

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

BUREAU OF AIR

DIVISION of AIR POLLUTION CONTROL

PERMIT SECTION

PROJECT SUMMARY for the
DRAFT CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

U. S. Steel Corporation/Granite City Works
20th & State Streets
Granite City, Illinois 62040

Illinois EPA ID Number: 119813AAI

Application Number: 96030056

Application Type: Initial CAAPP

Start of Public Comment Period: October 15, 2008

Public Hearing Date: December 2, 2008

Close of Public Comment Period: January 2, 2009

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(This document generally describes the source and explains the draft permit. This document has been prepared pursuant to Section 39.5(8)(b) of the Illinois Environmental Protection Act, which requires "a statement that sets forth the legal and factual basis for the draft CAAPP permit conditions.")

I. INTRODUCTION

This source has applied for the new operating permit under the Clean Air Act Permit Program (CAAPP). The CAAPP is the program established in Illinois for operating permits for significant stationary sources as required by Title V of the federal Clean Air Act and Section 39.5 of Illinois' Environmental Protection Act. The conditions in a CAAPP permit are enforceable by the Illinois Environmental Protection Agency (Illinois EPA), the USEPA, and the public. This document is for informational purposes only and does not shield the Permittee from enforcement actions or its responsibility to comply with applicable regulations. This document shall not constitute a defense to a violation of the Act or any rule or regulation.

A CAAPP permit contains conditions identifying the applicable state and federal air pollution control requirements that apply to a source. The permit also establishes emission limits, appropriate compliance procedures, and specific operational flexibility. The appropriate compliance procedures may include monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the source is operating in accordance with the requirements of the permit. Further explanations of the specific provisions of the draft CAAPP permit are contained in the attachments to this document, which also identify the various emission units at the source.

II. GENERAL SOURCE DESCRIPTION

U. S. Steel Corporation/Granite City Works is located at 20th & State Streets, Granite City, Illinois. This facility is an integrated steel manufacturing which involves raw material processing/preparation, coke production, coke oven gas by-products recovery plant, iron production, steel production, and steel finishing.

The following units/operations (not considering insignificant activities) are operated at the source and addressed in Sections 7.1 through 7.13 of the proposed permit:

- Coal Handling Operations
- Coke Production
- Coke Oven Gas By-Products Recovery Plant
- Blast Furnaces
- Basic Oxygen Furnaces
- Continuous Casting
- Slab Reheat Furnaces
- Finishing Operations
- Wastewater Treatment
- Boiler Houses
- Internal Combustion Engines
- Gasoline Storage and Dispensing
- Fugitive Emissions

III. MAJOR OPERATIONS DESCRIPTION

a. Coal Handling Operations

Coal Unloading:

Coal is received by track and/or railcar and when unloading is complete the coal is piled by bulldozer. The coal is then transferred by front end loader to the hopper feeding the conveyor system on to the pulverizer building.

Coal can also be received by rail cars and is then dumped utilizing a rail car unloader to be conveyed to the pulverizer building.

Primary Coal Crushing:

This emissions unit (also known as the by-mixer) is mainly used in the winter to break-up frozen chunks of coal. This step is necessary to reduce the size of the coal to aid in transfer of the coal to the coke oven and to aid in the coking process itself. Potential emissions from this unit consist of particulate matter generated from the crushing operation.

Coal Pulverizer:

There are two coal pulverizers in this emissions unit. Only one pulverizer can be used at any one time. The remaining pulverizer is maintained as a backup unit. The pulverizing step is necessary to reduce the size of the coal to aid in the coking process. Potential emissions from this unit consist of particulate matter generated from the pulverizing operations.

b. Coke Production

Two forty-five oven, dual collecting main by-product coke oven batteries, referred to as A and B, are utilized at this iron and steel mill. Each is capable of processing 454,000 tons/year of coal. Potential emissions from these batteries consist of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic materials, and HAPs.

Topside:

Emission points include leaks from coke oven charging, lids, offtakes, and soaking. Coal is charged utilizing sequential charging with steam aspiration to the collecting mains. Each oven has four charging port lids and two offtakes to the collecting mains. Soaking is the period that starts after the coking cycle, when an oven is dampered off from the collecting mains and its offtakes' standpipes are opened.

This period ends with the beginning of the oven push.

Doors:

Emissions consist of leaks from coke oven doors. Each oven has two doors, with one on its push side and one on its coke side.

Pushing:

Once the coking cycle in an oven has been completed, the push and coke side doors are removed, respectively, by the pushing machine and coke-side door machines. A ram on the pushing machine pushes the coke out through a guide on the door machine. The coke falls through the guide, which is covered by a hood on the machine, and into the quench box. The emissions from oven pushing are controlled by the pushing system. This mobile control system consists of a venturi scrubber, mist eliminator and exhaust fan. There are two such systems utilized, referred to as nos. 3 and 4. The quench box and car travel with this system to the coke quenching operation.

Coke Quenching:

The operations carried out in this unit consist of coke quenching with water. Each quench car can hold one oven of coke. There are two areas where quenching can take place. The primary is the West Quench Tower. This tower is equipped with a baffle system. The east station is utilized as a backup for the West Tower.

Underfiring:

In this unit coke oven gas (COG) is combusted to generate the heat required to convert coal to coke. Excess COG is combusted by flares. Potential emissions from this unit are mainly the by-products of combustion of the coke oven gas and consist of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, and volatile organic materials.

c. Coke Oven Gas By-Products Recovery Plant

Coke Oven Gas (COG) Processing Unit:

COG is made up of various organic materials volatilized during the coal-to-coke conversion process. U. S. Steel Granite City Works manufactures furnace coke with the “by-products” method. In this method the coke oven gas is collected and various byproducts are removed. Once suitably treated, the gas is used as a fuel at various locations throughout the facility.

COG from the coke ovens first passes through the primary coolers where it is cooled. The cooling of COG causes tar, naphthalene, and liquor to condense. The cool COG is then pushed through the entire by-product plant with the aid of exhausters. More tar and liquor are removed by the centrifugal force created in the exhausters. Droplets of tar, naphthalene, and liquor accumulate and drained to the tar sump. Ammonia present in the COG is then removed by passing it through ammonia absorber. The removal of ammonia is accomplished by exposing the COG to a spray of sulfuric acid in the ammonia absorber. The COG then enters the Tar Spray Final Cooler where the COG is cooled down to 29⁰C and most of the naphthalene is removed with tar injection. Next COG passes through the Light Oil Scrubber, which is designed to remove the remaining naphthalene and “Light Oils.” COG exiting the Light Oil Scrubber is then clean and free of impurities. A portion of the COG is used to underfire the Coke Oven Batteries while the remaining enters the COG holding tank. From here, the COG travels to the boosters, where it is distributed to various parts of the plant.

Light Oil Processing Unit:

Processing the Light Oil generated at the Light Oil Scrubber, also called Benzol Washer, is the main activity of this unit. In the Light Oil Scrubber, wash oil is used to scrub out Light Oil from the Coke Oven Gas. Next wash oil is cleaned and re-circulated back through the Light Oil scrubber as described below.

After scrubbing out the light oil in the Light Oil Scrubber, the wash oil passes through two oil to vapor heat exchangers, where the light oil is vaporized and recovered. The recovered vapors are then passed through two cool water condensers to condense out the light oil. The light oil then passes through the Secondary Light Oil Separator, where any remaining wash oil and water is removed. The liquid oil is then pumped into one of six storage tanks.

After passing through the oil to vapor heat exchangers, the wash oil passes through steam heaters, the Wash Oil Still, coolers, and finally the Wash Oil Recirculating Tank before it is reintroduced in the Light Oil Scrubber.

Coal Tar Processing:

Tar obtained from the Electrstatic Precipitators (ESPs) in COG processing is collected into tar sumps. The tar is decanted by passing through one of three decanters. Sludge from the decanters is dumped into hoppers from where it is collected by a company for further treatment. Tar from these sumps passes through two dehydration tanks where the water is removed. The tar is then pumped to a storage tank, where it is stored until shipment.

d. Blast Furnaces

Blast Furnaces and Casthouse:

Iron ore is converted to molten iron in the “A” and “B” Blast Furnaces. Iron ore, coke and a variety of fluxes (collectively called the burden) are charged into the top of the furnace, while heated air is blown up through the burden at a high velocity. The now molten iron and slag accumulates in the bottom of the furnace, where a taphole is drilled. The molten iron and slag pours out of the furnace into a trough, where the slag is separated from the iron. The iron moves down covered runners until it pours into torpedo cars. From here, the iron is taken to the BOF, where it is converted into steel. The slag travels down a separate runner and dumps into the slag pits. The molten slag is quenched with a mixture of water and potassium permanganate solution.

The Blast Furnace charging generates particulate matter emissions. Each furnace has a double-bell system to minimize emissions during charging.

Emissions may also be discharged during startup, malfunctions and shutdowns for routine maintenance. Each furnace is equipped with bleeder valves which will relieve to the atmosphere if the furnace becomes overpressurized. Slips can cause overpressurization. In this condition, the stock in the furnace will bridge and cause a void to develop. The void will increase until the bridge collapses. Backdrafting of the blast furnaces is conducted in order to necessitate certain repairs, both routine and non-routine. Steam is utilized to draw furnace gases back through the tuyeres and out of backdraft stacks.

Casthouse emissions consisting of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, and organic materials are generated by the drilling of the taphole, the pouring of the iron into the torpedo cars, the pouring of the slag into the slag pits and the miscellaneous operations that take place within the casthouse structure. Emissions from this unit are controlled by the Casthouse Baghouse and the Iron Spout Baghouse.

Blast Air Stoves:

Emissions from this unit consist of particulate matter, sulfur dioxide, nitrogen oxides, and carbon monoxide generated as by-products of the combustion of Blast Furnace Gas (BFG) and Coke Oven Gas (COG). The gases collected from the blast furnaces are first cleaned in a dust collection system and are then combusted in these stoves. BFG is primarily made up of carbon monoxide. The heat generated by the combustion of these gases is used to heat the brick lining of the stoves. This stored heat is then allowed to transfer to the blast air that is then blown into the blast furnaces as part of the iron making process. There are currently three stoves for each furnace at the facility. Each set of three stoves operates in parallel to maintain

a continuous supply of blast air. Only two of the three stoves will burn at any given time. All three stoves are exhausted to a common stack.

e. Basic Oxygen Furnaces (BOF)

BOF Reladling and Desulfurization Stations:

Molten iron from the blast furnaces is transported to the BOF by the torpedo cars. The iron is then transferred to the charging ladles at the reladling station. In the desulfurization stations a combination of lime and magnesium is injected into the molten iron to remove the sulfur. The sulfur reacts with the lime and magnesium and forms a layer of slag on the surface of the iron. A collection system with baghouse is used to control emissions of particulate matter from these stations.

BOF Slag Skimming:

After the molten iron is desulfurized it is moved to this station where a mechanical arm is used to scrape slag from the surface of the iron. This slag is scraped from the iron ladles and into slag pots. A collection system with a baghouse is used to control emissions from this process.

Basic Oxygen Furnaces:

A fresh BOF charge usually begins with scrap metal. The scrap is charged into the BOF vessel. Molten iron is then charged into the vessel. A secondary hood is utilized to capture emissions during the charge. During periods of reduced molten iron availability scrap may be preheated with a natural gas fired lance in order to increase the temperature and reduce the amount of molten iron required to produce a heat of steel. This preheating process typically lasts 15 minutes but could last longer. The BOF is then closed off and an oxygen lance is inserted to begin the melting and refining process. In this process, the injected oxygen reacts exothermically with the carbon in iron generating heat which melts the scrap and reducing the amount of carbon in the bath thus converting the iron to steel. When the refining process is completed, the molten steel is poured into a steel transfer ladle. Materials such as aluminum, silica, and manganese are added, as required, depending upon the particular steel alloy being produced. After the molten steel is tapped, the remaining slag is then dumped into a slag ladle. Emissions from these operations are captured and passed through ESPs prior to being emitted to the atmosphere. Steam is used to condition the gases prior to their introduction into the ESP. Water is also sprayed into the gases for cooling.

BOF Ladle Preheating and Drying:

In this unit lances combust either natural gas or coke oven gas to produce the heat

needed to dry and preheat iron and steel handling ladles. The refractory linings of freshly re-bricked or repaired ladles must be completely dried and preheated before use. The drying process is necessary because any moisture left in the refractory would immediately vaporize and expand when the ladles are filled with molten iron or steel. This sudden expansion could cause the refractory lining to split which would allow the molten iron and steel to come into contact with, and damage the shell of the ladle. The same reasoning applies to the preheating of ladles in general. Potential emissions from this unit consist of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide and organic materials generated as by-products of fuel combustion.

Slag Dispensing:

Prior to the LMF station, synthetic slag is added to the molten steel. The slag is made up of lime and other mineral products and is used to remove impurities in the steel. The addition of these materials is controlled by Baghouse #2.

LMF Station:

At this station inductive heating elements are used, as necessary, to raise the temperature of the steel. This heating is necessary when the temperature of a ladle of steel has cooled below the range within which steel can be cast. Potential emissions from this unit consist of particulate matter generated by the material transfer process. Baghouse #2 is used to control emissions from this operation.

f. Continuous Casting

Deslagging Station:

Molten steel from the BOFs is transferred directly from the BOFs to the continuous casting building. The first operation carried out in this building is the skimming of slag from the surface of the molten steel. Slag removed by this operation is skimmed into slag pots for disposal.

Material Handling System:

LMF materials from the BOF bin floor are transferred to this unit on conveyor number five. This conveyor off-loads into storage bins that then loadout to conveyor number six. Baghouse #1 controls this operation. Potential emissions from this unit consist of particulate matter generated by material transfer from conveyor five to six.

Argon Stirring:

Prior to casting, the chemical composition of each ladle of molten steel is tested.

When deficiencies arise in the chemical composition of a batch, materials can be added at the argon stirring stations to alter the composition of the steel. Stirring lances are then inserted into the steel and argon is pumped through these lances and into the steel to thoroughly mix the added materials into the steel. There are two argon stirring stations at the Granite City facility. Baghouse #2 is used to control emissions from this mixing operation.

Caster Molds:

There are two continuous casting lines in operation at the Granite City facility. Ladles of molten steel are hoisted by crane and placed in revolving turrets located at the top of the casters. Each turret holds two ladles at a time. When one ladle of steel has been cast the turret is rotated and the second ladle is tapped. The empty ladle is then replaced with a full one. The tapping process involves opening the taphole located on the bottom of the ladle and allowing the molten steel to flow into an intermediate chamber called a “Tundish.” The Tundish has a taphole in the bottom through which the molten steel flows directly into the casters. The primary function of the Tundish is to maintain a steady stream of molten steel flowing into the caster while ladles are being changed. The casting operations take place inside one of the facility’s buildings. Potential emissions are generated by the transfer of molten steel from the ladles to the Tundish and from the Tundish to the caster molds. It is estimated that most of the particulate emissions generated by the material transfer processes settle out within the buildings and are not emitted to the atmosphere. Potential emissions from this unit consist of particulate matter and nitrogen oxides.

Continuous Casting – Spray Chambers:

Once the molten iron enters the casters, it continuously passes through a system of rollers and strengtheners until it is finally formed into a steel slab. Water is sprayed onto the slab throughout this process to speed up the solidification process and reduce emissions. Potential emissions from this unit consist of particulate matter.

g. Slab Reheat Furnaces

The produced heat is used to raise the temperature of steel slabs so they can be formed further in the facility’s finishing processes. Some of the slabs are shipped to the source from outside suppliers.

The following fuels or combination of these fuels are burned by all the four furnaces: natural gas only; coke oven gas (COG) and natural gas; natural gas and fuel oil; natural gas, COG, and fuel oil.

h. Finishing Operations

Pickling Line:

Coils are processed in this unit to clean the steel and prepare it for other treatments such as cold rolling or galvanizing. At the start of the pickling line the coils are unwound and the leading edge of each coil is trimmed off square. The leading edge of each coil is then spot (resistance) welded to the trailing edge of the previous coil. By joining the coils in this manner the pickling line runs a continuous ribbon of steel and does not need to be taken out of production to reload. After the steel coils are joined the steel is passed through an acid bath. This acid bath consists of four dip tanks arranged in series and uses a solution of hydrochloric acid and water to clean the surfaces of the steel sheet. A scrubbing system with mist eliminator is used to control hydrogen chloride emissions from this process. When the steel comes out of the fourth acid dip tank it is passed through a cold rinse tank in which cool water is used to rinse the acid off of the steel. The next step is to pass the steel through a hot rinse tank. In this tank hot water is used to rinse any remaining acid away from the steel and to raise the temperature of the steel to speed the drying process. The steel is then passed through a hot air dryer to complete the drying process. The steel that is to be shipped is coated with oil immediately prior to recoiling to inhibit corrosion. In the final step of the pickling process the steel is recoiled.

Galvanizing Line Steel Preparation:

Steel coils that are to be galvanized in this unit are first joined end to end by spot (resistance) welding the leading edge of one coil to the trailing edge of another coil. The steel is then passed through a rinse station where it is rinsed with either a weak alkaline solution or a weak acid solution. The purpose of this rinse is to clean the steel and break down any oils that may be on the surfaces. The emissions from this unit are exhausted to a packed column wet scrubber. After cleaning and rinsing the steel is dried by a steam dryer.

Galvanizing Line Finishing Processes:

After the steel is coated with zinc, it is cooled and then dipped into a “Chem-treat” bath. This non-organic chemical puts a layer of rust-preventative on the steel. After this process is completed, ink is used to stencil a company logo onto the steel. Solvents (thinners) are added to the ink as necessary. After the logo is applied, the steel is coated with oil to protect the surfaces, recoiled, and sprayed with edge sealer (oil) to protect the edges of the steel. The oil applied to the steel is a light petroleum based oil used to inhibit corrosion. Edge sealers are oils used to protect the edges of the steel and inhibit corrosion.

i. Wastewater Treatment

Primary Wastewater Treatment System:

The system is used to treat waste process water generated in both the iron and steelworks manufacturing areas in the facility. Emissions from this system are attributed to the blast furnace (BF) dust ponds, BF ditch, BF lagoon, steelworks ditch, steel works lagoon, and the wastewater treatment plant, itself. The ditches are used to transfer the BF and steelworks wastewater streams to the lagoons. The lagoons hold the wastewater prior to treatment in the treatment plant. The wastewater treatment plant, itself, is a simple sand filtration system used to remove suspended solids prior to water discharge.

By-Products Wastewater Treatment System:

The system is used to treat waste process water generated in the coke oven by-product plant. The water treated in this system is primarily made up of process wastewater used to cool the processes and equipment used in the by-products plant. The treatment process carried out consists of the use of biological activity “bugs” to breakdown the organic materials contained in the waste stream.

j. Boiler Houses

The source operates two Boiler Houses. Boilers ## 1 through 10 are located in Boiler House #1 and are each rated at 60 mmBtu/hour maximum heat input. Boilers ##11 and 12 are located in Boiler House #2 and are rated at 225 mmBtu/hour each. Each of these boilers are physically capable of combusting various combinations of natural gas, coke oven gas, blast furnace gas, No. 6 residual fuel oil, and waste oils generated at the facility.

k. Internal Combustion Engines

Natural gas-fired internal combustion engine and a fuel oil emergency generator are used for performing emergency or non-emergency essential duties at the source.

l. Gasoline Storage and Dispensing

Gasoline storage and dispensing is used for servicing the facility’s fleet.

m. Fugitive Emissions

The facility emits fugitive dust from vehicle traffic, wind erosion of piles, roadways, parking lots and other open areas not associated with the processing operations addressed in the previous subsections of Section 7. The source operates a landfill for placement of furnace dusts and other industrial wastes.

IV. LOCATION DESCRIPTION

a. Ambient air quality status for the area

The source is located in an area that, as of the date of permit issuance, is designated nonattainment for the National Ambient Air Quality Standards for ozone (moderate nonattainment), PM₁₀ (moderate nonattainment) and PM_{2.5}, and attainment or unclassifiable for all other criteria pollutants (CO, lead, NO₂, SO₂).

b. Major source status

The source requires a CAAPP permit as a major source of all regulated air pollutants and HAP's.

c. Single source/support facilities status

The following independent operators/Permittees are considered a single source with U.S.Steel:

- i. Tube City IMS (I.D.119040ATL) located at 2500 East 23rd Street in Granite City. The Permittee have elected to obtain a separate CAAPP permit for it operations.
- ii. Granite City Slag, LLC (I.D. 119040ATF) located at 20th Street and Edwardsville in Granite City. The Permittee have elected to obtain a separate CAAPP permit for it operations.
- iii. Gateway Energy & Coke Co LLC (I.D. 119040ATN) located at Edwardsville Road in Granite City. Gateway Energy & Coke Co LLC shall obtain a separate CAAPP permit within 12 months after construction of a new heat recovery coke manufacturing plant.
- iv. AKJ Industries, Inc (119040AEB) located at 20th & State Streets in Granite City. The Permittee have elected to obtain a separate CAAPP permit for it operations.
- v. Oil Technology Inc (I.D. 119040ATG) located at Rte 203 in Granite City. The Permittee have elected to obtain a separate CAAPP permit for it operations.
- vi. Stein Steel Mill Services, Inc (I.D. 119813AAD) located at 20th Street and Edwardsville Road in Granite City. The Permittee have elected to obtain a separate CAAPP permit for it operations.

d. Ambient Air Monitoring Network in the Granite City Area

The following network sites are currently operated by the Illinois EPA:

City	Site/Address	Pollutants
Granite City	Fire Station #1, 23 rd & Madison	PM _{2.5} PM ₁₀
Granite City	Air Products, 15 th & Madison	PM PM ₁₀ Pb
Granite City	Gateway Regional Medical Center, 2100 Madison	PM _{2.5}

V. HISTORY OF FACILITY

a. Ownership history

- Since May 20, 2003, the source is owned and operated by U.S. Steel.
- Prior to May 20, 2003, the source was owned and operated by Granite City Division of National Steel Corporation.

b. Compliance / Enforcement

As part of the review process of drafting a CAAPP permit, the Illinois EPA routinely evaluates compliance status of the source prior to initiating the issuance procedures. This review is made up of two parts 1) Check to see if the source certified compliance; and 2) A cursory review of compliance history, i.e. violation notices, inspection reports, consent orders, reports filed by the source, etc. This review is necessary in order to determine whether the CAAPP requires a compliance schedule.

The source has certified compliance with all applicable rules and regulations in the initial CAAPP application. However, since that time, Illinois EPA had found that the source is in violation for it's BOF shop operations. The Permittee was sent Violation Notice A-2007-00009 by the Illinois EPA for violations related to the affected BOF shop. The violation notice alleged exceedances of the 20% opacity limit on uncaptured emissions from openings in the building housing the BOF shop. (Sections 9(a) and 9(b) of the Illinois Environmental Protection Act, 35 Ill. Adm. Code 2121.446(c) and condition 8 of operating permit 9501001). The violations were referred to the Office of the Illinois Attorney General by the Illinois EPA. The

violations were resolved via consent order 05—CH-750, which was entered on December 18, 2007 in the Circuit Court for the Third Judicial Circuit, Madison County, Illinois. This consent order required U.S. Steel to submit a compliance schedule for incorporation into this permit. As of the date of issuance of this permit draft, an acceptable compliance schedule that would demonstrate compliance with the above referenced violations has yet to be submitted.

U.S.Steel at Granite City had been the subject of several other enforcement actions resulting in issuing the following consent decrees.

- Summary of Consent Decrees

The Consent Decrees entered discussed below were applicable to the National Steel Corporation, the prior owner and operator of the Granite City steel works.

United States of America v. National Steel Corporation, civil action no. 97-850 (GPM), in the United States District Court for the Southern District of Illinois, filed May 20, 1998

The complaint filed in this matter alleged violations of the opacity limitations applicable to basic oxygen furnace (“BOF”) operations in the federally enforceable Illinois State Implementation Plan (“SIP”) and alleged violations of the state construction permit conditions and SIP emission limits applicable to the coke manufacturing operations, as well as violations of the National Emission Standards for Hazardous Air Pollutants (“NESHAPs”) applicable to coke oven batteries and coke by-product recovery plants.

National Steel Corporation was required to pay a \$546,700 penalty and complete two Supplemental Environmental Projects (“SEPs”). National Steel Corporation completed a project to reduce fugitive dust emissions from the coil storage area and adjoining roadways. In addition, National Steel Corporation co-sponsored a community-wide Household Hazardous Waste Collection Day project with the Illinois EPA.

National Steel Corporation completed its obligations and pursuant to condition XII.29 of the Consent Decree, the United States filed a motion to terminate the consent decree on October 16, 2000, which was granted on October 23, 2000.

People of the State of Illinois v. Granite City Division of the National Steel Corporation , no. 89-MR-489, in the Circuit Court for the Third Judicial Circuit, Madison County, Illinois, filed March 17, 1992

The complaint filed in this matter alleged that operations caused the emission of smoke and other particulate matter in excess of regulatory standards and permit conditions. The consent order recognized that National Steel Corporation spent a significant amount of money from 1987 until the filing of the order to improve and maintain air emission control systems. National Steel Corporation agreed to pay a civil penalty but the consent order did not contain any technical requirements.

United States of America v. National Steel Corporation, civil action no. 81-3009, in the United States District Court for the Southern District of Illinois, filed May 18, 1991

On November 21, 1978, USEPA issued a Notice of Violation alleging that certain facilities at the Granite City plant were operating in violation of the Illinois State Implementation Plan. Those facilities were Coke Oven Batteries B and C for charging emissions, Coke Oven Battery B for stack emissions and the BOF for main stack and roof monitor emissions. The consent decree contained compliance schedules for the BOF shop, the coke oven batteries, the continuous caster, the sinter plant, and the blast furnaces. In addition, National Steel Corporation was required to develop a preventative maintenance program covering the control equipment contemplated in the consent decree. Lastly, the consent decree included an appendix with coke oven inspection procedures, stack testing procedures, special baghouse procedures, and visible emission inspection procedures.

The Illinois EPA intervened in the enforcement action and on May 18, 1991, a supplement to the consent decree (aka the first amended consent decree) between the Illinois EPA and National Steel Corporation was entered on July 24, 1981. The supplement to the consent decree contained additional coke oven battery requirements as well as requiring the payment of a civil penalty.

On November 1, 1984, the Second Amendment to Consent Decree was filed. The amended consent decree required the installation of an emission control system for blast furnace A and B and included emission limitations applicable to the blast furnace gas cleaning device and fugitive emissions from the blast furnace casthouse. The second amended consent decree also contained a program to control fugitive dust emissions that

was to be maintained for a period of 10 years unless modified. Lastly, the second amended consent decree included miscellaneous revisions to the appendix.

On January 22, 1992, the Third Amendment to Consent Decree was entered. The third amended consent decree allowed the disconnection and removal of the slab ripping baghouse to allow for the construction of a new continuous caster facility. In conjunction with the removal of the slab ripping baghouse, the consent decree required additional fugitive dust control measures in order to suppress PM emissions.

Many of the Federal consent decree provisions were codified in the Illinois EPA State Implementation Plan (See 35 Ill. Adm. Code Part 212 Visible and Particulate Matter Emissions, Subpart R Primary and Fabricated Metal Products and Machinery Manufacture) and various construction and operating permits (per condition V.A.5 of the Consent Decree) issued to National Steel, transferred to US Steel and ultimately incorporated into the draft Title V permit.

Importantly, the Consent Decree, per condition XII.A, terminated as to each facility covered six (6) months following a demonstration of compliance with the emissions limitations contained therein. By way of letter dated May 20, 1985, National Steel informed the USEPA that it would cease submission of progress reports as compliance with all of the emission limitations had been achieved.

- State enforcement action

People of the State of Illinois v. United States Steel Corporation, no. 05 CH 750, in the Circuit Court for the Third Judicial Circuit, Madison County, Illinois, filed September 14, 2005

The State of Illinois is currently pursuing a number of alleged violations against United State Steel Corporation. The initial complaint alleged air pollution, permit, and operating violations at the ladle metallurgy facility; air pollution and permit violations of the coke oven pushing operations; air pollution and permit violations of blast furnaces A and B; air pollution and permit violations of the exhausters of the coke oven by-products plant; air pollution and permit violations of the slag skimming station baghouse; and, air pollution and operating violations of the coke oven doors.

On November 27, 2006, the first supplemental complaint was filed, alleging additional air pollution violations due to the release of coke oven

gas from the coke oven gas holding tank. On October 17, 2007, the second supplemental complaint was filed, alleging excessive uncaptured emissions violations at the basic oxygen furnace and permit and prevention of significant deterioration violations from the combustion of blast furnace gas.

c. Inspections

Illinois EPA Field Office in Collinsville is responsible for scheduled and unscheduled inspections of this source. The regular frequency of inspections during a calendar year stays in the range from six (6) to eight (8) inspections per year.

d. Annual Emissions Report Summary

The following table lists actual annual emissions of criteria pollutants from this source, as reported in the Annual Emission Reports sent to the Illinois EPA.

Pollutant	Annual Emissions (tons)				
	2002	2003	2004	2005	2006
CO	13,303.72	8,372.96	12,643.91	12,614.30	12,643.91
NOx	3,465.73	2,314.84	3,767.25	3,642.98	3,767.25
PM	1,427.64	727.00	1,122.04	1,118.65	1,122.04
SO ₂	4,941.64	3,695.51	5,970.87	6,074.65	5,970.87
VOM	237.84	158.38	245.92	240.57	245.92
HAP's:					
HCL*	2.15	16.00	18.00	11.50	
Benzene	8.52	6.14	9.76	10.04	9.76
Lead	1.34	0.57	0.92	0.92	0.92

* Data from the Total Release Inventory (TRI)

e. Performance Testing

i. Initial MACT compliance tests

MACT (Maximum Achievable Control Technologies)	Date of the Test	Tested Emission Units	Date of Submission to Illinois EPA	Illinois EPA Review Results
40 CFR Part 63, Subpart CCCCC	9/21,22, 25/06	#3 EQC Scrubber Car	11/21/06	Acceptable

(Coke Ovens)	9/26,27, 29/06	#4 EQC Scrubber Car	11/21/06	Acceptable
40 CFR Part 63, Subpart FFFFF (Iron and Steel)	7/13 & 7/14/06	Steelmaking – Slag Skimmer Baghouse	8/15 and 10/02/06; 8/23/07	Acceptable
	9/20/06	Blast Furnace Casthouse- Iron Spout Baghouse	11/13/06 and 6/07/07	Acceptable
	9/20/06	Blast Furnace Casthouse - Casthouse Baghouse	11/13/06 and 6/07/07	Acceptable
	10/11,12, 13/06	Steelmaking – LMF #2 Baghouse	12/07/06	Acceptable
	10/31 & 11/02/06	Steelmaking – Reladle/Desulfurisation Baghouse	12/12/06	Acceptable
	11/15 & 11/16/06	Steelmaking – BOF ESP	12/15/06	Acceptable
	12/20/06	Blast Furnace – Iron Spout Baghouse – 1 Fan operation	01/24/07	Acceptable
40 CFR Part 63, Subpart CCC	5/22/02	Pickling Line		Acceptable

ii. Subsequent/Other Tests

MACT (Maximum Achievable Control Technologies)	Date of the Test	Tested Emissions/Parameters Emission Units	Date of Submission to Illinois EPA	Illinois EPA Review Results
40 CFR Part 63, Subpart CCC	5/9-10/07	Pickling Line	6/25/07	Acceptable

VI. PERMIT

a. CAAPP Application / CAAPP Permit

CAAPP application was submitted to the Illinois EPA on 3/6/1996. The draft of the permit was prepared and the public notice was initiated on 10/13/2003. The Illinois EPA did not initiate any further formal actions on this proposed permit due to an inadequate format of the draft and desire to redraft it by addressing more accurately number of newly promulgated MACT standards applicable to this source. The

current draft version is significantly different from the original proposed version and revisions have been made in accordance with current Illinois EPA practices in drafting CAAPP permits.

b. New Source Review / Title I Conditions

This draft permit contains terms and conditions that address the applicability of permit programs for new and modified sources under Title I of the Clean Air Act (CAA) and regulations promulgated thereunder, including 40 CFR 52.21, Prevention of Significant Deterioration (PSD). Any such terms and conditions are identified within the draft permit by T1, T1R, or T1N. Any conditions established in a construction permit pursuant to Title I and not revised or deleted in this draft permit, remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them. Where the source has requested that the Illinois EPA establish new conditions or revise such conditions in a Title I permit, those conditions are consistent with the information provided in the CAAPP application and will remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them. This draft permit does not establish

VII. SUMMARY OF DRAFT CAAPP PERMIT

a. Equipment Listing (other than insignificant)

Department	Description	Emission Control Equipment	Subsection
Coal Handling Operations	Coal Handling, Primary Coal Crusher and Coal Pulverizer	Baghouses	7.1
Coke Production	Coke Oven Batteries "A" and "B"	Venturi Scrubber; Flares	7.2
Coke Oven Gas By-Products Recovery Plant	<i>By-Products:</i>		7.3
	Coke Oven Gas	Flare	
	Tar and Flushing Liquor	None	
	Light Oil	None	
Blast Furnaces	Blast Furnaces "A" and "B"	Casthouse Baghouse; Iron Spout Baghouse; Blast Furnace Flare	7.4
Basic Oxygen Furnaces	BOF #1/#2 and auxiliary equipment	Electrostatic Precipitator; Baghouses	7.5
Continuous Casting	Steel Continuous Casting and Slab Formation	Baghouse #1	7.6

Hot Strip Mill	Slab Reheat Furnaces #1,#2,#3,#4	None	7.7
Finishing Operations	Pickling Line	Fume Scrubber	7.8
	Galvanizing Lines #6, #7 and #8	Fume Scrubber; Catalytic Converter (line #8)	
	Coating Operations	None	
Wastewater Treatment	Wastewater Treatment Plant and By-Products Wastewater Treatment System	None	7.9
Boiler Houses	Boilers #1 to #10 with a heat input of 60 mmBtu/Hr each;	None	7.10
	Boilers #11 & #12 with a heat input of 225 mmBtu/Hr each	None	
Internal Combustion Engines	Engine for the existing #4 Coke Oven Gas (COG) booster pump	Non-Selective Catalytic Reduction (NSCR) system	7.11
	Emergency Generator	None	
Gasoline Storage and Dispensing	Five Gasoline Storage Tanks and associated Dispensing Operations	None	7.12
Fugitive Emissions	Landfill	None	7.13
	Vehicular Traffic on Roadways, Parking Lots and Other Open Areas		
	Truck Unloading		
	Storage Piles loaded on batch or continuous basis; wind erosion		
	Batch material transfer from storage piles		

b. Insignificant Activities Listing

- i. Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

1. Coke Oven Gas By-Products Recovery Plant
Ammonium Sulfate Handling
 2. Continuous Casting
Tanks #543, #544, #545, #555
 3. Finishing Operations
Scale Pits
#6 Zinc Pot (backup)
#7 and #8 Zinc Pots
Storage Tanks ##306-310, #403, #427, #800, #815
- ii. Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:
1. Coke Oven Gas By-Products Recovery Plant
Storage Tanks #116, #117, #118, #120
 2. Blast Furnaces
Torpedo Car Dekishing
 3. Basic Oxygen Furnaces
Lime/Magnesium Handling and Storage Unit
- iii. Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:
1. Coal Handling Operations
Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or

chemically contaminated wood [35 IAC 201.210(a)(4)].

2. Coke Production

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

3. Coke Oven Gas By-Products Recovery Plant

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

4. Blast Furnaces

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

5. Basic Oxygen Furnaces

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

6. Continuous Casting

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less

than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

7. Finishing Operations

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents,

surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

8. Wastewater Treatment

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

9. Boiler Houses

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage

systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Gas turbines and stationary reciprocating internal combustion engines of less than 112 kW (150 horsepower) power output [35 IAC 201.210(a)(15)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

c. Overview of Applicable Regulations

- i. The source is subject to the following federal standards promulgated by USEPA:

40 CFR Part 61/63 Subpart	Name of the standard	Affected Unit	Subsection of this CAAPP
L (61)	Benzene emissions from Coke By-Product Recovery Plants	Coke Gas By-Products Recovery Plant	7.3
FF (61)	Benzene Waste Operations	Coke Gas By-Products Recovery Plant	7.3
V (61)	Equipment Leaks (Fugitive)	Coke Gas By-Products Recovery Plant	7.3
M (61)	Asbestos	Source-wide, related to asbestos demolishing	5.3
L (63)	Coke Oven Batteries	Batteries "A" and "B"	7.2
CCCCC (63)	Coke Ovens: pushing, quenching	Batteries "A" and "B"	7.2
ZZZZ (63)	Reciprocating Internal Combustion Engines	Engines	7.11
FFFFF (63)	Integrated Iron and Steel	Blast Furnaces "A" and "B"	7.4; 7.5

		Two Basic Oxygen Furnaces	
CCC (63)	Steel Pickling-HCL Process	Finishing Department	7.8

ii. Emission units operated at the site are also subject to the requirements of SIP (State Implementation Plan) established in 35 IAC Parts 212, 214, 216 and 219 (details are explained further in the related sections of this document).

d. Permitted Emissions of Regulated Pollutants (State only enforceable condition)

Emission limitations are not set for this source for the purpose of permit fees. The Permittee shall be required to pay the maximum fee (\$250,000), pursuant to Section 39.5(18)(a)(ii)(A) of the Act.

e. Source-Wide Production and Emission Limitations (Condition 5.6.3 of the CAAPP draft)

Two previously issued permits (#95010001 and #94120017) had established source-wide production/emission limits and the limits on the particular fuels being used at the source. Because both permits had been issued for different purposes (#95010001 was associated with production increase at the source (PSD) and #94120017 was attributed to ensure compliance with the National Ambient Air Quality Standard for sulfur dioxide is maintained in the surrounding area), the SO₂ limits in those permits are different. The Illinois EPA feels at this point that both lower and higher limits have to be presented in the CAAPP, unless a streamlining request is presented to the Illinois EPA.

f. Source-Wide Testing Requirements

Applicable methods and procedures are presented in order to calculate annual benzene waste quantity generated at the site as presented in 40 CFR 61.355 (40 CFR Part 61, Subpart FF “National Emission Standards for Hazardous Air Pollutants, National Emission Standard for Benzene Waste Operations”).

g. Source-Wide Monitoring Requirements

The source utilizes coke oven gas (COG) (as produced by the coke oven batteries and processed by by-product recovery plant) as an additional source of fuel for number of the production/fuel combustion emission units operated on the site. COG flow meters are required to operate along with monitoring of H₂S content in the COG used by the source.

h. Permit Streamlining

No source-wide streamlining is established for this source.

i. Compliance Schedule and Current Enforcement Status

By the time of the final draft/proposed CAAPP is ready to go to the public, the Illinois Attorney General Office in cooperation with Illinois EPA and U.S.Steel will present for incorporation into the CAAPP draft appropriate compliance schedule to satisfy the current enforcement case *People of the State of Illinois v. United States Steel Corporation*, Madison County Circuit Court, 05-CH-750.

VIII. PROPOSED ILLINOIS EPA ACTION / REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested by the Illinois EPA for the draft or proposed permit, pursuant to 35 IAC Part 252 and Sections 39.5(8) and (9) of the Illinois Environmental Protection Act. A final decision on the draft or proposed permit will not be made until the public, affected states, and USEPA have had an opportunity to comment. The Illinois EPA is not required to accept recommendations that are not based on applicable requirements. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.

ATTACHMENT 1: Summary of Source-Wide Requirements

- a. The following table indicates the source-wide emissions control programs and planning requirements that are applicable to this source. These programs are addressed in Sections 5 and 6 of the draft permit.

Program/Plan	Applicable
Emissions Reduction Market System (ERMS)	N/A
Nitrogen Oxides (NO _x) Trading Program	N/A
Acid Rain Program	N/A
Fugitive Particulate Matter (PM) Operating Program	Yes
Risk Management Plan (RMP)	Yes
PM ₁₀ Contingency Measure Plan	Yes

- b. The following table indicates source-wide site-specific requirements addressed in Section 5 of the draft permit.

Non-Applicable Rules and Requirements w/justification
<ul style="list-style-type: none"> • The following source-wide state non-applicability rules (with certain exemptions) being established in the proposed permit (See Condition 5.4 for more details): • 35 IAC 312.321 and 312.322 • 35 IAC 212.324 • 35 IAC Part 219 Subpart PP and Subpart TT
Title I Conditions and/or Synthetic Minor Limits
<ul style="list-style-type: none"> • Source-wide Title I limits and conditions are being established and/or carried over from the previously issued permits (See Condition 5.6.3 for more details). • Source-wide synthetic minor conditions not being established.
Control Requirements and Work Practices
<ul style="list-style-type: none"> • Maintenance and Repair and requirements established in 35 IAC 212.324(f) (See Condition 5.5 for more details).
Testing, Monitoring, Recordkeeping, and Reporting
<ul style="list-style-type: none"> • <u>Testing</u>: COG flow meters (See Condition 5.7 for more details)
<ul style="list-style-type: none"> • <u>Monitoring</u>: Testing, recordkeeping and reporting requirements established by Section 5 and appropriate subsections of Section 7 serve the purposes of monitoring of HAP emissions on the source-wide basis. • <u>Monitoring</u>: Annual benzene waste quantity determination at the source is monitored by the methods and procedures of 40 CFR 61.355 and described in Condition 5.7(c). • <u>Monitoring</u>: Concentration of H₂S content in COG (See Condition 5.8).

- Recordkeeping: Records of the source-wide annual HAP emissions shall be kept by the source based on the individual HAP emissions from certain operations and be available to the public.
 - Recordkeeping: Copy of the most current version of the fugitive particulate matter operating plan (See Condition 5.9.3(a)).
 - Recordkeeping: Copy of the most current version of the PM₁₀ contingency plan (See Condition 5.9.3(b)).
 - Recordkeeping: Operating and maintenance records required by 35 IAC 212.316 and 212.324 of the fugitive particulate matter operating plan (See Condition 5.9.3(c) and (d)).
 - Recordkeeping: Records required by the previously issued permit #94120017 (See Condition 5.9.4).
 - Recordkeeping: Records required by 40 CFR 61.356 (Benzene Waste Operations, Subpart FF)(See Condition 5.9.5).
-
- Reporting: Reports required by the previously issued permit #94120017 (See Condition 5.10.3)
 - Reporting: Quarterly reports(See Condition 5.10.4)
 - Reporting: Reports required by 40 CFR 61.357 (Benzene Waste Operations, Subpart FF) (See Condition 5.10.5)
 - Reporting: Reports on malfunctions and breakdowns (See Condition 5.10.6)
 - Reporting: Reports on startups (See Condition 5.10.7)

ATTACHMENT 2: Summary of Requirements for Specific Emission Units

The following tables include information on the requirements that apply to significant emission units at this source. The requirements are found in Section 7 of the draft permit, which is further divided into subsection, i.e., Section 7.1, 7.2, etc., for the different categories of units at the source. A separate table is provided for each subsection in Section 7 of the draft permit. An explanation of acronyms and abbreviations is contained in Section 2 of the draft permit.

Table 1 (Section 7.1 of the draft permit)

Emission Unit	
Name	Coal Handling Operations
Description	See Section III(a) of this document
Date Constructed	Pre-1974
Emission Control Equipment	Baghouse (Coal Pulvirizer)
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.301: No PM visible emissions beyond the property line • 35 IAC 212.316(b): No more than 10% opacity of fugitive PM emissions from crushing and screening operations • 35 IAC 212.316(d): No more than 10% opacity of fugitive PM emissions from storage piles • 35 IAC 212.458(b)(7): Concentration of PM₁₀ emissions is limited to 0.01 gr/scf • IAC 212.322(a): Process weight rule
Streamlining	<ul style="list-style-type: none"> • N/A
Title I Conditions	<ul style="list-style-type: none"> • N/A

Non-applicability	<ul style="list-style-type: none"> • 35 IAC 212.321 and 212.322 are not applied to stock piles • 35 IAC 212.324 are not applicable to the affected coal handling operations. Pursuant to 35 IAC 212.324(c)(3), the affected operations are subject to the emission limitations of 35 IAC Part 212, Subpart R, “Primary and Fabricated Metal Products and Machinery Manufacture” • CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998.
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • PM emissions (concentration in the air stream after control) to be determined in accordance with procedures published in 40 CFR Part 60, Appendix A, Methods 1 through 5. • Opacity emissions to be determined in accordance with procedures published in 40 CFR Part 60, Appendix A, Method 9.
Emissions Monitoring	<ul style="list-style-type: none"> • N/A
Inspections	<ul style="list-style-type: none"> • Monthly inspection of equipment (while in operations) are required • Monthly inspection of equipment (while in out of service) are required
Recordkeeping	<ul style="list-style-type: none"> • Inspection, maintenance and repair log • Most current test data • Calculations and records on emissions being released
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • Exceedance of applicable emission standards to be reported

Table 2 (Section 7.2 of the draft permit)

Emission Unit	
Name	Coke Production
Description	See Section III(b) of this document
Date Constructed	Rebuilt between 1979 and 1982
Emission Control Equipment	Mobile Venturi Scrubber (Coking Process – Pushing); None for the rest of emission units/activities

Applicable Rules and Requirements

Emission Standards and Procedures

- Coke Oven Charging:
 - 35 IAC 212.443(b)(1)(A)
 - 40 CFR 63.304(b)(2) (40 CFR Part 63, Subpart L Coke Oven Batteries: charging, doors, lids, offtakes and bleeder stacks)

- Leaks from Doors:
 - 35 IAC 212.443(d)
 - 40 CFR 63.304(b)(2) and (b)(3)

- Leaks from Lids
 - 35 IAC 212.443(e)
 - 40 CFR 63.304(b)(2)(ii)

- Leaks from Offtakes
 - 35 IAC 212.443(f)
 - 40 CFR 63.304(b)(2)(iii)

- Coke Oven Pushing
 - 35 IAC 212.443(c)(1)(A)
 - 35 IAC 212.443(c)(2)(A)
 - 40 CFR 63.7290(a)(4) (40 CFR Part 63, Subpart CCCCC: pushing, soaking, quenching and battery underfiring stacks)

- Coke Quenching
 - 40 CFR 63.7295(a)
 - 35 IAC 212.443(h)(1)
 - 35 IAC 212.443(h)(2)

- Combustion (Battery) Stack
 - 35 IAC 212.243(g)
 - 40 CFR 63.7296

- Bypass/Bleeder Stack
 - 40 CFR 63.307

- Coke Handling Operations
 - 35 IAC 212.316(b)
 - 35 IAC 212.316(d)

Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> Coal throughput for the battery “B”
Non-applicability	<ul style="list-style-type: none"> 35 IAC 212.324 are not applicable. Pursuant to 35 IAC 212.324(a)(3), the affected operations are subject to the emission limitations of 35 IAC Part 212, Subpart R, “Primary and Fabricated Metal Products and Machinery Manufacture” CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998. Except where noted, 35 IAC 212.321 and 35 IAC 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452 [35 IAC 212.441].
Work Practices	
Coking and Soaking Plans	<ul style="list-style-type: none"> The Permittee shall comply with the work practice standards for fugitive pushing emissions as specified by 40 CFR 63.7291 Pursuant to 40 CFR 63.7294(a), the Permittee shall operate the coke ovens pursuant to a written work practice plan for soaking (soaking plan)
Work Practice Plan	<ul style="list-style-type: none"> Pursuant to 40 CFR 63.306(a), for affected units subject to the NESHAP, 40 CFR 63 Subpart L, the Permittee shall maintain a written emission control work practice plan (work practice plan) for the affected battery designed to achieve compliance with visible emission limitations for doors, topside port lids, offtake systems, and charging operations under 40 CFR Subpart L.
Startup, Shutdown and Malfunctions Plan	<ul style="list-style-type: none"> Pursuant to 40 CFR 63.7310, for affected units subject to 40 CFR 63 Subpart CCCCC: <ul style="list-style-type: none"> The Permittee shall comply with the emission limitations, work practice standards, and operating and maintenance requirements of 40 CFR 63 Subpart CCCCC, at all times except periods of startup, shutdown, and malfunction as defined at 40 CFR 63.2. The Permittee shall develop and implement a written startup, shutdown and malfunction plan according to the provisions in 40 CFR 63.6(e)(3). 40 CFR 63.310: Startup, Shutdown and Malfunction requirements
Operation during Shutdown and Malfunction	<ul style="list-style-type: none"> 35 IAC 201.149, 201.161 and 201.262: Authorization of startup, shutdown and malfunction operations.

Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • 35 IAC 212.443(h)(3): The quench water shall be sampled for total dissolved solids concentrations in accordance with the methods specified in Standard Methods for the Examination of Water and Wastewater, Section 209C, "Total Filtrable Residue Dried at 103-105°C" 15th Edition, 1980, incorporated by reference in 35 IAC 212.113. • 40 CFR 63.7333(f): The Permittee shall sample and analyze quench water for total dissolved solids on at least a weekly basis in accordance with the procedures specified by 40 CFR 63.7325(a). • 40 CFR 63.309(a): daily performance tests shall be conducted by a certified observer each day, 7 days per week for the affected battery. • 40 CFR 63.7321: For each control device subject to an emission limit for particulate matter in 40 CFR 63.7290(a), the Permittee must conduct subsequent performance tests no less frequently than twice (at mid-term and renewal) during each term of the Title V operating permit. • 35 IAC 212.443(c)(1)(B): Opacity readings for pushing uncontrolled emissions shall be taken by a qualified observer located in a position where the oven being pushed, the coke receiving car and the path to the quench tower are visible.
Operating Limits	<ul style="list-style-type: none"> • 40 CFR 63.7323: For a venturi scrubber applied to pushing emissions from a coke oven battery, the Permittee must establish site-specific operating limits for pressure drop and scrubber water flow rate according to the procedures in 40 CFR 63.7323(a)(1) and (2).
Emissions Monitoring	<ul style="list-style-type: none"> • 40 CFR 63.7330(e): For each by-product coke oven battery, the Permittee must monitor at all times the opacity of emissions exiting each stack using a COMS according to the requirements in 40 CFR 63.7331(j)
Operational Monitoring	<ul style="list-style-type: none"> • 40 CFR 63.7330(b) and 63.7330(d): For pushing, the Permittee shall at all times conduct continuous monitoring of each venture scrubber and each capture system. • 40 CFR 63.7331: Installation, operation, and maintenance requirements for a continuous parameter monitoring system (CPMS).

Inspections	<ul style="list-style-type: none"> • 40 CFR 63.308: for the collecting mains, the Permittee shall conduct daily inspections for leaks and promptly repair any leaks as specified by 40 CFR 63.308(a) through (d). • 40 CFR 63.7295(b): for the quench tower, the Permittee shall perform inspections on at least a monthly basis for damaged or missing baffles and initiate repair or replacement within 30 days, which shall be completed as soon as practicable, as specified by 40 CFR 63.7295(b)(3) and (4)
Recordkeeping	<ul style="list-style-type: none"> • 40 CFR 63, Subpart CCCCC (40 CFR 63.7342 and 63.7343): <ul style="list-style-type: none"> • Copy of each notification and report; • Records of performance tests, performance evaluations, and opacity observations; • Monitoring data for each COMS or CEMS • 40 CFR Part 63, Subpart L (40 CFR 63.311(f) and (g)): <ul style="list-style-type: none"> • A copy of the work practice plan; • The design drawings and engineering specifications for the bypass/bleeder stack flare system • Records of the total annual coke production at batteries “A” and “B” (ton/yr) and separately for the battery “B”. • Pursuant to 35 IAC 201.263 and Sections 39.5(7)(a) and (e) of the Act, the Permittee shall maintain records, related to malfunction and breakdown for affected operations • Records of the annual emissions released from the affected coke oven operations.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Emissions of regulated air pollutants from the affected coke oven operations in excess of the limits specified in Condition 7.2.6 shall be reported to the Illinois EPA within 30 days of such deviations.

Other Reporting	<ul style="list-style-type: none"> • 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7341): <ul style="list-style-type: none"> • Quarterly compliance reports for battery stacks and semiannual compliance reports for all other affected sources; • Immediate startup, shutdown, and malfunction report; • Part 70 monitoring report • 40 CFR Part 63, Subpart L (40 CFR 63.311): <ul style="list-style-type: none"> • Semiannual compliance certification; • Report for the venting of coke oven gas other than through a flare system.
Other Information	
Footnotes	N/A

Table 3 (Section 7.3 of the draft permit)

Emission Unit	
Name	Coke Oven Gas By-Products Recovery Plant
Description	See Section III(c) of this document
Date Constructed	Prior to 06/1982; 2004
Emission Control Equipment	Flare (COG holding tank); Vapor Recovery System (Railcar/Truck Loading (light oil)). None for the rest of emission units/activities

Applicable Rules and Requirements	
Emission Standards and Procedures	<ul style="list-style-type: none"> • 35 IAC 212.458(b)(7): PM₁₀ shall not exceed 0.01 gr/scf • 35 IAC 201.149, 201.161 and 201.262: Operation during malfunction and breakdown. • 40 CFR Part 61, Subpart L: <ul style="list-style-type: none"> • 40 CFR 61.132 - Standard: Process vessels, storage tanks, and tar-intercepting sumps • 40 CFR 61.133 - Standard: Light-oil sumps • 40 CFR 61.134 - Standard: Naphthalene processing, final coolers, and final-cooler cooling towers • 40 CFR 61.135 - Standard: Equipment leaks • 40 CFR Part 61, Subpart V: <ul style="list-style-type: none"> • 40 CFR 61.242-10: Standards: Delay of Repair • 40 CFR 61.242-11: Standards: Closed-vent Systems and Control Devices • 40 CFR 61.355(a)(3) through (a)(5) (Subpart FF): calculation of annual onsite generation of benzene waste. • 40 CFR Part 60 Subpart A (40 CFR 60.18(c) through (f)): Flares.
Streamlining	N/A
Title I Conditions	N/A
Non-applicability	<ul style="list-style-type: none"> • 35 IAC 219.120 • 35 IAC 219.121 • CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998.
Periodic Monitoring (other than basic regulatory requirements)	

Testing	<ul style="list-style-type: none"> • 40 CFR 61.245(d): methods for determination whether or not a piece of equipment is in benzene service • 40 CFR 60.18(f): Flare • 40 CFR 61.355(a)(1) and (a)(2): Total annual benzene quantity waste determination
Emissions Monitoring	<ul style="list-style-type: none"> • 40 CFR 63.7330(e): For each by-product coke oven battery, the Permittee must monitor at all times the opacity of emissions exiting each stack using a COMS according to the requirements in 40 CFR 63.7331(j)
Operational Monitoring	<ul style="list-style-type: none"> • 40 CFR 60.18: Flares • 40 CFR Part 61 Subpart FF (40 CFR 61.354): Bypass line
Inspections	<ul style="list-style-type: none"> • Monthly inspections when affected operations are in use; and • Annual inspections of flare while the processes are out of service (Sections 39.5(7)(a) and (d) of the Act)

Recordkeeping	<ul style="list-style-type: none"> • 40 CFR Part 61 Subpart L (40 CFR 61.138): <ul style="list-style-type: none"> • Design specifications of control equipment • The dates of inspections • The presence of a leak • 40 CFR Part 61 Subpart FF (40 CFR 61.356): <ul style="list-style-type: none"> • All test results, measurements, calculations, and other documentation used to determine the information for benzene the waste stream • Record on each visual inspection • Records on the closed vent system and control device • 40 CFR Part 61 Subpart V (40 CFR 61.246): <ul style="list-style-type: none"> • Records and logs of detected leaks • Design specifications of closed-vent systems and control devices • Identification numbers for equipment subject to the requirements of Subpart V • Information on valves and pumps subject to Subpart V • 35 IAC 212.316(g) and 212.324(g) • The raw coke oven gas being received from the coke ovens (scf/mo and acf/yr). • Records on by-products being produced: <ul style="list-style-type: none"> • Clean coke oven gas (scf/mo and scf/yr); • Light oil (gal/mo and gal/yr); and • Tar (ton/mo and ton/yr) • Pursuant to 35 IAC 201.263 and Sections 39.5(7)(a) and (e) of the Act, the Permittee shall maintain records, related to malfunction and breakdown for affected operations • Records of the annual emissions released from the affected coke oven by-products plant operations.
Reporting	

Prompt Reporting	<ul style="list-style-type: none"> Emissions of regulated air pollutants from the affected coke oven operations in excess of the requirements specified in Section 7.3 shall be reported to the Illinois EPA within 30 days of such deviations. See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> 40 CFR 61.138 (Subpart L): <ul style="list-style-type: none"> Semiannual reports; 40 CFR 61.247 (Subpart V): <ul style="list-style-type: none"> Semiannual reports/notifications 40 CFR 61.357(b)(Subpart FF): <ul style="list-style-type: none"> When benzene waste triggers new thresholds (more than 1 t/yr and 10 t/yr)
Other Information	
Footnotes	N/A

Table 4 (Section 7.4 of the draft permit)

Emission Unit	
Name	Blast Furnaces
Description	See Section III(d) of this document
Date Constructed	Before 1972
Emission Control Equipment	Casthouse Baghouse; Iron Spout Baghouse; Blast Furnace Excess Gas Flare
Applicable Rules and Requirements	
Emission Standards and Procedures	<ul style="list-style-type: none"> • 35 IAC 212.445: Uncaptured Emissions (20 percent opacity) and Emissions from Control Equipment (0.023 g/dscm (0.010 gr/dscf)) • 40 CFR 63.7790(a) (Subpart FFFF): <ul style="list-style-type: none"> • Emissions after control: 0.01 gr/dcsf • Secondary uncaptured emissions: 20 percent opacity • 40 CFR 63.7790(b): <ul style="list-style-type: none"> • Capture system applied to blast furnace casthouse shall be operated at or above the lowest value or settings established for the operating limits in the Permittee's operation and maintenance plan
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> • Daily and annual iron production • Captured, uncaptured and fugitive emissions emissions from the blast furnaces and associated operations (from the permits #72080034, #72080036 and #95010001)

Non-applicability	<ul style="list-style-type: none"> • 35 IAC 212.324 are not applicable. Pursuant to 35 IAC 212.324(a)(3), the affected operations are subject to the emission limitations of 35 IAC Part 212, Subpart R, “Primary and Fabricated Metal Products and Machinery Manufacture” • CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998. • Except where noted, 35 IAC 212.321 and 35 IAC 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452 [35 IAC 212.441].
Work Practices	
Operation and Maintenance Plan (OMP)	<ul style="list-style-type: none"> • 40 CFR 63.7800 (Subpart FFFFF): <ul style="list-style-type: none"> • The Permittee shall prepare and operate blast furnaces at all times according to a written operation and maintenance plan for each capture system or control device subject to an operating limit in 40 CFR 63.7790(b) • See Condition 7.4.5-1(b) for detailed description of the OMP
Startup, Shutdown and Malfunctions Plan	<ul style="list-style-type: none"> • Pursuant to 40 CFR 63.7810(c), the Permittee shall develop a written startup, shutdown, and malfunction plan for the affected blast furnace process according to the provisions established in 40 CFR 63(e)(3)
Operation during Startup, Shutdown and Malfunction	<ul style="list-style-type: none"> • 35 IAC 201.149, 201.161 and 201.262: Authorization of operations during startup, shutdown and malfunction.
Other Work Practices	<ul style="list-style-type: none"> • The practices incorporated from the following previously issued permits: #72080034, #72080036 and #85030039 <ul style="list-style-type: none"> • Beaching procedures • Continuous recording system for baghouse pressure drop • Hot metal runners and the short slag runner • Water spraying of the slag • Backdrafting the blast furnaces • Handling materials dug from the beaching pit
Inspections	<ul style="list-style-type: none"> • Specified in condition 7.4.5-1, as part of the requirements required by the O & M Plan
Periodic Monitoring (other than basic regulatory requirements)	

Testing	<ul style="list-style-type: none"> • 40 CFR Part 63 Subpart FFFFFF: In addition to initial performance test, for each emissions unit equipped with a baghouse, the Permittee must conduct subsequent performance tests no less frequently than once during each term of the Title V operating permit • 35 IAC 212.445: <ul style="list-style-type: none"> • Uncaptured emissions (35 IAC 212.245(a)(2)) • Emissions from control equipment (35 IAC 212.245(b))
Operating Limits	<ul style="list-style-type: none"> • The affected blast furnaces shall be operated in accordance with the operating limits described in the operation and maintenance plan, pursuant to 40 CFR 63.7790(b)(1).
Emissions Monitoring; Operational Monitoring	<ul style="list-style-type: none"> • 40 CFR 63.7830: <ul style="list-style-type: none"> • For each capture system subject to an operating limit in 40 CFR 63.7790(b)(1) a CPMS shall be installed and maintained • Inspection of each baghouse • Operation of bag leak detection system • 40 CFR 63.7831: <ul style="list-style-type: none"> • Site-specific monitoring plan for CPMS • Performance evaluation of CPMS

Recordkeeping	<ul style="list-style-type: none"> • 40 CFR 63, Subpart FFFFF (40 CFR 63.7842 and 63.7843): <ul style="list-style-type: none"> • Copy of each notification and report; • Records of performance tests, performance evaluations, and opacity observations; • Records related to startup, shutdown and malfunction • Requirements carried over from permits #72080034, #72080036 and #95010001: <ul style="list-style-type: none"> • Records of excess emissions during malfunctions and breakdowns. • Iron production; • Natural gas usage, blast furnace gas usage, coke oven gas usage; • Recycled oil usage and its analyses; • Intermediate oil usage and its analyses; • Records of startups, malfunction and breakdown • Records of the annual emissions released from the affected blast furnace operations.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Emissions of regulated air pollutants from the affected coke oven operations in excess of the limits specified in Condition 7.4.6 shall be reported to the Illinois EPA within 30 days of such deviations. • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • 40 CFR Part 63, Subpart FFFFF (40 CFR 63.7841): <ul style="list-style-type: none"> • Semiannual compliance reports; • Immediate startup, shutdown, and malfunction report • Part 70 monitoring report/semiannual monitoring report • Deviations report • Reporting on the malfunction and breakdown shall be performed in accordance with Condition 5.10.6. • Reporting on startup shall be performed in accordance with Condition 5.10.7.
Other Information	
Footnotes	N/A

Table 5 (Section 7.5 of the draft permit)

Emission Unit	
Name	Basic Oxygen Furnaces
Description	See Section III(e) of this document
Date Constructed	Prior to 1972; Prior to 1980; Prior to 1983; Prior to 1986
Emission Control Equipment	Different operations associated with Basic Oxygen Furnaces are controlled by the following control device(s): Electrostatic Precipitator, different Baghouses
Applicable Rules and Requirements	
Emission Standards and Procedures	<ul style="list-style-type: none"> • 35 IAC 212.446: Uncaptured Emissions (20 percent opacity) from any opening in the building housing the BOF shop; Hot Metal Transfer, Hot Metal Desulfurization and Ladle Lancing - (69 mg/dscm (0.03 gr/dscf)). • 35 IAC 212.458 (PM₁₀): <ul style="list-style-type: none"> • 32.25 ng/J (0.075 lbs/mmbtu) of heat input from the burning of coke oven gas • 27.24 kg/hr (60 lbs/hr) and 0.1125 kg/Mg (0.225 lbs/T) of total steel in process whichever limit is more stringent • 22.9 mg/scm (0.01 gr/scf) from any process emissions unit located at integrated iron and steel plants in the vicinity of Granite City • 40 CFR 63.7790(a) (Subpart FFFF): <ul style="list-style-type: none"> • Emissions after control (closed hood system): 0.03 gr/dcsf • Emissions after control (opened hood system): 0.02 gr/dcsf • Secondary controlled emissions: 0.01 gr/dcsf • Each hot metal transfer, skimming, and desulfurization operation: 0.01 gr/dscf • Each ladle metallurgy operation: 0.01 gr/dscf • Each roof monitoring: 20 percent opacity • 40 CFR 63.7790(b)(3): <ul style="list-style-type: none"> • Electrostatic precipitator: the hourly average opacity of emissions exiting the control device at or below 10 percent.
Streamlining	N/A

<p>Title I Conditions</p>	<ul style="list-style-type: none"> • Production/emission limits carried over from permit #95010001: • Daily and annual steel production • BOF Shop Emissions (tons/yr total) • BOF ESP Stack (charge, refine, tap) emissions • BOF Roof Monitor emissions • Desulfurization and Reladling (Hot Metal Transfer) emissions • BOF Additive System (i.e., fluxes, with Baghouse, a.k.a., BOF hopper baghouse) emissions • Flux conveyor & transfer pits, bin floor emissions • Hot metal charging ladle slag skimmer emissions • Production/emission limits carried over from permit #83050042: • Emissions of particulate matter from the metallurgical station and the existing argon stirring station
<p>Non-applicability</p>	<ul style="list-style-type: none"> • 35 IAC 212.324 are not applicable. Pursuant to 35 IAC 212.324(a)(3), the affected operations are subject to the emission limitations of 35 IAC Part 212, Subpart R, “Primary and Fabricated Metal Products and Machinery Manufacture” • CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998. • Except where noted, 35 IAC 212.321 and 35 IAC 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452 [35 IAC 212.441].
<p>Work Practices</p>	
<p>Operation and Maintenance Plan (OMP)</p>	<ul style="list-style-type: none"> • 40 CFR 63.7800 (Subpart FFFFF): <ul style="list-style-type: none"> • The Permittee shall prepare and operate basic oxygen furnaces at all times according to a written operation and maintenance plan for each capture system or control device subject to an operating limit in 40 CFR 63.7790(b) • See Condition 7.5.5-1(b) for detailed description of the OMP
<p>Startup, Shutdown and Malfunctions Plan</p>	<ul style="list-style-type: none"> • Pursuant to 40 CFR 63.7810(c), the Permittee shall develop a written startup, shutdown, and malfunction plan for the affected blast furnace process according to the provisions established in 40 CFR 63(e)(3)
<p>Operation during Startup, Shutdown and Malfunction</p>	<ul style="list-style-type: none"> • 35 IAC 201.149, 201.161 and 201.262: Authorization of operations during startup, shutdown and malfunction.

Other Work Practices	<ul style="list-style-type: none"> • The practices incorporated from the following previously issued permits: #72080043, #95010001 and #83050042 <ul style="list-style-type: none"> • Overlapping operations of the BOF vessels • Fume Suppression System • Minimum set points for BOF capture system • Operation of electrostatic precipitator • BOF operating procedures
Inspections	<ul style="list-style-type: none"> • Specified in condition 7.5.5-1, as part of the requirements required by the O & M Plan; See also Conditions 7.5.9 and 7.5.7-1 of the CAAPP
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • 40 CFR Part 63 Subpart FFFFF: In addition to initial performance test, for each emissions unit equipped with a baghouse, the Permittee must conduct subsequent performance tests no less frequently than once during each term of the Title V operating permit
Emissions Monitoring; Operational Monitoring	<ul style="list-style-type: none"> • 40 CFR 63.7830: <ul style="list-style-type: none"> • Inspection of each baghouse • Operation of bag leak detection system • For electrostatic precipitator, the Permittee shall install, operate, and maintain a continuous opacity monitoring system (COMS) according to the requirements in 40 CFR 63.7831(h) and monitor the hourly average opacity of emissions exiting each control device stack • 40 CFR 63.7831: <ul style="list-style-type: none"> • Operation of the bag leak detection system • Permit #95010001: <ul style="list-style-type: none"> • Operation of waste gas suction monitor system that continually measures and records each process (i.e., for each charge, each refine, each tap) of each steel production cycle the static pressure in the main down comer duct of the ESP emissions capture and transport system

Recordkeeping	<ul style="list-style-type: none"> • 40 CFR 63, Subpart FFFFF (40 CFR 63.7842 and 63.7843): <ul style="list-style-type: none"> • Copy of each notification and report; • Records related to the operation of COMS; • Records of performance tests, performance evaluations, and opacity observations; • Records related to startup, shutdown and malfunction • Records carried over from the permits #72080043 and #95010001: <ul style="list-style-type: none"> • Records of excess emissions during malfunctions and breakdowns. • Steel production; • Operating time of the capture systems and performance parameters; • Operating time of the ESP and performance parameters, including voltage and amperage of each transformer/rectifier set, number of sections in use; • All routine and non-routine maintenance performed; • A log of all malfunctions and breakdowns at the basic oxygen furnace (reported quarterly to the Collinsville regional office) • A current copy of the operation and maintenance plan required in 40 CFR 63.7800(b) • The site-specific monitoring plan as required in 40 CFR 63.7830 • Records of the annual emissions released from the affected basic oxygen furnaces.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Emissions of regulated air pollutants from the affected coke oven operations in excess of the limits specified in Condition 7.5.6 shall be reported to the Illinois EPA within 30 days of such deviations. • See also Attachment 3 for Prompt Reporting of Deviations

Other Reporting	<ul style="list-style-type: none"> • 40 CFR Part 63, Subpart FFFFF (40 CFR 63.7841): <ul style="list-style-type: none"> • Semiannual compliance reports; • Immediate startup, shutdown, and malfunction report • Part 70 monitoring report/semiannual monitoring report • Deviations report • A copy of the monthly opacity exceedance report of the BOF ESP shall be sent to the Illinois EPA Regional Office • Reporting on the malfunction and breakdown shall be performed in accordance with Condition 5.10.6. • Reporting on startup shall be performed in accordance with Condition 5.10.7.
Other Information	
Footnotes	See V.b of this document for Compliance Schedule and Current Enforcement Status

Table 6 (Section 7.6 of the draft permit)

Emission Unit	
Name	Continuous Casting
Description	See Section III(f) of this document
Date Constructed	Prior to 1981; Prior to 1986; Prior to 1990
Emission Control Equipment	Baghouses ## 1 and 2 for Material Handling

Applicable Rules and Requirements	
Emission Standards and Procedures	<ul style="list-style-type: none"> • 35 IAC 212.450: Particulate matter emissions from liquid steel charging in continuous casting operations shall be controlled by the Permittee by chemical or mechanical shrouds or methods of comparable effectiveness • 35 IAC 212.458 (PM₁₀): <ul style="list-style-type: none"> • 22.9 mg/scm (0.01 gr/scf) from any process emissions unit located at integrated iron and steel plants in the vicinity of Granite City • 5 percent opacity for continuous caster spray chambers or continuous casting operations
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> • Emission limits carried over from permit #95010001 and applied to the following operations: <ul style="list-style-type: none"> • Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy); • Deslagging Station • Caster Molds – Casting • Casters Spray Chambers • Slab Cut-off • Slab Ripping • Total Emissions from Continuous Casting
Non-applicability	<ul style="list-style-type: none"> • 35 IAC 212.324 are not applicable. Pursuant to 35 IAC 212.324(a)(3), the affected operations are subject to the emission limitations of 35 IAC Part 212, Subpart R, “Primary and Fabricated Metal Products and Machinery Manufacture” • The affected continuous casting operations (all operations after LMF Station) are not subject to 40 CFR Part 63 Subpart FFFFFF Integrated Iron and Steel Production, because continuous casting is not defined as part of BOPF and shop ancillary operations as established in 40 CFR 63.7782(c). • CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998. • Except where noted, 35 IAC 212.321 and 35 IAC 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452 [35 IAC 212.441].
Work Practices	

Operation during Startup, Shutdown and Malfunction	<ul style="list-style-type: none"> • 35 IAC 201.149, 201.161 and 201.262: Authorization of operations during startup, shutdown and malfunction.
Control Requirements and Work Practices	<ul style="list-style-type: none"> • Operating program as described in 35 IAC 212.309 and 212.310 • PM₁₀ Contingency Plan as described in 35 IAC Part 212 Subpart U • Maintenance and repair requirements established in 35 IAC 212.324(f)
Inspections	<ul style="list-style-type: none"> • Monthly inspections of the affected continuous casting operations, while the affected operations are in use • Annual inspection of control devices, while the the operations are idled
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Particulate matter emissions subject to the concentration limit established in Condition 7.6.3-1(b)(i) (35 IAC 212.458) shall be determined in accordance with procedures published in 40 CFR Part 60, Appendix A, Methods 1 through 5.
Emissions Monitoring; Operational Monitoring	<ul style="list-style-type: none"> • N/A
Recordkeeping	<ul style="list-style-type: none"> • Steel production (casting); • Log of maintenance activities; • Log of inspection records; • A log of all malfunctions and breakdowns of continuous casting; • Records for all test measurements and opacity readings; and • Records of the annual emissions released from the affected blast furnace operations.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Emissions of regulated air pollutants from the affected coke oven operations in excess of the limits specified in Condition 7.5.6 shall be reported to the Illinois EPA within 30 days of such deviations. • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • Deviations report • Reporting on the malfunction and breakdown shall be performed in accordance with Condition 5.10.6.

Other Information	
Footnotes	N/A

Table 7 (Section 7.7 of the draft permit)

Emission Unit	
Name	Slab Reheat Furnaces
Description	See Section III(g) of this document
Date Constructed	Prior to 1972; Prior to 1977
Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards and Procedures	<ul style="list-style-type: none"> • 35 IAC 214.162: Emission limits of sulfur dioxide into the atmosphere in any one hour period from any fuel combustion emission source burning simultaneously any combination of solid, liquid and gaseous fuels • 35 IAC 212.458 (PM₁₀): <ul style="list-style-type: none"> • 38.7 ng/J (0.09 lbs/mmbtu) of heat input from the slab furnaces at steel plants in the vicinity of Granite City, as defined in 35 IAC 212.324(a)(1)(C)
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> • Production/Operating limits carried over from permit #72080038 reflect the following: <ul style="list-style-type: none"> • Hourly production rate Iton/hr) • Coke oven gas (COG) heat input • The residual oil heat input • Sulfur content in oil #6

Non-applicability	<ul style="list-style-type: none"> • 35 IAC 212.324 are not applicable. Pursuant to 35 IAC 212.324(a)(3), the affected operations are subject to the emission limitations of 35 IAC Part 212, Subpart R, “Primary and Fabricated Metal Products and Machinery Manufacture” • The affected continuous casting operations (all operations after LMF Station) are not subject to 40 CFR Part 63 Subpart FFFFF Integrated Iron and Steel Production, because continuous casting is not defined as part of BOPF and shop ancillary operations as established in 40 CFR 63.7782(c). • CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998. • Pursuant to 35 IAC 214.423, notwithstanding 35 IAC 214.304, the affected slab reheat furnaces in the St. Louis (Illinois) major metropolitan area with fuel burning capacities in excess of 650 mmbtu/hr and burning any residual fuel shall not be subject to the applicable 35 IAC Part 214, Subpart B through F (including 35 IAC 214.162) so long as the total sulfur dioxide emissions resulting from the burning of residual fuel oil in all such furnaces at any one steel mill do not exceed 730 lbs/hr.
Work Practices	
Operation during Startup	<ul style="list-style-type: none"> • 35 IAC 201.149, 201.161 and 201.262: Authorization of operations during startup.
Control Requirements and Work Practices	<ul style="list-style-type: none"> • Maintenance and repair requirements established in 35 IAC 212.324(f)
Inspections	<ul style="list-style-type: none"> • N/A
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Particulate matter emissions subject to the concentration limit established in Condition 7.7.3-1(b)(i) (35 IAC 212.458) shall be determined in accordance with procedures published in 40 CFR Part 60, Appendix A, Methods 1 through 5.
Emissions Monitoring; Operational Monitoring	<ul style="list-style-type: none"> • Monitoring the composition of fuels used on the affected slab reheat furnaces

Recordkeeping	<ul style="list-style-type: none"> • Slabs processed (tons); • Log of maintenance activities; • Log of type of fuels used; • Analyses of fuel (sulfur %, H₂S concentration) • A log of all startups; • Records for all tests performed; and • Records of the annual emissions released from the affected operations.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Emissions of regulated air pollutants from the affected operations in excess of the limits specified in Conditions 7.7.3-1 and 7.7.7 shall be reported to the Illinois EPA within 30 days of such deviations. • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • Reporting on startup shall be performed in accordance with Condition 5.10.7
Other Information	
Footnotes	N/A

Table 8 (Section 7.8 of the draft permit)

Emission Unit	
Name	Finishing Operations
Description	See Section III(h) of this document
Date Constructed	Prior to 1973; Galvanized Line #8 was constructed in 1995

Emission Control Equipment	Fume Scrubbers; NOx catalytical converter on #8
Applicable Rules and Requirements	
Emission Standards and Procedures	<ul style="list-style-type: none"> • 35 IAC 212.321/322: Process Weight Rate • 35 IAC 212.458(b)(7)(PM₁₀): <ul style="list-style-type: none"> • 22.9 mg/scm (0.01 gr/scf) from any process emissions unit located at integrated iron and steel plants in the vicinity of Granite City • 35 IAC 219.204 (d): VOM emission limit for coil coating • 40 CFR 63.1157(a)(40 CFR 63, Subpart CCC): HCL < 18 parts per million by volume (ppmv); or 97 percent collection efficiency
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> • Production/emission limits for galvanized line #8 carried over from permit #95010001
Non-applicability	<ul style="list-style-type: none"> • 35 IAC 212.324 are not applicable. Pursuant to 35 IAC 212.324(a)(3), the affected operations are subject to the emission limitations of 35 IAC Part 212, Subpart R, “Primary and Fabricated Metal Products and Machinery Manufacture” • 40 CFR 63 Subpart SSSS “National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil”: applied coatings (oils) are not considered coatings under SSSS. • 40 CFR 63 Subpart MMMM “National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products”: applied coatings (oils) are not considered coatings under MMMM. • CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998.
Work Practices	

Operation and Maintenance Requirements	<ul style="list-style-type: none"> Establishment of scrubber operating parameters [40 CFR 63.1161(b)]. During the performance test for each emission control device, the owner or operator using a wet scrubber to achieve compliance shall establish site-specific operating parameter values for the minimum scrubber makeup water flow rate and, for scrubbers that operate with recirculation, the minimum recirculation water flow rate. 40 CFR 63.1160(b): Maintenance requirements as part of the operating and maintenance plan
Startup, Shutdown and Malfunctions Plan	<ul style="list-style-type: none"> Pursuant to 40 CFR 63.7810(c), the Permittee shall develop a written startup, shutdown, and malfunction plan for the affected blast furnace process according to the provisions established in 40 CFR 63(e)(3)
Operation during Startup, Shutdown and Malfunction	<ul style="list-style-type: none"> 35 IAC 201.149, 201.161 and 201.262: Authorization of operations during startup, shutdown and malfunction.
Other Work Practices	<ul style="list-style-type: none"> 40 CFR 63.1159(b): loading and unloading of hydrochloric acid storage vessels. The affected finishing operations are subject to the maintenance and repair requirements established in 35 IAC 212.324(f)
Inspections	<ul style="list-style-type: none"> 40 CFR 63.1160(b): Operating and Maintenance Plan requires an inspection of each scrubber at intervals of no less than 3 months 40 CFR 63.1162(c): Semiannual inspections of an HCL storage vessel
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> 35 IAC 63.1161(d) (Subpart CCC): Methods and procedures for verifying compliance with 40 CFR 63.1157(a) Performance tests to measure the HCl mass flows at the control device inlet and outlet or the concentration of HCl exiting the control shall be conducted by the Permittee annually or under alternative schedule approved by the permitting authority.
Emissions Monitoring; Operational Monitoring	<ul style="list-style-type: none"> 40 CFR 63.1162: Systems for the measurement and recording of the scrubber makeup water flow rate

Recordkeeping	<ul style="list-style-type: none"> • 40 CFR 63.1165 (HCL pickling line): <ul style="list-style-type: none"> • General records required by 40 CFR 63.10(b)(2) • Scrubber makeup water flow rate and recirculation water flow rate • Calibration and manufacturer certification that monitoring devices are accurate to within 5 percent • Each maintenance inspection and repair, replacement • Galvanizing Line #8: production, emission and operating records; • Natural gas usage; • Coating usage and VOM content related records; • Test results required by Subpart CCC and other testing requirements established by Section 7.8; and • Records of the annual emissions released from the affected operations.
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Emissions of regulated air pollutants from the affected finishing operations in excess of the limits specified in Section 7.8 shall be reported to the Illinois EPA within 30 days of such deviations. • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • 40 CFR Part 63, Subpart CCC (40 CFR 63.1164): <ul style="list-style-type: none"> • Reporting results of performance tests; • Progress reports • Immediate and periodic startup, shutdown, and malfunction reports • Part 70 monitoring report/semiannual monitoring report • Reporting on the malfunction and breakdown shall be performed in accordance with Condition 5.10.6. • Reporting on startup shall be performed in accordance with Condition 5.10.7.
Other Information	
Footnotes	N/A

Table 9 (Section 7.9 of the draft permit)

Emission Unit	
Name	Wastewater Treatment
Description	See Section III(i) of this document
Date Constructed	N/A
Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards and Procedures	<ul style="list-style-type: none"> • 35 IAC 219.301: 8 lbs/hr of VOM • 40 CFR Part 61, Subpart FF, National Emission Standards for Benzene Waste Operations
Streamlining	<ul style="list-style-type: none"> • N/A
Title I Conditions	<ul style="list-style-type: none"> • N/A
Non-applicability	<ul style="list-style-type: none"> • Control requirements of Subpart FF in general and 40 CFR 61.344 or 40 CFR 61.343 in particular: the amount of benzene generated on site from the by-products operations is less than 10 Mg/yr (11 ton/yr) • 40 CFR Part 63, Subpart QQ, National Emission Standards for Surface Impoundments: Applicable Subpart FF does not provide any reference to Subpart QQ • CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998.
Work Practices	
Operation and Maintenance Requirements	<ul style="list-style-type: none"> • N/A

Other Work Practices	<ul style="list-style-type: none"> • N/A
Inspections	<ul style="list-style-type: none"> • N/A
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • See Condition 5.7(c) for the test/measurement procedures required by 40 CFR 61.355
Emissions Monitoring; Operational Monitoring	<ul style="list-style-type: none"> • N/A
Recordkeeping	<ul style="list-style-type: none"> • See Condition 5.9.5 for the records required by 40 CFR 61.356 (Subpart FF, Benzene Waste Operations) • Annual emissions from the wastewater treatment
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Emissions of regulated air pollutants from the affected finishing operations in excess of the limits specified in Section 7.9 shall be reported to the Illinois EPA within 30 days of such deviations. • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • See Condition 5.10.5 for the reports required by 40 CFR 61.357 (Subpart FF, Benzene Waste Operations)
Other Information	
Footnotes	N/A

Table 10 (Section 7.10 of the draft permit)

Emission Unit	
Name	Boilers
Description	See Section III(j) of this document
Date Constructed	Prior to 1973

Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards and Procedures	<ul style="list-style-type: none"> • 35 IAC 212.206: 0.15 kg of particulate matter per MW-hr of actual heat input from any fuel combustion emission unit using liquid fuel exclusively (0.10 lbs/mmBtu) • 35 IAC 212.458(b)(9): PM emissions - 32.25ng/J (0.075 lbs/mmbtu) of heat input from the burning of coke oven gas at all emission units • 35 IAC 212.458(b)(22): PM emissions - 2.15 ng/J (0.005 lb/mmbtu) of heat input from the steel works boilers • 35 IAC 212.207: while simultaneously burning more than one type of fuel in a fuel combustion emission unit in excess of the equation presented in Condition 7.10.3(d) • 35 IAC 214.421: allowable emissions of SO₂ in excess of the equation presented in Condition 7.10.3(e) • 35 IAC 216.121: CO emissions, 200 ppm
Streamlining	<ul style="list-style-type: none"> • N/A
Title I Conditions	<ul style="list-style-type: none"> • Limits on the total oil usage for the affected boilers
Non-applicability	<ul style="list-style-type: none"> • 35 IAC 212.324: subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture • 35 IAC Part 217 Subpart U: heat input capacity is less than 250 mmBtu/hr • CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998.
Work Practices	
Operation and Maintenance Requirements	<ul style="list-style-type: none"> • Operation during startup, malfunction and breakdown
Other Work Practices	<ul style="list-style-type: none"> • N/A
Inspections	<ul style="list-style-type: none"> • N/A
Periodic Monitoring (other than basic regulatory requirements)	

Testing	<ul style="list-style-type: none"> The weight percent sulfur content and density of the fuel oil (stored in tanks 101, 102 and 5) shall be determined by the Permittee by testing a representative sample of the oil
Emissions Monitoring; Operational Monitoring	<ul style="list-style-type: none"> N/A
Recordkeeping	<ul style="list-style-type: none"> The types of fuel used The amount of each fuel being combusted Analyses of recycled oil Records on each startup, malfunction and breakdown Test records Annual emissions
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> Production limits, emissions of regulated air pollutants from the affected boilers in excess of the limits specified in Section 7.10 shall be reported to the Illinois EPA within 30 days of such deviations. See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> Reports on startup, shutdown and malfunction
Other Information	
Footnotes	N/A

Table 11 (Section 7.11 of the draft permit)

Emission Unit	
Name	Internal Combustion Engines
Description	See Section III(k) of this document
Date Constructed	2001
Emission Control Equipment	Non-Selective Catalytic Reduction (NSCR) system (for COG buster pump)
Applicable Rules and Requirements	
Emission Standards and Procedures	<ul style="list-style-type: none"> • 35 IAC 218.301: 8 lbs/hr • 35 IAC 212.324(a)(1)(C): 22.9 mg/scm (0.01 gr/scf) of PM₁₀ • 40 CFR Part 63 Subpart ZZZZ “National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines”: <ul style="list-style-type: none"> • Formaldehyde emissions shall be reduced by 76% or more; or • The concentration of formaldehyde in the stationary internal combustion engine exhaust shall be limited to 350 ppbvd (concentration, parts per billion) or less
Streamlining	<ul style="list-style-type: none"> • N/A
Title I Conditions	<ul style="list-style-type: none"> • The following emission/production limits are carried over from Permit 00060003: <ul style="list-style-type: none"> • Operation of emergency generator is limited to 500 hr/yr; • Hourly and annual emissions of regulated air pollutants for emergency generator

Non-applicability	<ul style="list-style-type: none"> • CAM Rules (40 CFR Part 64) are not applicable to any unit/operation at this source due to the fact that initial CAAPP application was submitted prior to April 1998.
Work Practices	
Other Work Practices	<ul style="list-style-type: none"> • 40 CFR 63.6600(a) and Table 1b of Subpart ZZZZ: The catalyst shall be maintained so that the pressure drop across the catalyst does not change by more than two inches of water at 100 percent load plus or minus percent from the pressure drop across the catalyst measured during the initial performance test • The temperature of the engine's exhaust shall be maintained so that the catalyst inlet temperature is greater than or equal to 750⁰ F and less than or equal to 1250⁰ F
Inspections	<ul style="list-style-type: none"> • N/A
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • After the initial performance test is conducted, the Permittee shall conduct subsequent semiannual (or annual) performance test on the affected engines, as required by 40 CFR 63.6615(a) and Table 3 of Subpart ZZZZ
Emissions Monitoring; Operational Monitoring	<ul style="list-style-type: none"> • 40 CFR 63.6625(a) or (b): <ul style="list-style-type: none"> • The Permittee shall install, operate, and maintain a CEMS to monitor CO and either oxygen or CO₂ at both the inlet and the outlet of the control device; or • The Permittee shall install a continuous parameter monitoring system (CPMS) as specified in Table 5 of Subpart ZZZZ, the Permittee shall install, operate, and maintain each CPMS according to the requirements in 40 CFR 63.8.
Recordkeeping	<ul style="list-style-type: none"> • The types of fuel used • The amount of each fuel being consumed • Records required by 40 CFR 63.6655 • Annual emissions
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Production limits, emissions of regulated air pollutants from the affected engines in excess of the limits specified in Conditions 7.11.3 and 7.11.7 shall be reported to the Illinois EPA within 30 days of such deviations. • Reports required by 40 CFR 63.6650 • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • N/A

Other Information	
Footnotes	N/A

Table 12 (Section 7.12 of the draft permit)

Emission Unit	
Name	Gasoline Storage and Dispensing
Description	Gasoline storage and dispensing is used for servicing the facility's fleet.
Date Constructed	N/A
Emission Control Equipment	None

Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 219.122(b): Tank should be equipped with a submerged loading pipe during loading operations • 35 IAC 219.301: 8 lbs/hr of VOM emissions • 35 IAC 219.583(a)(1): Tank should be equipped with a submerged loading pipe during the gasoline transfer operations from a delivery vessel
Streamlining	N/A
Title I Conditions	N/A
Non-applicability	<ul style="list-style-type: none"> • Compliance Assurance Monitoring (CAM), 40 CFR Part 64: add-on control device is not used to achieve compliance with an emission limitation or standard • 35 IAC 219.121, 219.122(a): less than 40,000 gallons • 40 CFR 60 Subpart Kb: the tank is less than 40 cubic meters (10,576 meters)
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Gasoline samples should be taken and the gasoline vapor pressure measured
Emissions Monitoring	<ul style="list-style-type: none"> • No direct emission monitoring is required. However, appropriate testing, recordkeeping and procedure on how to calculate emissions serve this need
Operational Monitoring	<ul style="list-style-type: none"> • N/A
Recordkeeping	<ul style="list-style-type: none"> • Gasoline throughput • Testing data • VOM emission calculations
Other	N/A
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Deviations from Conditions 7.12.3 and 7.12.5 within 30 days • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	N/A
Other Information	
Footnotes	

Table 13 (Section 7.13 of the draft permit)

Emission Unit	
Name	Fugitive Emissions
Description	
Date Constructed	N/A
Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.301: • 35 IAC 212.306: • 35 IAC 212.316: • 35 IAC 212.700: • 35 IAC 212.304 through 212.310 and 212.312:
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> • Permit #95010001: limit on the PM fugitive emissions from the roadways
Non-applicability	<ul style="list-style-type: none"> • 35 IAC Part 220: Not a municipal waste landfill
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Opacity readings taken in accordance with the observation procedures set out in 40 CFR Part 60, Appendix A, Method 9
Emissions Monitoring	<ul style="list-style-type: none"> • No direct emission monitoring is required.
Operational Monitoring	<ul style="list-style-type: none"> • No direct operational monitoring is required.
Inspections	N/A
Recordkeeping	<ul style="list-style-type: none"> • 35 IAC 212.316(g): records of the application of control measures • Most current versions of the PM₁₀ contingency plan and the fugitive dust control program.
Other	

Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Excess of the limits specified in Conditions 7.13.3 and 7.13.6 • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • 35 IAC 212.316(g)(5): Quarterly reports

ATTACHMENT 3: Prompt Reporting of Deviations

Prompt reporting of deviations is critical in order to have timely notice of deviations and the opportunity to respond, if necessary. The effectiveness of the permit depends upon, among other important elements, timely and accurate reporting. The Illinois EPA, USEPA and the public rely on timely and accurate reports submitted by the permittee to measure compliance and to direct investigation and follow-up activities. Prompt reporting is evidence of a permittee’s good faith in disclosing deviations and describing the steps taken to return to compliance and prevent similar incidents.

Any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in this CAAPP permit is a deviation subject to prompt reporting. Additionally, any failure to comply with any permit term or condition is a deviation of that permit term or condition and must be reported to the Illinois EPA as a permit deviation. The deviation may or may not be a violation of an emission limitation or standard. A permit deviation can exist even though other indicators of compliance suggest that no emissions violation or exceedance has occurred. Reporting permit deviations does not necessarily result in enforcement action. The Illinois EPA has the discretion to take enforcement action for permit deviations that may or may not constitute an emission limitation or standard or the like, as necessary and appropriate.

Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(B), requires prompt reporting of deviations from the permit requirements. The permitting authority (in this case, Illinois EPA) has the discretion to define “prompt” in relation to the degree and type of deviation likely to occur. Furthermore, Section 39.5(7)(f)(i) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(A) requires that monitoring reports must be submitted at least every 6 months. Therefore, USEPA generally considers anything less than 6 months to be “prompt” as long as the selected time frame is justified appropriately (60 Fed. Reg. 36083, 36086 (July 13, 1995)).

The USEPA has stated that, for purposes of administrative efficiency and clarity, it is acceptable to define prompt in each individual permit. *Id.* The Illinois EPA has elected to follow this approach and defines prompt reporting on a permit by permit basis. In instances where the underlying applicable requirement contains “prompt” reporting, this frequency or a shorter frequency of

reporting is the required timeframe used in this permit. Where the underlying applicable requirement fails to explicitly set forth the timeframe for reporting deviations, the Illinois EPA has developed a structured manner to determine the reporting approach used in this permit.

The Illinois EPA generally uses a time frame of 30 days to define prompt reporting of most deviations. Also, for certain permit conditions in individual permits, the Illinois EPA may require an alternate timeframe that is less than 30 days if the permit requirement justifies a shorter reporting time period. Under certain circumstances, EPA may establish a deviation reporting period longer than 30 days, but, in no event exceeding 6 months. Where it has established a deviation reporting period other than 30 days in an individual permit (specifically Section 7.x.10), the Illinois EPA has explained the reason for the alternative timeframe. (See Attachment 2 of this Project Summary.)

The timing for certain deviation reporting may be different when a source or emission unit at a source warrants reporting to address operation, independent of the occurrence of any deviations. This is the case for a source that is required to perform continuous monitoring for the emission unit, for which quarterly or semi-annual “monitoring” reports are appropriate. Where appropriate, reporting of deviations has generally been combined in, or coordinated with these quarterly or semi-annual reports, so that the overall performance of the plant can be reviewed in a comprehensive fashion. This will allow a more effective and efficient review of the overall performance of the source by the Illinois EPA and other interested parties, as well as by the source itself.

At the same time, there are certain deviations for which quicker reporting is appropriate. These are deviations for which individual attention or concern may be warranted by the Illinois EPA, USEPA, and other interested parties. Under this scenario, emphasis has been placed primarily on deviations that could represent substantial violations of applicable emission standards or lapses in control measures at the source. For these purposes, depending on the deviation, immediate notification may be required and preceded by a follow-up report submitted within 15 days, during which time the source may further assess the deviation and prepare its detailed plan of corrective action.

In determining the timeframe for prompt reporting, the Illinois EPA assesses a variety of criteria such as:

- historical ability to remain in continued compliance,
- level of public interest in a specific pollutant and/or source,
- seriousness of the deviation and potential to cause harm,
- importance of applicable requirement to achieving environmental goals,
- designation of the area (i.e., non-attainment or attainment),
- consistency among industry type and category,
- frequency of required continuous monitoring reports (i.e., quarterly),
- type of monitoring (inspection, emissions, operational, etc.), and
- air pollution control device type and operation

These prompt reporting decisions reflect the Illinois EPA's consideration of the possible nature of deviations by different emission units and the responses that might be required or taken for those different types of deviations. As a consequence, the conditions for different emission units may identify types of deviations which include but are not limited to: 1) Immediate (or very quick) notification; 2) Notification within 30 days as the standard; or 3) Notification with regular quarterly or semi-annual monitoring reports.

The Illinois EPA's decision to use the above stated prompt reporting approach for deviations as it pertains to establishing a shorter timeframe in certain circumstances reflects the criteria discussed as well as USEPA guidance on the topic.

- 40 CFR 71.6(a)(3)(iii)(B) specifies that certain potentially serious deviations must be reported within 24 or 48 hours, but provides for semi-annual reporting of other deviations. (Serious or severe consequences)
- FR Vol. 60, No. 134, July 13, 1995, pg. 36086 states that prompt should generally be defined as requiring reporting within two to ten days of the deviation, but longer time periods may be acceptable for a source with a low level of excess emissions. (intermediate consequences)
- Policy Statement typically referred to as the "Audit Policy" published by the USEPA defines prompt disclosure to be within 21 days of discovery. (Standard for most "pollutant limiting" related conditions)
- Responses to various States by USEPA regarding other States' definition of prompt.

As a result, the Illinois EPA's approach to prompt reporting for deviations as discussed herein is consistent with the requirements of 39.5(7)(f)(ii) of the Act as well as 40 CFR part 70 and the CAA. This reporting arrangement is designed so that the source will appropriately notify the Illinois EPA of those events that might warrant individual attention. The timing for these event-specific notifications is necessary and appropriate as it gives the source enough time to conduct a thorough investigation into the causes of an event, collecting any necessary data, and to develop preventative measures, to reduce the likelihood of similar events, all of which must be addressed in the notification for the deviation.

ATTACHMENT 4: Periodic Monitoring Discussion

The Illinois EPA must evaluate whether sufficient monitoring is contained in each source's CAAPP permit to assure compliance with regulations developed to meet Clean Air Act requirements. Under the CAAPP permit program, periodic monitoring is required for each emission point at a source subject to Clean Air Act requirements. No emission points are categorically exempt from this requirement.

Significant benefits of title V include compliance assurance and public access to data. Periodic monitoring provides data sources can use to promptly identify and correct compliance problems and to certify compliance. This data is also reported to the Illinois EPA and available to the USEPA and to the public. Periodic monitoring provides information and compliance tools to the public that may not otherwise always be available under state law.

EPA has not mandated specific monitoring or protocols for developing monitoring to meet the above requirements. Periodic monitoring determinations are therefore made on a case-by-case basis. Because of the case-by-case nature of periodic monitoring determinations, it is important that the determinations are made consistent with Section 39.5 of the Act.

What is Periodic Monitoring?

In addition to gathering all requirements that apply to a source into one document, the CAAPP permit is meant to enable the public, US EPA, and the Illinois EPA to know whether the source can comply with those requirements. To achieve that goal, every CAAPP permit must include adequate "periodic monitoring." What this means is that the CAAPP permit must require the source to perform monitoring, recordkeeping and reporting so that it can assure the Illinois EPA, USEPA and the public that it is complying with its CAAPP permit or that it is identifying, reporting and addressing non-compliance. Ensuring that a CAAPP permit includes adequate periodic monitoring is the most important aspect of permit development.

Monitoring is a broad term that describes a source's ongoing activities to determine how it is operating in relation to its emission limitations and standards. Monitoring provisions must be set forth in the permit. The monitoring must be done at the source's initiative and a requirement to prepare or maintain a "monitoring plan" is not enough. Inspections by the Illinois EPA are also not

sufficient.

The most obvious type of pollution monitoring is the direct measurement of smokestack emissions. Sometimes, a source is equipped with continuous emissions monitoring systems (CEMS) or continuous opacity monitoring systems (COMS). As their name implies, these systems are designed to directly measure smokestack emissions on a continuous basis. While continuous monitoring is one of the best ways to assure sources are in compliance with an emission limitation, installation of CEMS and COMS may be technically or economically infeasible compared to frequent manual monitoring. If a source has CEMS and COMS, these systems are identified in the sources CAAPP permit. If a source lacks CEMS and COMS, the source may be required to install these systems. However, the Illinois EPA may decide that some other type of monitoring is sufficient to assure the sources compliance with applicable requirements.

Periodic monitoring must be included with all types of permit conditions, not just those that directly limit pollution levels. For example, a CAAPP permit is likely to include conditions that require equipment maintenance and work practices. For these types of conditions, recordkeeping, and inspections is usually necessary to satisfy the periodic monitoring requirement. Monitoring includes activities such as:

- Continuous Emission Monitoring Systems (CEMS)
- Continuous Opacity Monitoring Systems (COMS)
- Parametric Emissions Monitoring (PEMS)
- Parametric Monitoring (continuous or at specified intervals)
- Periodic Source Testing
- Readings/Inspections
- Recordkeeping

Periodic Monitoring, a term used in 39.5(7)(d)(ii) of the Act, describes the combination of monitoring required by the applicable requirements and monitoring created in the CAAPP permit as necessary to meet the CAA requirement that the permit that assure compliance with the applicable requirements. Periodic monitoring is required because some applicable requirements do not contain adequate provisions for determining whether a source is in compliance with its emissions limitations or how this is to be accomplished.

In addition to the requirement for periodic monitoring, permits must contain “conditions as are necessary to assure compliance.” This requirement is reflected in 39.5(7)(d)(ii) of the Act, which requires “monitoring sufficient to yield reliable data from the relevant time period that are representative of the sources compliance” and 39.5(7)(a) of the Act, which requires all CAAPP permits to contain “testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit.”

If the permit contains good periodic monitoring, the source can most certainly be held accountable if it violates applicable air quality requirements. Without adequate periodic monitoring, it may be

more difficult for the Illinois EPA, USEPA and a member of the public to determine whether a source is violating an air quality requirement. Also, good periodic monitoring will provide the source with information necessary to identify and minimize compliance problems and assist the source with the annual certification of compliance.

When is Periodic Monitoring Presumed in a Rule?

Sometimes, the underlying statute or regulation explicitly requires a source to perform a particular kind of monitoring. Any monitoring that is specifically required by statute or regulation must be included in the CAAPP permit. However, many air quality statutes and regulations do not identify a monitoring method. And, even when a monitoring method is specified, there is often no indication of how often the monitoring must be performed. Many statutes and regulations require a source to perform an initial test to demonstrate compliance, but never require any additional monitoring.

Periodic monitoring is not required unless the applicable requirement “requires no periodic testing, specifies no frequency, or requires only a one-time test.” If the underlying State or federal standard requires a source to perform a specific type of testing or monitoring from time to time (yearly, monthly, weekly, daily, hourly), then this satisfies the periodic monitoring requirement of 40 CFR 70.6(a)(3)(i)(B). If an underlying requirement (1) has no periodic testing or monitoring, (2) does not mention how frequently testing or monitoring should be done, or (3) requires just a one-time test, then periodic monitoring is added to the CAAPP permit. The basic types of scenarios that are presumed to already contain sufficient monitoring requirements are those such as:

- NSPS and NESHAP promulgated after November 15, 1990
- When the Pollutant Specific Emission Unit is subject to a CAM Plan
- Federal or SIP standards specifying a continuous compliance determination method
- Acid Rain/CAIR/CAMR rules

What is the Process for Evaluating Periodic Monitoring?

In evaluating periodic monitoring, Illinois EPA determines whether a source’s applicable requirements already contain adequate monitoring, and, if not, identifies additional necessary monitoring after consideration of certain factors. Review each applicable requirement emission limit or standard to determine what monitoring, recordkeeping and reporting (MRR) is associated with the emission limit. Note that periodic monitoring is only required if there is an applicable emission limit or standard. The term emission limit includes mass, rate and concentration limits, technology requirements, percent reduction requirements, work practice standards, process or control device parameters, and design, operational, or maintenance requirements. Determine whether the monitoring yields reliable data from the relevant time period that are representative of the source’s compliance, and will assure compliance with the emissions limit or standard. Even if the MRR is not presumptively acceptable, it may still be acceptable. If the monitoring is not adequate to assure compliance, monitoring must be added to the permit. There are often various monitoring options that would satisfy the periodic monitoring requirement.

The frequency and averaging period of the emission limit of the monitoring must be made clear (periodic = e.g., hourly, daily, annual, etc.). When the emission limit has no time element (e.g., 0.5 grains/dscf), the relevant time period is the time needed to conduct an emission test. The relevant time period can be instantaneous as well (e.g., no holes or cracks in a lid for any amount of time). The data collected should provide for a reasonable assessment of the sources compliance status with permit emission limits.

Factors Considered in Evaluating Periodic Monitoring

- Likelihood of violating an applicable requirement. (Margin of compliance with the applicable requirement)
- Presence of add-on controls to comply with underlying rules. (If controls are required, consider whether the controls will assure compliance with the emission limit. If so, the best option may be to monitor the control equipment for proper operation instead of or in addition to the process.)
- Variability of emission level over time. (Consider how close a unit's emissions are to the emission limits during normal and anticipated upset operations.)
- Consider how emissions may vary. (Emissions may vary day to day under normal operation, e.g., as a turbine or engine increases or decreases load emissions change. Emissions may vary slowly over time, e.g., SCR catalyst may degrade over time. Emissions may vary quickly due to malfunction, e.g., a baghouse bag may break.)
- Monitoring data already available. (The source often maintains monitoring, process, maintenance, or control equipment data of emission units even if not required under an applicable requirement. Consider whether these activities would assure compliance; if so, they may be the best fit monitoring option for that source.)
- Technical and economic feasibility
- Monitoring done for similar emission Units/Emissions. (Existing CAAPP and construction permits, Federal, State and Local rules, CAM Guidelines Document)
- Will the monitoring method yield reliable data with respect to the emission limit?
- Will the monitoring method provide data that can be related to the relevant time period over which compliance with the emission limit is determined?
- Will the monitoring data be collected at a frequency that will provide information that is representative of the sources compliance with the permit?
- Is the monitoring condition written in a way that is practically enforceable? (Practical Enforceability involves ensuring that the following items are present: Frequency of monitoring, Data averaging period, Procedures for checking data validity, Minimum period of data availability, Recordkeeping, Prompt deviation and summary reports)

What is the Periodic Monitoring Criterion?

Compliance Assurance Monitoring that assures compliance is designed to:

- Monitor key parameters which determine compliance
- Be done at a frequency consistent with the likely variability of emissions and margin of compliance
- Detect deviations within specific timeframes (provide information to operator to correct problems promptly)
- Provide information that the Illinois EPA, USEPA and the public could use for enforcement

Margin of compliance: Amount of monitoring varies based on how a unit is operating with respect to emission limits (x% of emission limit); less monitoring if there is a comfortable margin of compliance. In determining margin of compliance, consider accuracy of emission estimation method – less monitoring if reliable emission factors exist. Consider reference method accuracy range. AP-42 or other emission factor accuracy, e.g., rating and range of emission factor.

Consider existence of control equipment and variability:

- Look at emissions over time under normal/upset conditions (within an individual unit)
- More variability more monitoring; less variability less monitoring. Variability within margin of compliance is acceptable.
- Also consider variability within a source category.
- Equipment failure or degradation.

Source size: Vary monitoring based on unit size as a lb/day or ton/year threshold based on potential uncontrolled emissions, e.g., more monitoring if uncontrolled emissions exceed major source threshold.

Burden/Cost to Permittee: Cost of equipment, personnel (training, time spent on job, etc), administrative costs (e.g., time and expense of MRR), burden on agency (i.e., inspections, record review), reasonableness (does it make sense?), time to implement condition, technical feasibility of monitoring and test methods (e.g., stack testing of fugitive emissions), existing burden for monitoring.

Consistency: Consistency means monitoring may be different but consistently meets the established criteria. Consistency is important between similar or identical sources, e.g., with regard to size, source emission unit category, types of emissions and emission limits.

Historical capability to demonstrate compliance: A source that has a history of violating emission limitations is likely to be required more frequent monitoring than a source that has a strong record of compliance.

Step Description

Preliminary investigation. The first step toward establishing appropriate monitoring is to identify

the need for additional monitoring for the emitting processes or applicable requirements at this point.

Brainstorm possible MRR types. Next, brainstorm potential monitoring proposals. Ideas for monitoring proposals may come from experience, from the source, be developed by applying technologies used for similar source categories, or they may be innovative.

Choose MRR method and frequency. Choose the most appropriate monitoring method and frequency. Some of the criteria, such as technical feasibility and data necessary to determine compliance on an ongoing basis will be mandatory. A monitoring method that is not technologically feasible, or that will not provide necessary data cannot be chosen. For other criteria such as cost and consistency, there is not the mandatory element. The relative merits of each option with respect the criteria must be considered. Keep in mind that periodic monitoring can include a mix of monitoring techniques. For example, a sources permit might require daily or weekly inspections of pollution control equipment in addition to a stack test every few months or years.

Also, instead of requiring a source to monitor emissions coming from its smokestack, a permit might allow a source to monitor some other aspect of its operations instead. This type of monitoring is called “surrogate” (e.g., substitute) monitoring. Surrogate monitoring is allowed when (1) monitoring of actual emissions is technically or economically infeasible and/or impractical, and (2) surrogate monitoring is adequate to assure compliance with the underlying applicable requirement. The CAA “does not prohibit the use of an appropriate surrogate pollutant for individual species to confirm compliance. “A surrogate may be used to regulate pollutants if it is ‘reasonable’ to do so. “A surrogate may attribute characteristics of a subclass of substances to an entire class of substances if doing so is scientifically reasonable”; (NRDC v. EPA, 822 F.2d 104, 125 (D.C. Cir. 1987))

A three part analysis is generally used for determining whether the use of a surrogate is reasonable: (1) “the emissions are invariably present or characterized by the surrogate (i.e., demonstrate and quantify a consistent correlation between PM stack emissions and their HAP metal content),” (2) “the control technology indiscriminately captures the target pollutant along with the surrogate or characterizes the effect on the target pollutant;” and (3) “the only means by which facilities ‘achieve’ reductions in the target pollutant.” If these criteria are satisfied then the surrogate may be considered given the potential impact upon emissions.” A surrogate is not a reasonable surrogate where other factors (for instance, the HAP content of a raw material affects HAP metal emissions.)” play a role in the reduction of emissions in the target pollutant (for instance, “PM might not be an appropriate surrogate for HAP metals if switching fuels would decrease HAP metal emissions without causing a corresponding reduction in total PM emissions.)” The use of a surrogate “eliminates the cost of performance testing to comply with numerous standards for individual species.” 64 Fed. Reg. at 31,916/3.

Conclusions

Where the periodic monitoring does not fall within one of the below categories for the basic periodic monitoring established in the majority of the permits, further explanation is provided in the emission unit specific section of this Statement of Basis (Project Summary). Each emission unit specific section in this Project Summary has a section that is identified as “Justification for Periodic Monitoring” that will give the basis for the type of periodic monitoring described in the tables. Based upon the information provided in the above discussion and analysis that is performed to evaluate periodic monitoring, the results generally fall into a set of specific categories as follows:

1. Work practice standards are generally assured through the use of periodic inspections and the frequency is established based on the emission unit size, capability to comply, historical compliance and margin of compliance.
2. Production limits are generally assured through the use of recordkeeping for the specific raw material or finished product.
3. Emission limits are generally assured by means of a couple different methodologies (the choice of methodology is based on the evaluation of the factors described above):
 - a. Performance testing on a set frequency based on the factors identified above,
 - b. Emission factors/engineering calculations based on specific recordkeeping requirements that are representative of the scientific units for which the emission factor/calculation is based,
 - c. Surrogate monitoring such as fuel sampling or raw material testing.
4. Control requirements are generally assured through the use of establishing operating parameters to be monitored that ensure proper functioning of the control device and are representative of the operation.

The mechanism by which the data is collected is also generally established such as a specific reference method (i.e., Method 9 or Method 311) or generally accepted test procedure such as an ASTM or ANSI test method. It also generally will identify the type of monitoring such as pressure sensor, thermocouple or flow gauge. The relevant timeframe is generally established by looking to the likelihood of an exceedance, the margin of compliance and historical capability to comply with a particular standard. These timeframes generally fall into specific slots when a CEM or COM is not available and can be hourly, daily, weekly, monthly or annual. The averaging periods are generally a rolling average commensurate with the monitoring frequency and the established limit.