall upon written request by the Illinois EPA, submit a report to the Illinois EPA for any period specified in the request stating the following: the dates during which any process emission unit was in operation when the air pollution control equipment was not in operation or was not operating properly, documentation of causes for pollution control equipment not operating or not operating properly, and a statement of what corrective actions were taken and what repairs were made.
- c. i. Pursuant to 35 IAC 212.309, all emission units at the plant that are subject to a requirement in 35 IAC 212.304 through 212.308 or 212.316 shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 IAC 212.310 and 212.312, and prepared by the Permittee and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions.
 - ii. As a minimum the operating program shall include the information and elements specified by 35 IAC 212.310, including: (1) a detailed description of the best management practices utilized to control fugitive dust; (2) estimated frequency of application of dust suppressants by location; and (3) such other information

as may be necessary to facilitate the Illinois EPA's review of the operating program.

- iii. This program shall also identify the specific control measures as may be needed to ensure that subject emission units comply with the opacity limits of 35 IAC 212.316.

3.2 Emission Testing Requirements

- a. Emissions testing shall be conducted by an approved testing service at the expense of the Permittee. Unless otherwise specified by this permit or a request from the Illinois EPA for the performance of emission testing, emission testing shall be conducted while affected unit(s) are operating at maximum rate(s) and during other representative operating conditions of the unit(s) and associated control system(s).
- b. i. USEPA test methods and procedures shall be used for measurement of emissions, including the following methods, unless other methods are specified in unit-specific condition of this permit or are approved by the Illinois EPA as part of the approval of a test plan. Refer to 40 CFR 60, Appendix A and 40 CFR 51, Appendix M for USEPA test methods.

SO	Method 6
NO _x	Method 7
CO	Method 10
PM or PM ₁₀ (filterable)	Method 5
PM ₁₀ ^a	Methods 5 and 202
VOM	Method 18 ^b and either 25 or 25A ^c
Lead and Other Metals	Method 29

Notes:

^a Unless otherwise specified, PM₁₀ tests shall include measurements of condensable particulate, as collected in the back half of the Method 5 sampling train or by separate measurements using USEPA Method 202 (40 CFR Part 51, Appendix M). For emission units for which the average stack gas temperature is less than 250°F, such as the lime and carbon handling systems, testing may be conducted at actual stack gas temperature without heating of the probe or filter holders.

^b Methane, ethane and other exempt compounds may be excluded from the results of VOM emission testing for emission unit(s) provided that Method 18, or other appropriate test procedure identified in the test plan approved by the Illinois EPA, is used to quantify and adjust for the presence of such compounds in the exhaust from the unit(s).

- iii. Notwithstanding the above, the Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.
- e. The Permittee shall submit three copies of the Final Report(s) for emissions tests to the Illinois EPA no later than 60 days after completion of sampling. The Final Report shall include as a minimum:
 - i. General information, i.e., date of test, names of testing personnel, and names of Illinois EPA observers.
 - ii. A summary of the measured emissions of different pollutants in pounds per hour and other appropriate terms, e.g., lbs/ton, lbs/ton, gr/dscf or ppmv.
 - iii. A statement whether compliance was demonstrated
 - iv. A detailed description of operating conditions of the emission unit(s) during testing, including:
 - A. Process information, e.g., type or product and operating rate.
 - B. Control system operating parameters during testing.
 - v. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.
 - vi. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
 - vii. Conclusions.
- f. The Permittee shall retain copies of emission test reports for at least five years beyond the date that an emission test is superseded by a more recent test.

3.3 Opacity Observations

- a. Upon written request by the Illinois EPA, the Permittee shall conduct opacity observations for specific affected operation(s) or unit(s) within 45 calendar days of the request or on the date agreed upon by the Illinois EPA, whichever is later.
- b. Opacity of emissions shall be determined during representative weather and operating conditions by a qualified observer in accordance with USEPA Test Method 9, as further specified below.

- c. The duration of opacity observations for each test shall, unless directed otherwise by underlying state or federal rule, be at least 30 minutes (five 6-minute averages) unless the average opacities for the first 12 minutes of observations (two six-minute averages) are both no more than half of the most stringent requirement applying to opacity.
- d.
 - i. The Permittee shall notify the Illinois EPA at least 7 days in advance of the date and time of these tests, in order to allow the Illinois EPA to witness testing. This notification shall include the name and employer of the qualified observer(s).
 - ii. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for testing.
- e. The Permittee shall provide a copy of its observer's readings to the Illinois EPA at the time of testing, if Illinois EPA personnel are present.
- f. The Permittee shall submit a written report for this testing within 15 days of the date of testing. This report shall include:
 - i. Date and time of testing.
 - ii. Name and employer of qualified observer, with a copy of his or her current certification.
 - iii. Description of observation condition, including recent weather.
 - iv. Description of the operating conditions of the affected operation or unit.
 - v. Opacity determinations, accompanied by raw data.
 - vi. Conclusions.
- g. The Permittee shall retain copies of test reports for at least three years after the date that a test is superseded by a more recent test.

3.4 General Requirements for "Logs" Or Similar Records

- a. Operating logs or other similar records required by this permit shall, at a minimum, include the following information related to the emission units and associated control system:
 - i. Information identifying periods when an emission unit or group of related emission units was not in service.
 - ii. For periods when a unit or group of related units is in service and operating normally, relevant process and

control system information to generally confirm normal operation.

- iii. For periods when a unit or group of related units is in service and is not operating normally, identification of each such period, with detailed information describing the operation of the unit(s), the potential consequences for additional emissions from the unit(s), the potential of any excess emissions from the affected unit(s), the actions taken to restore normal operation, and any actions taken to prevent similar events in the future.
 - iv. Other information as needed to fulfill the requirements of 35 IAC 212.324(g)(2), if applicable. (Refer to Condition 3.1(b)(iii)(a).)
 - v. Other information as may be appropriate to show that the emission unit or group of related emission units is operated in accordance with good air pollution control practices.
- b. Inspection, maintenance and repair logs or other similar information required by this permit shall, at a minimum, include the following information related to the emission units and associated control system:
- i. Identification of equipment, with date, time, responsible employee and type of activity.
 - ii. For inspections, a description of the inspection, findings, and any recommended actions, with reason.
 - iii. For maintenance and repair activity, a description of actions taken, reason for action, e.g., preventative measure or corrective action as a result of inspection, probable cause for requiring maintenance or repair if not routine or preventative, and the condition of equipment following completion of the activity.
 - iv. Other information as needed to fulfill the requirements of 35 IAC 212.324(f) and (g), if applicable. (Refer to Condition 3.1(b)(ii) and (iii).)
 - v. Other information as may be appropriate to show that the emission unit or group of related emission units is maintained in accordance with good air pollution control practices, including prompt repair of defects that interfere with effective control of emissions.
- c. The logs required by this permit may be kept in manual or electronic form, and may be part of a larger information database maintained by the Permittee provided that the information required to be kept in a log is readily accessible.

3.5 Reporting of Deviations

- a. The Permittee shall include the following information in records and reports for deviations:
 - i. Identity of the deviation, with date, time, duration and description.
 - ii. Describe the effect of the deviation on compliance, with an estimate of the excess emissions that accompanied the deviation, if any.
 - iii. Describe the probable cause of the deviation and any corrective actions or preventive measures taken.
- b.
 - i. Unless otherwise specified in a particular condition of this permit, if deviation(s) from requirements of this permit occurs during a calendar quarter, compliance report shall be submitted no later than 45 days after the end of the calendar quarter. This report shall also provide a listing of all deviations for which immediate or 30-day reporting was required, but need not include copies of the previously submitted information.
 - ii. If there are no deviations during a calendar quarter, the Permittee shall still submit a compliance report, which report shall state that no deviations occurred during the reporting period.
- c.
 - i. For the purpose of determining whether a deviation must be reported prior to a quarterly compliance report, a deviation shall be considered to continue even if operation an emission unit is interrupted if the deviation is still present when operation of the unit is resumed.
 - ii. When this permit requires immediate notification, such notification shall be provided by telephone and followed by facsimile or e-mail transmittal of a narrative report.
- d. Upon issuance of a CAAPP permit for the plant, the provisions of the CAAPP permit with respect to reporting of deviations will supersede the requirements of this permit.

Attachment 1:

Table 1: Summary of Plant's Permitted Emissions (Tons/Year)

Emission Units	CO	PM	SO ₂	VOM	NO _x	Lead
EAF/LMF/Scrap Cutting combined to Baghouse	1421.18	48.39	97.46	84.50	110.43	0.59
Uncaptured Emissions Incl Teeming	-	18.38	-	-	-	-
Lime and Carbon Handling	-	0.75	-	-	-	-
Handling Arc Furnace Dust	-	0.19	-	-	-	-
Vacuum Tank Station	69.48	0.75	0.06	0.54	5.89	-
Surface Processing Operations	-	6.66	-	-	-	-
Natural Gas Fired Furnaces						
Ladle Burners & Ingot Hot Boxes	8.83	0.80	0.06	0.58	10.51	-
Reheat and Forge Furnaces	72.11	6.52	0.52	4.72	84.99	-
Heat Treatment Furnaces & Hot Boxes	114.28	10.34	0.82	7.48	83.38	-
Subtotal	195.22	17.66	1.39	12.78	178.88	-
Steam Generator	9.24	0.84	0.07	0.61	6.60	-
Roadways	-	0.86	-	-	-	-
Cooling Towers	-	3.84	-	-	-	-
Miscellaneous Operations	0.03	0.57	-	0.01	-	-
Total	1695.2	98.87	98.98	98.44	301.8	0.59

ATTACHMENT 2 - STANDARD PERMIT CONDITIONS

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) authorizes the Environmental Protection Agency to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.
2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, shall have been submitted to the Illinois EPA and a supplemental written permit issued.
4. The Permittee shall allow any duly authorized agent of the Illinois EPA upon the presentation of credentials, at reasonable times:
 - a. To enter the Permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,
 - b. To have access to and to copy any records required to be kept under the terms and conditions of this permit,
 - c. To inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,
 - d. To obtain and remove samples of any discharge or emissions of pollutants, and
 - e. To enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

5. The issuance of this permit:
 - a. Shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. Does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. Does not release the Permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. Does not take into consideration or attest to the structural stability of any units or parts of the project; and
 - e. In no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
- 6a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Illinois EPA before the equipment covered by this permit is placed into operation.
- b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.
7. The Illinois EPA may file a complaint with the Board for modification, suspension or revocation of a permit.
 - a. Upon discovery that the permit application contained misrepresentations, misinformation or false statement or that all relevant facts were not disclosed, or
 - b. Upon finding that any standard or special conditions have been violated, or
 - c. Upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.

July, 1985, Revised, May, 1999