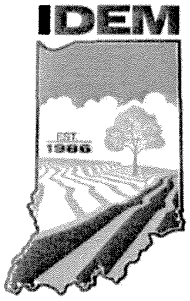

National Pollutant Discharge Elimination System
FACT SHEET
for
ArcelorMittal Indiana Harbor, LLC – Indiana Harbor West
October 2011

Indiana Department of Environmental Management

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

Permittee:	ArcelorMittal Indiana Harbor, LLC – Indiana Harbor West 3001 Dickey Road East Chicago, Indiana 46312
Existing Permit Information:	Permit Number: IN0000205 Administratively Extended Since: 9/29/91
Source Contact:	Wendell Carter (219)391-2834
Source Location:	Indiana Harbor West 3001 Dickey Road East Chicago, Indiana Lake County
Receiving Stream:	Indiana Harbor Ship Canal Indiana Harbor Lake Michigan
Proposed Action:	Renew Permit: IN0000205 Date Application Received: March 29, 2001
Source Category	NPDES Major – Industrial
Permit Writer:	Richard Hamblin (317)232-8696 or rhamblin@idem.in.gov

EXHIBIT 6

Table of Contents

EXHIBIT 6

1.0 INTRODUCTION

The Indiana Department of Environmental Management (IDEM) received a National Pollutant Discharge Elimination System (NPDES) Permit application from ArcelorMittal on March 29, 1991. The current permit was issued on September 30, 1986, and was subsequently modified on June 21, 1990, and September 26, 1991. The permit expired on September 29, 1991. Since the facility filed a timely renewal application, the permit is considered to be administratively extended in accordance with 327 IAC 5-2-6(b). The application was last updated in June 2009. A five year permit is proposed in accordance with 327 IAC 5-2-6(a).

The Federal Water Pollution Control Act of 1972 and subsequent amendments require a NPDES permit for the discharge of wastewater to surface waters. Furthermore, Indiana Statute 13-15-1-2 requires a permit to control or limit the discharge of any contaminants into state waters or into a publicly owned treatment works. This proposed permit action by IDEM complies with both federal and state requirements.

In accordance with Title 40 of the Code of Federal Regulations (CFR) Sections 124.8 and 124.6, as well is Indiana Administrative Code (IAC) 327 Section 5, development of a Fact Sheet is required for NPDES permits. This document fulfills the requirements established in those regulations.

This Fact Sheet was prepared in order to document the factors considered in the development of NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines, existing effluent quality, receiving water conditions, and wasteload allocations to meet Indiana Water Quality Standards. Decisions to award variances to Water Quality Standards or promulgated effluent guidelines are justified in the Fact Sheet where necessary.

2.0 FACILITY DESCRIPTION

2.1 General

ArcelorMittal – Indiana Harbor West is classified under Standard Industrial Classification (SIC) Code 3312 – Steel Mill. The permittee is a large integrated steel mill. Intermediate and final products include sinter, iron, raw steel, cast steel, hot strip, cold rolled strip, hot dip galvanized strip, and chromium and tin plated strip.

ArcelorMittal – Indiana Harbor West (AM West) has requested that Outfall 001 and Internal Outfall 101 be removed from this permit. Discharges associated with these outfalls are now covered under NPDES Permit No. IN0063711. In addition, the facility has identified several changes regarding wastestreams and monitoring points, such as newly constructed wastewater treatment processes. This NPDES permit reflects current operations and flow characterizations at the facility.

A map showing the location of the facility has been included as Figure 1.

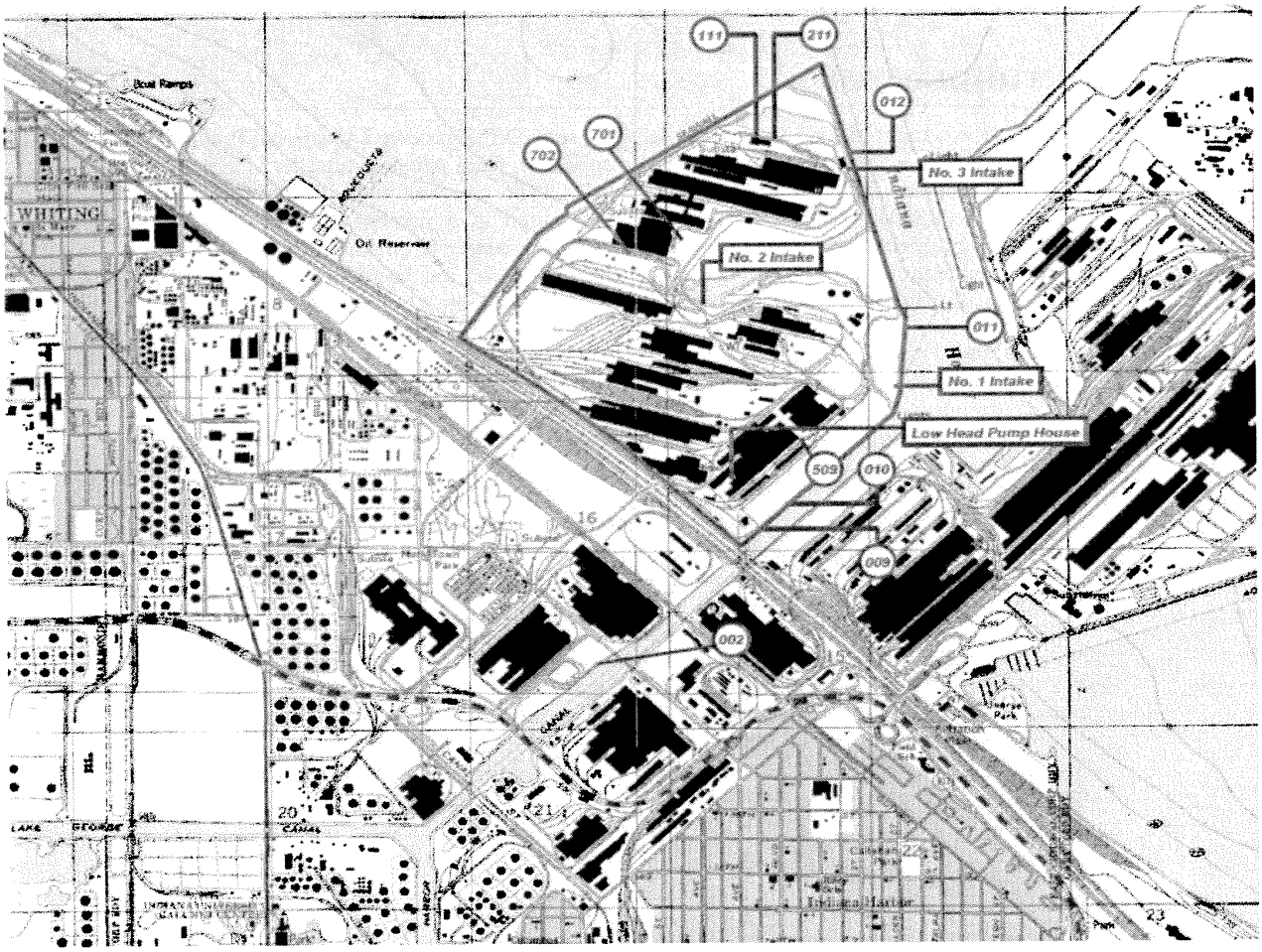

Figure 1: Facility Location

LAKE COUNTY

2.2 Outfall Locations

OUTFALL 002	Latitude: 41° 39' 20" Longitude: 87° 21' 35"
OUTFALL 009	Latitude: 41° 39' 40" Longitude: 87° 27' 10"
OUTFALL 010	Latitude: 41° 39' 40" Longitude: 87° 27' 05"
OUTFALL 011	Latitude: 41° 40' 20" Longitude: 87° 26' 35"
OUTFALL 012	Latitude: 41° 40' 52" Longitude: 87° 26' 45"

EXHIBIT 6

2.3 Wastewater Treatment

ArcelorMittal – Indiana Harbor West (AM West) has requested that the discharge from the Central Treatment Plant (Outfalls 001 and 101) be removed from this permit. Therefore, this permit will not incorporate flows or a wastewater treatment plant classification for the Central Treatment Plant. Please refer to NPDES Permit IN0063711 for information regarding that system.

A flow diagram of the current configuration at the facility has been included as Figure 2.

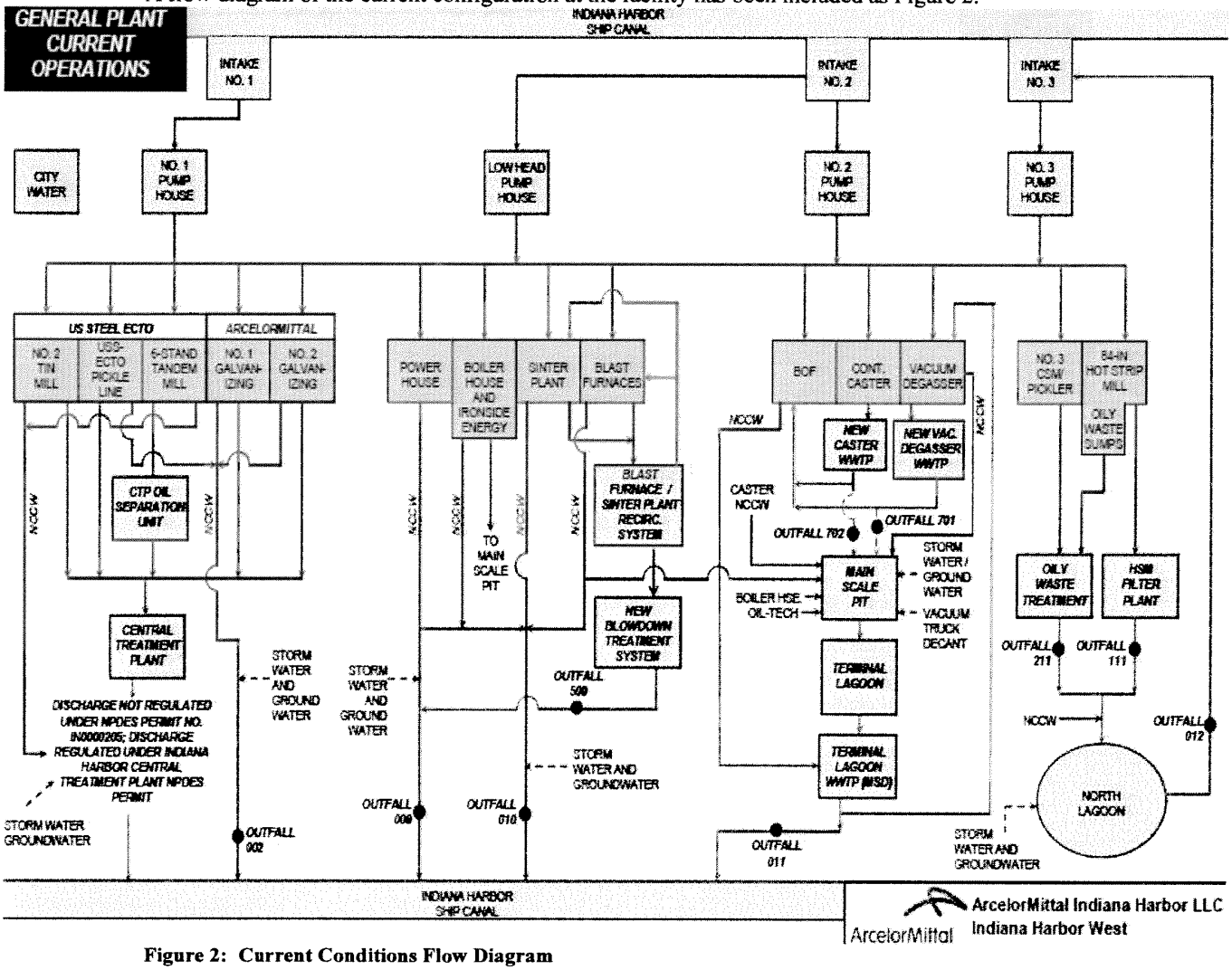

Figure 2: Current Conditions Flow Diagram

Outfall 002 currently consists of storm water, ground water from basement sumps, and non-contact cooling wastewater from the pickling and hot-dip galvanizing lines. The non-contact cooling water is chlorinated and dechlorinated for zebra mussel control prior to discharge. Outfall 002 has an average discharge of approximately 11.2 MGD.

EXHIBIT 6

The facility has proposed changes to Outfall 002 by incorporating a new treatment system for process wastewaters from the galvanizing lines (Internal Outfall 201). However, it was decided that those changes will be made at a later date and addressed in a permit modification. Internal Outfall 201 is not currently covered in this NPDES permit.

A flow diagram showing the current discharges from Outfall 002 is included as Figure 3.

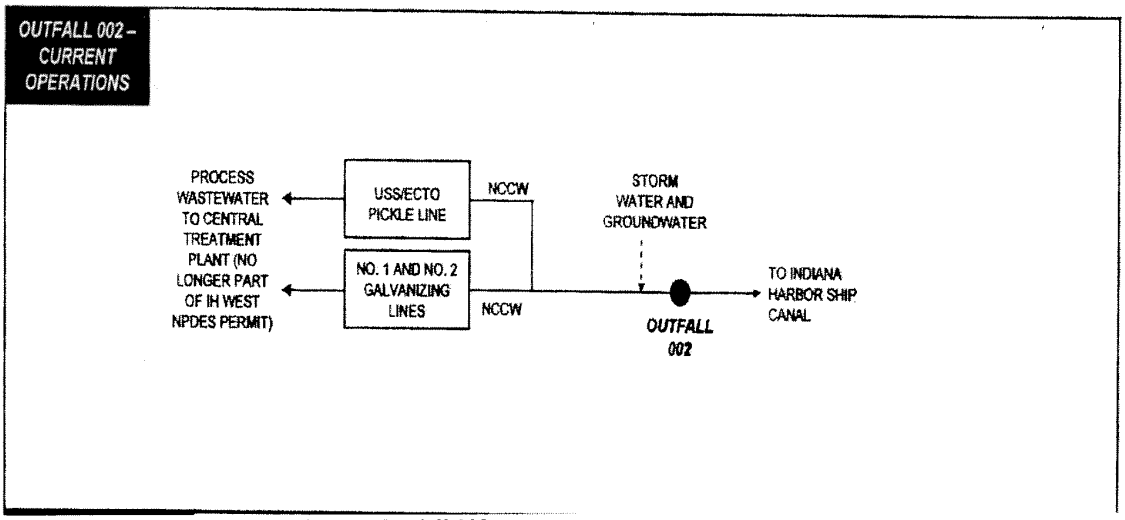

Figure 3: Current Operations at Outfall 002

Outfalls 003, 004, 005, 006, 007, and 008, storm water outfalls from the previous permit, have been eliminated.

Outfall 009 historically consisted of storm water, ground water from basement sumps, and non-contact cooling wastewater from the powerhouse area. During the previous permit renewal cycle, the facility has incorporated a new treatment system for the blast furnace and sinter plant blowdown that previously discharged via Outfall 011. An internal monitoring point will be included as Internal Outfall 509 to regulate the discharge of the blast furnace and sinter plant blowdown. The non-contact cooling water is chlorinated and dechlorinated for Zebra and Quagga mussel control prior to discharge. The wastewater treatment system is expected to have an average discharge of approximately 1.08 MGD. Outfall 009 has an average discharge of approximately 55.3 MGD.

A flow diagram showing the current discharges from Outfall 009 is included as Figure 4.

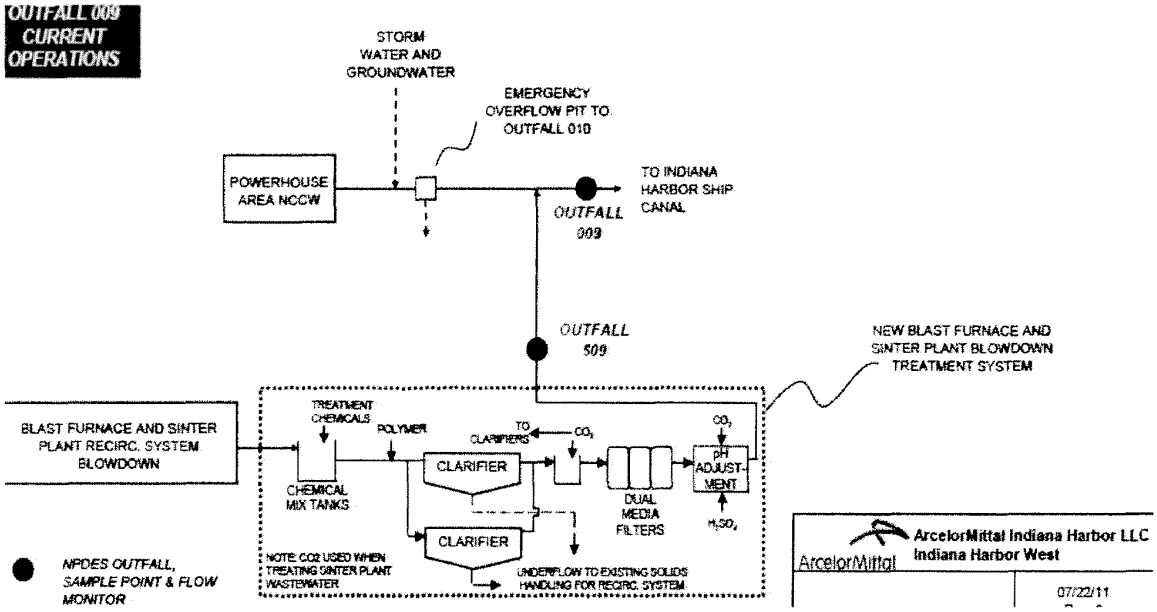

Figure 4: Current Operations at Outfall 009

Outfall 010 currently consists of storm water, ground water from basement sumps, and non-contact cooling wastewater from the blast furnace, sinter plant, powerhouse and boiler house. Outfall 010 also collects overflow from the non-contact cooling water at the sinter plant and powerhouse area. The non-contact cooling water is chlorinated and dechlorinated for zebra mussel control prior to discharge. Outfall 010 has an average discharge of approximately 36.6 MGD. A flow diagram showing discharges from Outfall 010 is included as Figure 5.

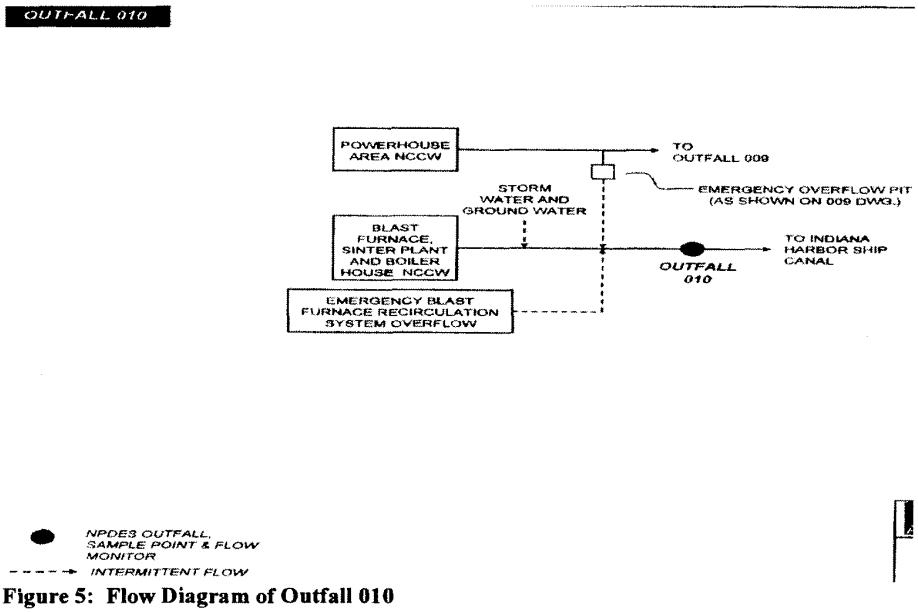

Figure 5: Flow Diagram of Outfall 010

EXHIBIT 6

Outfall 011 currently consists of storm water, ground water from basement sumps, vacuum degassing, continuous casting, and on-site oil processing facility process wastewaters, boiler house wastewater, vacuum truck decant as well as non-contact cooling water serving the Basic Oxygen Furnace (BOF), vacuum degasser, and continuous caster. During the previous permit renewal cycle, the facility has incorporated two new treatment systems for the vacuum degasser process wastewater and continuous casting process wastewaters, respectively. Internal monitoring points will be included in this permit to regulate the discharge of the vacuum degasser (Internal Outfall 701) and continuous casting process wastewaters (Internal Outfall 702). Treated wastewater from the above mentioned treatment systems have to potential to be evaporated in the BOF gas cleaning system. As a result, the discharges to waters of the state from Internal Outfalls 701 and 702 are intermittent.

The permittee requested during the application process that another monitoring point be established that included the summation of mass loadings for 701 and 702 because they may be comingled and evaporated in the BOF. Since technology-based effluent limitations are applicable to address the degree of treatability for individual wastestreams, this agency feels that the limits should apply at each categorical wastestream respectively. However, those limitations should only apply when the fate of the discharge is expected to reach the receiving stream. Therefore, monitoring requirements are applicable when the discharge from 701 or 702 are discharged to the main scale pit.

Outfall 011 is expected to have an average discharge of approximately 23.4 MGD. A flow diagram showing the current discharges contributing to Outfall 011 is included as Figure 6.

A flow diagram showing the current discharges contributing to Internal Outfalls 701 and 702 is included as figure 7.

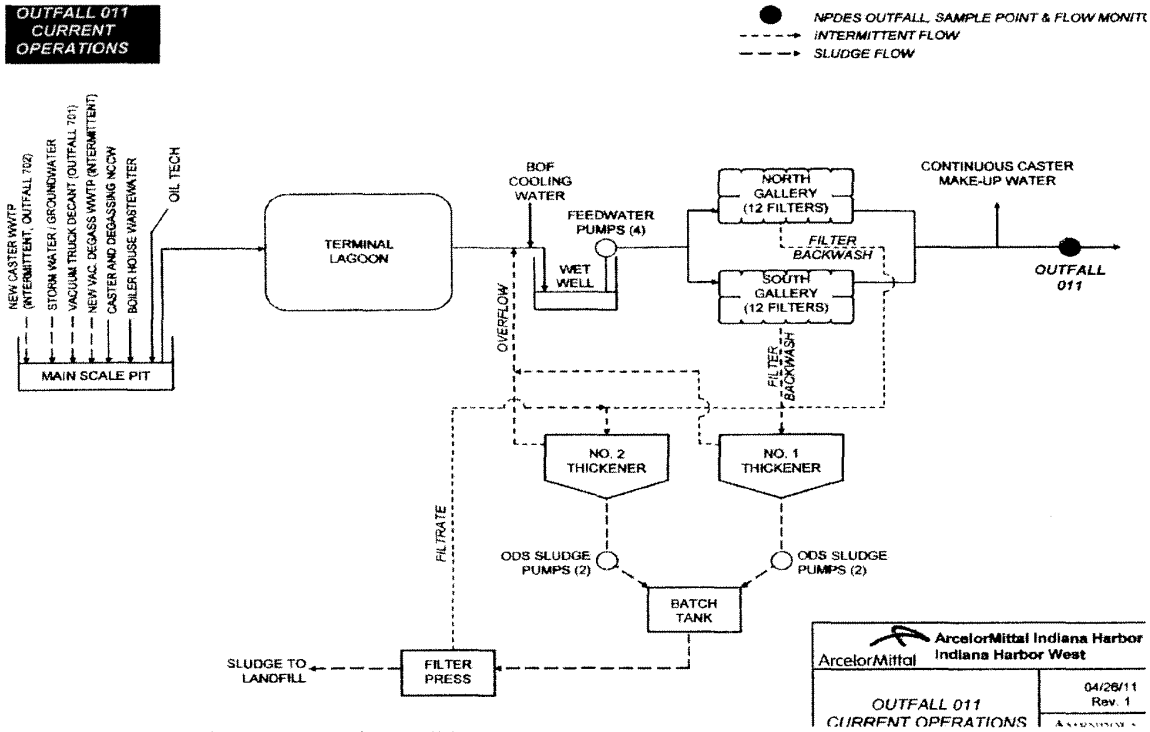

Figure 6: Flow Diagram of Outfall 011

EXHIBIT 6

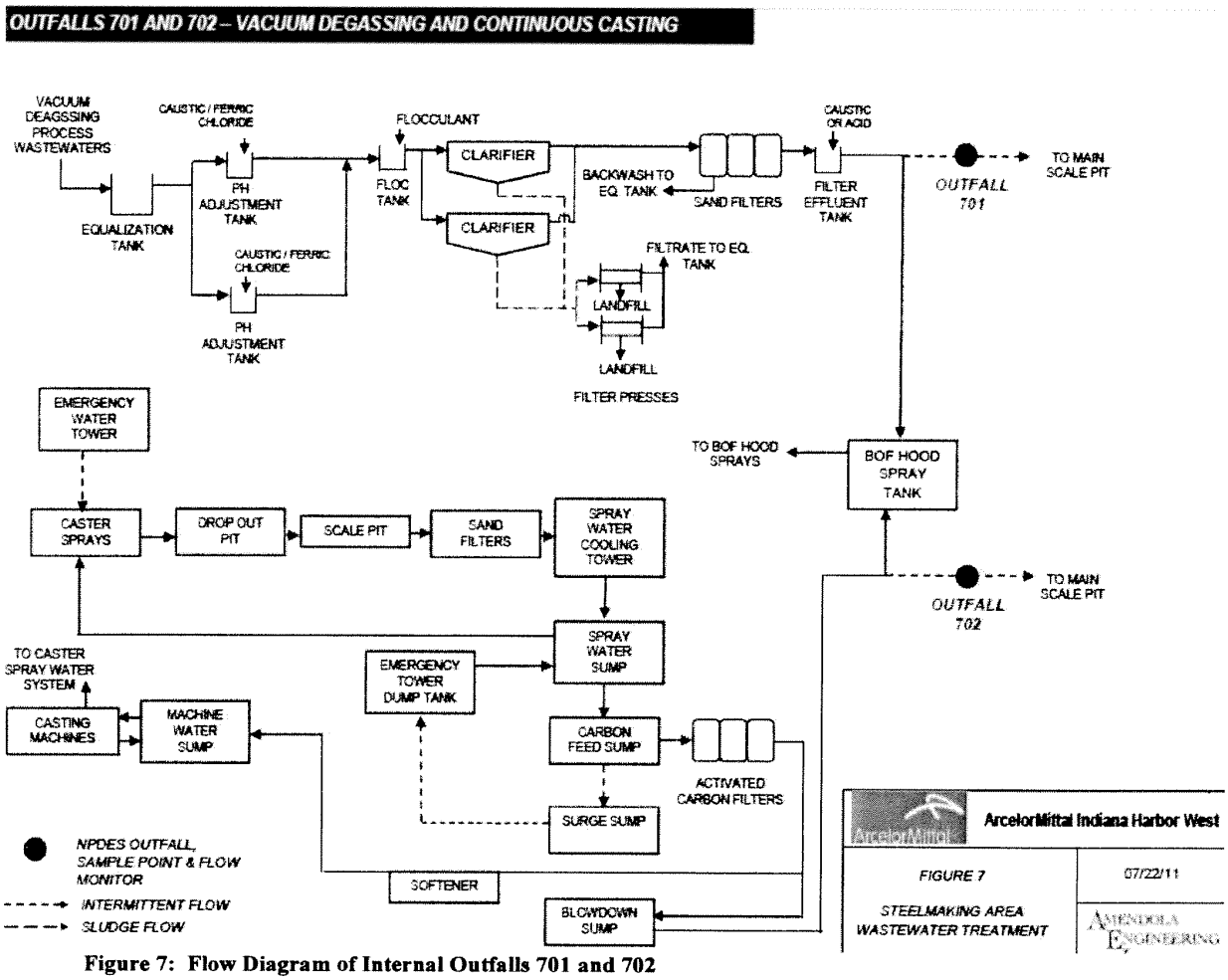

Figure 7: Flow Diagram of Internal Outfalls 701 and 702

Outfall 012 has been incorporated into the permit to monitor discharges of process wastewaters from the Hot Strip Mill Filter Plant (Internal Outfall 111); the Oily Waste Treatment Plant (OWTP) for the Pickling and Cold Rolling operations and Hot Strip Mill oily-waste sumps (Internal Outfall 211); non-contact cooling water; storm water and groundwater to the No. 3 Intake forebay. The Hot Strip Mill Filter Plant and the rolling operations are existing wastestreams. Therefore, Outfall 012 is not considered a new source discharge. Further discussion of the wastewater and treatment for Internal Outfalls 111 and 211 are detailed below.

Outfall 012 has an average discharge of approximately 70 MGD. However, a substantial amount of the discharge from Outfall 012 is recycled through the No. 3 Intake and the No. 3 Cold Mill Complex. The average daily flow from the North Lagoon (Outfall 012) is approximately 34 MGD when the Hot Strip Mill is not operating. A recent dye study, presented in a report dated January 21, 2011, found that all but approximately 10% of the discharge from Outfall 012 is reintegrated into the facility when the Hot Strip Mill is operating. 100% is recycled when the Hot Strip Mill is not operating.

EXHIBIT 6

A flow diagram showing the discharges from Outfall 012 is included as Figure 8.

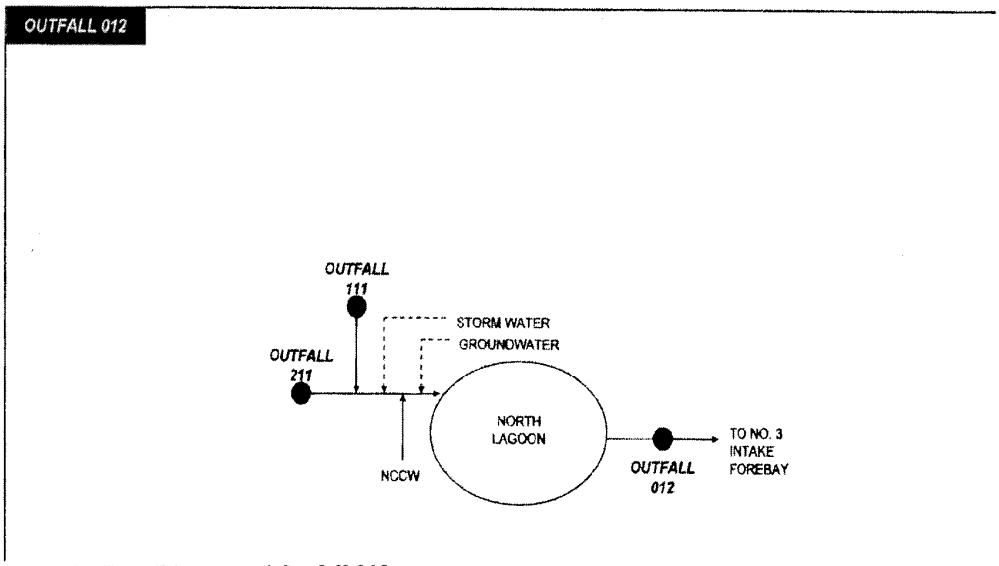

Figure 8: Flow Diagram of Outfall 012

Internal Outfall 111 is the discharge monitoring station for the 84" Hot Strip Mill (HSM) wastewater treatment system. At the HSM, slabs from the continuous caster are heated to rolling temperature by reheat furnaces. As part of the rolling process, high-pressure water is used to remove scale from the reheated slabs and to cool the work rolls. The slabs are reduced in thickness as they are processed through the roughing stands, intermediate rolling stands, and finishing stands. The strip is then coiled and transported to subsequent finishing operations at AM West or sold as "hot bands". Process wastewater from the HSM is treated initially through one of two scale pits.

The No. 1 Scale Pit has three cells and handles wastewater from the furnace run out tables, vertical edger, No. 1 & 2 roughing mills, and the No. 1 descaler. The No. 2 Scale Pit has five cells and handles water from the main mill flumes, delay table, finishing stands, entry and exit descalers at the finishing mill, run out table, and direct contact cooling water from the coilers.

Wastewater from both scale pits is pumped to a filtration plant that consists of 42 large sand filters. The effluent from the filter plant is directed to the North Lagoon via Internal Outfall 111. Filter backwash is directed to a sludge thickener and dewatered. Solids are disposed at an off-site landfill. Overflow from the sludge thickener is directed back to the influent of the filter plant. The filter plant has an average discharge of approximately 38.3 MGD to the North Lagoon.

A flow diagram showing the discharges from Internal Outfall 111 is included as Figure 9.

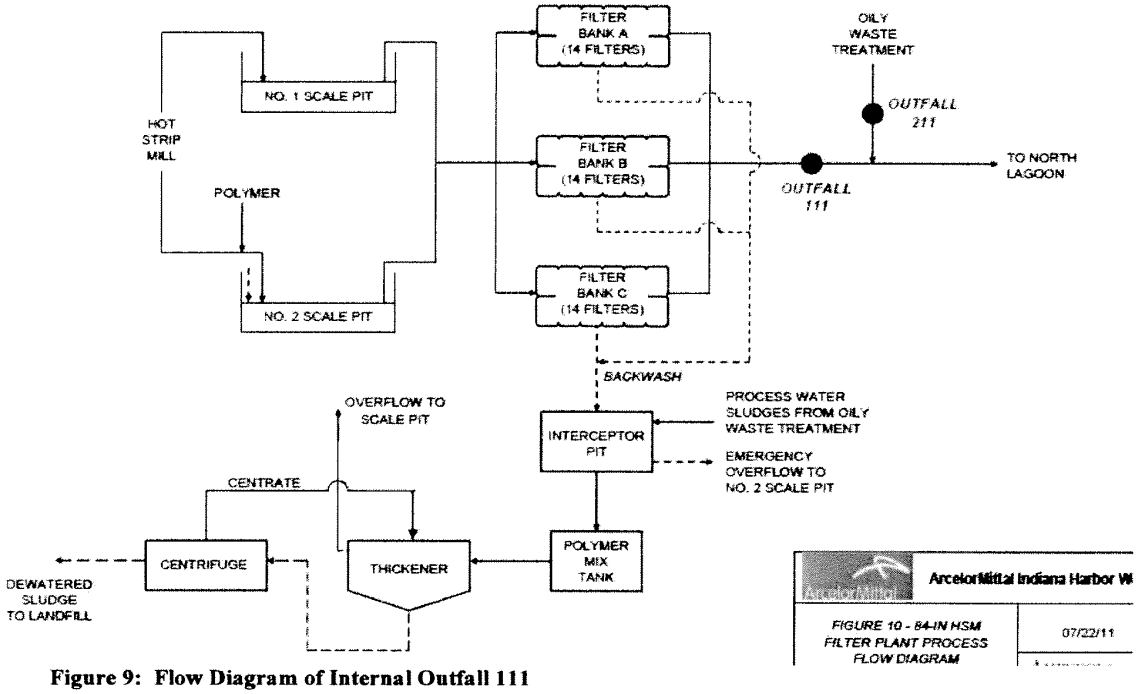

Figure 9: Flow Diagram of Internal Outfall 111

The North Lagoon also accepts wastewater from Internal Outfall 211, non-contact cooling water, storm water, and groundwater from basement sumps before discharging out Outfall 012.

Internal Outfall 211 is the discharge monitoring location for the Oily Wastewater Treatment Plant (OWTP), which serves the No. 3 Cold Mill Complex. The No. 3 Cold Mill Complex includes the No. 3 hydrochloric acid pickling line, the No. 3 five-stand tandem cold reduced sheet mill (CRSM) and the No. 3 direct application temper cold rolling mill. The OWTP is located adjacent to the HSM filter plant. The OWTP consists of a clarifier for gravity separation of free oil and suspended solids, a flash mix tank for aeration of acid rinse water and addition of ferric chloride, caustic neutralization for pH control, a flocculation tank, and two dissolved air flotation (DAF) units for final separation of oil, suspended solids, and metals. The effluent from the DAF units is discharged to the North Lagoon via Internal Outfall 211 and has an average discharge of approximately 2.24 MGD. A flow diagram showing the discharges from Internal Outfall 211 is included as Figure 10.

The permittee requested during the application process that another monitoring point be established that included the summation of mass loadings at Internal Outfalls 111 and 211. Because the wastestreams from each treatment system has the ability to comingle, Internal Outfall 411 is incorporated as the summation of 111 and 211. Please refer to Section 5.2 of this Fact Sheet for more information.

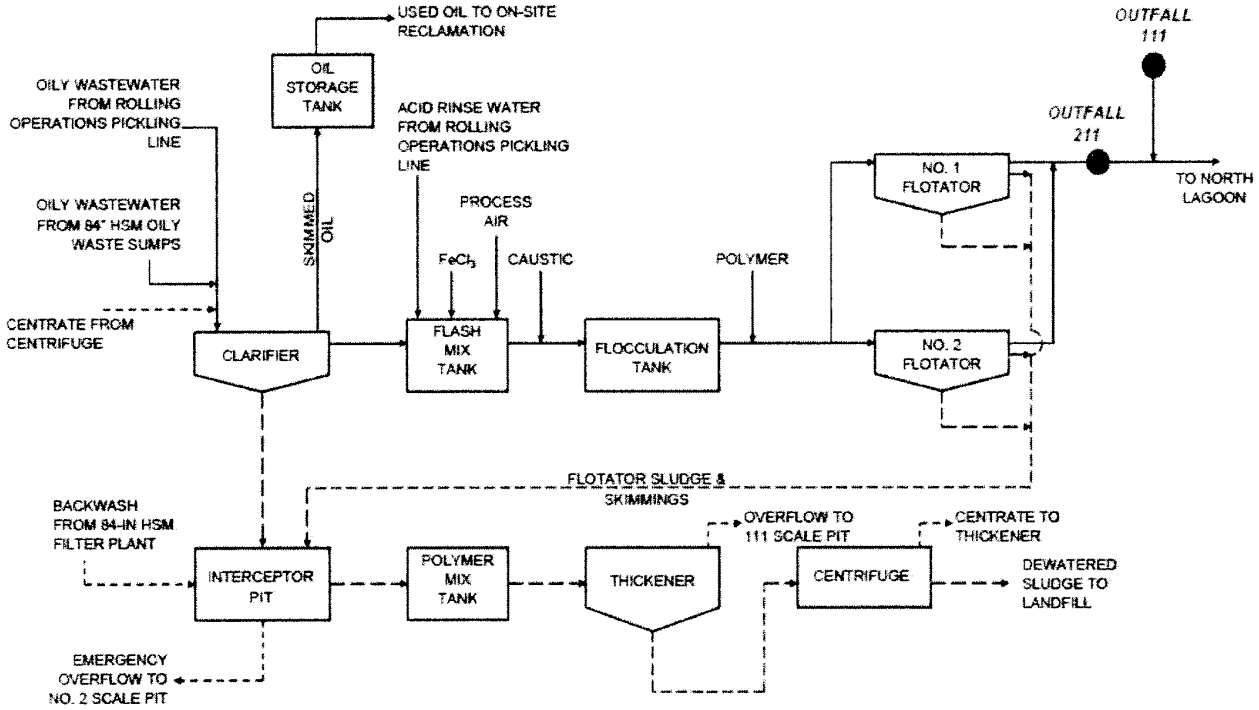

Figure 10: Flow Diagram of Internal Outfall 211

The permittee shall have all the wastewater treatment facilities under the responsible charge of an operator certified by the Commissioner in a classification corresponding to the classification of the wastewater treatment plant as required by IC 13-18-11-11 and 327 IAC 5-22-5. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7. The facility has been previously given a Class D industrial wastewater treatment plant classification and will remain a Class D classification.

2.4 Changes in Operation

This NPDES permit contains operations that have been incorporated at the facility since the previous permit cycle. These changes entail the moving of certain wastestreams to different outfalls and the addition of wastewater treatment plants with Internal Outfalls to monitor as such. Below is a summary of the additional wastestreams to each outfall.

- Outfalls 003, 004, 005, 006, 007, and 008 have been eliminated.
- Outfall 009 will include the effluent from a new wastewater treatment plant for the Blast Furnace/Sinter Plant Blowdown (adding Internal Outfall 509) that previously discharged via Outfall 011.
- Outfall 010 will remain unchanged
- Outfall 011 will include two new wastewater treatment facilities for the existing effluents from the vacuum degasser wastestream (adding Internal Outfall 701),

and for the continuous caster wastestream (adding Internal Outfall 702), and redirecting the Blast Furnace/Sinter Plant Blowdown to Outfall 009 via Internal Outfall 509.

- Outfall 012 has been incorporated into the permit to monitor discharges of process wastewaters from the Hot Strip Mill Filter Plant (Internal Outfall 111); the Oily Waste Treatment Plant for the Pickling and Cold Rolling operations and Hot Strip Mill oily-waste sumps (Internal Outfall 211).

2.5 Facility Storm Water

Site storm water is discharged at each outfall without treatment. Storm water monitoring requirements can be found in Section 5.7 of this Fact Sheet.

3.0 PERMIT HISTORY

3.1 Compliance history

A review of the computerized database for tracking permit compliance found effluent violations for zinc [12/07; 1/08; 2/08; 3/08; 11/08] and lead [4/08] at Outfall 011 for the previous three years [12/07-12/10]. There are no current or pending enforcement actions regarding NPDES permits at this facility.

4.0 RECEIVING WATER

The Indiana Harbor Ship Canal originates at the confluence of the East and West Branches of the Grand Calumet River. It runs north for two miles where it is joined by the Lake George Canal. The Indiana Harbor Ship Canal then runs two miles northeast to the Indiana Harbor. The Indiana Harbor runs one mile to the north before emptying into the open waters of Lake Michigan. The receiving streams for this facility are the Indiana Harbor Ship Canal downstream of the Lake George Canal, the Indiana Harbor, and Lake Michigan. The $Q_{7,10}$ low flow value of the Indiana Harbor Ship Canal is 352 cfs and shall be capable of supporting a well balanced, warm water aquatic community and full body contact recreation in accordance with 327 IAC 2-1.5-5.

The permittee discharges to a waterbody that has been identified as a high quality water of the state within the Great Lakes system. The Indiana Harbor Ship Canal is a tributary to the Indiana portion of the open waters of Lake Michigan. The Indiana portion of the open waters of Lake Michigan is designated in 327 IAC 2-1.5-19(b)(2) as an Outstanding State Resource Water (OSRW). Discharges to tributaries of OSRWs are subject to the antidegradation implementation procedure for OSRWs in 327 IAC 5-2-11.7(a)(2).

In addition to OSRW antidegradation implementation procedures, the Indiana Harbor Ship Canal is subject to other NPDES requirements specific to Great Lakes system dischargers under 327 IAC 2-1.5 and 327 IAC 5-2-11.2 through 327 IAC 5-2-11.6. These rules address water quality standards applicable to dischargers within the Great Lakes system and reasonable potential to exceed water quality standards procedures.

As required by 327 IAC 5-2-11.3(b)(2), language in this renewed permit specifically prohibits the permittee from undertaking deliberate actions that would result in new or increased discharges of BCC's or new or increased permit limits for non-BCC's, or from allowing a new or increased discharge of a BCC from an existing or proposed industrial user, without first proving that the new or increased discharge would not result in a significant lowering of water quality, or by submission and approval of an antidegradation demonstration to the IDEM.

4.1 Receiving Stream Water Quality

The Indiana Harbor and Ship Canal is listed on Indiana's 2010 303(d) List of Impaired Waters for *E. coli*, oil and grease, impaired biotic communities, and PCB's in fish tissue. The Lake Michigan shoreline east and west of the Indiana Harbor Canal is listed for mercury and PCB's in fish tissue. A TMDL report has not been completed for the Indiana Harbor Ship Canal.

5.0 PERMIT LIMITATIONS

Two categories of effluent limitations exist for NPDES permits: 1) Technology based effluent limits, and 2) Water quality based effluent limits.

Technology based effluent limits are developed by applying the national effluent limitation guidelines (ELGs) established by EPA for specific industrial categories. Technology based effluent limits were established to require a minimum level of treatment for industrial or municipal sources using available technology. In the absence of federally promulgated guidelines effluent limits can also be based upon BPJ. Technology based limits are the primary mechanism of control and enforcement of water pollution under the CWA. Technology based treatment requirements under section 301(b) of the CWA represent the minimum level of control that must be imposed in a section 402 permit [40 CFR 125.3(a)]. Accordingly, every individual member of a discharge class or category is required to operate their water pollution control technologies according to industry-wide standards and accepted engineering practices. This means that technology-based effluent limits based upon a BPJ determination are applied at end-of-pipe and mixing zones are not allowed [40 CFR 125.3(a)]. Similarly, since the statutory deadlines for BPT, BAT and BCT have all passed, compliance schedules are also not allowed.

Water quality based effluent limits are designed to be protective of the beneficial uses of the receiving water and are independent of the available treatment technology. The need for WQBELs is determined by application of the reasonable potential procedures contained in 327 IAC 5-2-11.5. WQBELs are developed using the water quality criteria in 327 IAC 2-1.5, the wasteload allocation procedures in 327 IAC 5-2-11.4 and the procedures for converting wasteload allocations into WQBELs in 327 IAC 5-2-11.6. In addition to numeric WQBELs, the narrative water quality criteria contained in 327 IAC 2-1.5-8 have been included in this permit to ensure that the narrative water quality criteria are met.

According to 40 CFR 122.44 and 327 IAC 5, NPDES permit limits are based on either technology-based limitations, where applicable, best professional judgment (BPJ), or Indiana Water Quality-Based Effluent Limitations, whichever is most stringent.

5.1 Existing Permit Limits

Outfall 002

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	Report	mg/l
Total Suspended Solids	Report	Report	lbs/day & mg/l
Total Residual Oxidants	Report	0.05	mg/l
Total Residual Chlorine	0.02	0.04	mg/l

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

EXHIBIT 6

Outfalls 003, 004, and 005

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	Report	lbs/day & mg/l
Total Suspended Solids	Report	Report	lbs/day & mg/l
Tin	Report	Report	lbs/day & mg/l
Ammonia, as N	Report	Report	lbs/day & mg/l
Cyanide	Report	Report	lbs/day & mg/l
Phenols (4AAP)	Report	Report	lbs/day & mg/l
Lead	Report	Report	lbs/day & mg/l
Zinc	Report	Report	lbs/day & mg/l

Parameter	Daily Minimum	Daily Maximum	Units
pH	Report	Report	Std Units

Outfall 008

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	Report	lbs/day & mg/l
Total Suspended Solids	Report	Report	lbs/day & mg/l
Ammonia, as N	Report	Report	lbs/day & mg/l
Cyanide	Report	Report	lbs/day & mg/l
Phenols (4AAP)	Report	Report	lbs/day & mg/l
Benzene	Report	Report	lbs/day & mg/l
Naphthalene	Report	Report	lbs/day & mg/l
Benzo(a)pyrene	Report	Report	lbs/day & mg/l

Parameter	Daily Minimum	Daily Maximum	Units
pH	Report	Report	Std Units

Outfall 009

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	Report	mg/l
Total Suspended Solids	Report	Report	lbs/day & mg/l
Total Residual Oxidants	Report	0.05	mg/l
Total Residual Chlorine	0.02	0.04	mg/l
Ammonia, as N	84	236	lbs/day
Phenols (4AAP)	Report	4.4	lbs/day
Cyanide	Report	Report	lbs/day & mg/l
Chlorides	Report	Report	mg/l
Sulfates	Report	Report	mg/l
Fluorides	Report	Report	mg/l
Iron	Report	Report	mg/l

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

EXHIBIT 6

Outfall 010

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	Report	mg/l
Total Suspended Solids	Report	Report	lbs/day & mg/l
Total Residual Oxidants	Report	0.05	mg/l
Total Residual Chlorine	0.02	0.04	mg/l
Ammonia, as N	180	402	lbs/day
Phenols (4AAP)	Report	6.6	lbs/day
Cyanide	Report	Report	lbs/day & mg/l
Chlorides	Report	Report	mg/l
Sulfates	Report	Report	mg/l
Fluorides	Report	Report	mg/l
Iron	Report	Report	mg/l

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

Outfall 011

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	1,500	lbs/day
Total Suspended Solids	3,425	9,111	lbs/day
Total Residual Oxidants	Report	0.05	mg/l
Total Residual Chlorine	0.02	0.04	mg/l
Ammonia, as N	336	812	lbs/day
Phenols (4AAP)	Report	10.0	lbs/day
Cyanide	31.38	62.70	lbs/day & mg/l
Lead	10.19	30.58	lbs/day
Zinc	24.7	62.0	lbs/day
Chlorides	Report	Report	mg/l
Sulfates	Report	Report	mg/l
Fluorides	Report	Report	mg/l
Iron	Report	Report	mg/l

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

Internal Outfalls 111 and 211

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	5,344	lbs/day
Total Suspended Solids	5,663	14,576	lbs/day
Lead	5.28	15.83	lbs/day
Zinc	5.25	15.70	lbs/day
Iron	Report	Report	lbs/day & mg/l

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

EXHIBIT 6

5.2 Technology-Based Effluent Limits

The applicable technology based standards for the wastestreams contributing to the discharges from AM West are contained in 40 CFR 420 – Iron and Steel Manufacturing Point Source Category. Technology-Based Effluent limits apply at end-of-process and apply at internal monitoring points. The following table identifies the applicable standards.

Applicable ELG Subparts

Subpart	Description
40 CFR 420.20 Subpart B – Sintering Subcategory	Discharges from sintering operations by the heating of iron bearing wastes together with fine iron ore, limestone, and coke fines in an ignition furnace to produce an agglomerate
40 CFR 420.30 Subpart C – Ironmaking Subcategory	Discharges from ironmaking operations in which iron ore is molten in a blast furnace
40 CFR 420.50 Subpart E – Vacuum Degassing Subcategory	Discharges from vacuum degassing operations conducted by applying a vacuum to molten steel
40 CFR 420.60 Subpart F – Continuous Casting Subcategory	Discharges from the continuous casting of molten steel into intermediate or semi-finished steel products through water cooled molds
40 CFR 420.70 Subpart G – Hot Forming Subcategory	Discharges from hot forming operations in primary, section, flat, and pipe and tube mills
40 CFR 420.90 Subpart I – Acid Pickling Subcategory	Discharges from sulfuric acid, hydrochloric acid, or combination acid pickling operations
40 CFR 420.100 Subpart J – Cold Forming Subcategory	Discharges from cold rolling in which unheated steel is passed through rolls or otherwise processed
40 CFR 420.120 Subpart L – Hot Coating Subcategory	Discharges from operations in which steel is coated by the hot dip process

The following tables contain the applicable ELGs from the federal regulations identified above and the calculated permit limits for each outfall as the facility is currently configured in regards to wastestream discharge points.

Outfall 002

Outfall 002 contains storm water, ground water from basement sumps, and non-contact cooling wastewater from the pickling and hot-dip galvanizing lines. No applicable categorical limits apply.

Outfall 009

Outfall 009 contains storm water, ground water from basement sumps, and non-contact cooling wastewater from the powerhouse area. No applicable categorical limits apply. However, the facility has incorporated a new treatment system for the blast furnace and sinter plant blowdown. Categorical limits will apply at Internal Outfall 509.

Internal Outfall 509

Internal Outfall 509 will consist of the effluent from a wastewater treatment plant for the blast furnace and sinter plant process wastewaters (40 CFR 420.20 and 40 CFR 420.30) prior to discharging via Outfall 009.

Typically, TBELs are established for the discharge from each individual wastestream. However, many steel mills have wastewater treatment facilities designed to treat any combination of wastewaters. The TBELs for Internal Outfall 509 are established by adding all applicable pollutant loads for each wastestream, by parameter, contained in 40 CFR Part 420.20 and 420.30.

Total Suspended Solids					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.22 (BPT)	3,800 Tons/Day	0.0250 lbs/1000lbs	190[1]	0.0751 lbs/1000lbs	571
420.23 (BAT)		-------	---------	--------	--------
420.32(a) (BPT)	10,500 Tons/Day	0.0260 lbs/1000lbs	546	0.0782 lbs/1000lbs	1,642
420.33(a) (BAT)		-------	---------	--------	-------
Total TSS Limitation		736 lbs/day		2,213 lbs/day	

[1] Below is an example TSS calculation for Sintering Subcategory; Operations with Wet Air Pollution Control System:

$$\text{TSS Average Monthly Limit} = 3{,}800\frac{tons}{day} \times 2000\frac{lb}{ton} \times 0.0250\frac{lb}{1000lb} = 190\frac{lb}{day}$$

Oil and Grease					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.22 (BPT)	3,800 Tons/Day	0.00501 lbs/1000lbs	38.1	0.0150 lbs/1000lbs	114
420.23 (BAT)		-------	---------	--------	--------
420.32(a) (BPT)	10,500 Tons/Day	PARAMETER NOT IDENTIFIED IN THIS CATEGORY			
420.33(a) (BAT)					
Total O+G Limitation		38.1 lbs/day		114 lbs/day	

Lead					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.22 (BPT)	3,800 Tons/Day	----------	---------	---------	--------
420.23 (BAT)		0.000150 lbs/1000lbs	1.14	0.000451 lbs/1000lbs	3.43
420.32(a) (BPT)	10,500 Tons/Day	----------	---------	---------	--------
420.33(a) (BAT)		0.0000876 lbs/1000lbs	1.84	0.000263 lbs/1000lbs	5.52
Total Lead Limitation		2.98 lbs/day		8.95 lbs/day	

Zinc					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.22 (BPT)	3,800 Tons/Day	----------	---------	---------	--------
420.23 (BAT)		0.000225 lbs/1000lbs	1.71	0.000676 lbs/1000lbs	5.14
420.32(a) (BPT)	10,500 Tons/Day	----------	---------	---------	--------
420.33(a) (BAT)		0.000131 lbs/1000lbs	2.75	0.000394 lbs/1000lbs	8.27
Total Zinc Limitation		4.46 lbs/day		13.4 lbs/day	

Total Cyanide					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.22 (BPT)	3,800 Tons/Day	----------	---------	---------	--------
420.23 (BAT)		0.00150 lbs/1000lbs	11.4	0.00300 lbs/1000lbs	22.8
420.32(a) (BPT)	10,500 Tons/Day	0.00782 lbs/1000lbs	164	0.0234 lbs/1000lbs	491
420.33(a) (BAT)		0.000876 lbs/1000lbs	18.4	0.00175 lbs/1000lbs	36.8
Total Cyanide Limitation		29.8 lbs/day		59.6 lbs/day	

Ammonia, as N					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.22 (BPT)	3,800 Tons/Day	----------	---------	---------	--------
420.23 (BAT)		0.00501 lbs/1000lbs	38.1	0.0150 lbs/1000lbs	114
420.32(a) (BPT)	10,500 Tons/Day	0.0537 lbs/1000lbs	1,128	0.161 lbs/1000lbs	3,478
420.33(a) (BAT)		0.00292 lbs/1000lbs	61.3	0.00876 lbs/1000lbs	184
Total Ammonia, as N Limitation		99.4 lbs/day		298 lbs/day	

EXHIBIT 6

2,3,7,8-Tetrachlorodibenzofuran					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (pg/l)	Categorical Limitation	Subtotal (pg/l)
420.22 (BPT)	3,800 Tons/Day	----------	---------	---------	--------
420.23 (BAT)		----------	---------	<ML	<10[1]
420.32(a) (BPT)	10,500 Tons/Day	PARAMETER NOT IDENTIFIED IN THIS CATEGORY			
420.33(a) (BAT)					
Total 2,3,7,8-TCDF Limitation		----------		<10 pg/l	

[1] The limitation and standard for 2,3,7,8 – tetrachlorodibenzofuran (2,3,7,8 – TCDF) is expressed as less than the Minimum Level ("<ML"). The term Minimum Level (ML) means the level at which the analytical system gives recognizable signals and an acceptable calibration point. For 2,3,7,8 – TCDF, the minimum level is 10 pg/l per EPA Method 1613B for water and wastewater samples. The term pg/L means picograms per liter (ppt = 1.0 X 10^{-12} gram/L).

Total Residual Chlorine					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.22 (BPT)	3,800 Tons/Day	FACILITY DOES NOT CHLORINATE SINTERING PROCESS WASTEWATER. THEREFORE, TRC LIMITATIONS ARE NOT APPLICABLE FROM THIS CATEGORY			
420.23 (BAT)					
420.32(a) (BPT)	10,500 Tons/Day	FACILITY DOES NOT CHLORINATE IRONMAKING WASTEWATER. THEREFORE, TRC LIMITATIONS ARE NOT APPLICABLE FROM THIS CATEGORY			
420.33(a) (BAT)					
Total Residual Chlorine Limitation		NOT APPLICABLE		NOT APPLICABLE	

Phenols (4AAP)					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.22 (BPT)	3,800 Tons/Day	----------	---------	---------	--------
420.23 (BAT)		0.0000501 lbs/1000lbs	0.381	0.000100 lbs/1000lbs	0.760
420.32(a) (BPT)	10,500 Tons/Day	0.00210 lbs/1000lbs	44.1	0.00626 lbs/1000lbs	131
420.33(a) (BAT)		0.0000292 lbs/1000lbs	0.613	0.0000584 lbs/1000lbs	1.23
Total Phenols (4AAP) Limitation		0.994 lbs/day		1.99 lbs/day	

The categorical limitations included at Internal Outfall 509 are:

- TSS, O+G, Lead, Zinc, and Total Cyanide

  The above mentioned parameters have TBELs that are more stringent than the Water Quality-Based Effluent Limitations (WQBELs). Therefore, the TBELs for monthly average and daily maximums, identified in the tables above, are included at Internal Outfall 509.

EXHIBIT 6

- 2,3,7,8-TCDF

40 CFR 420.23(a) contains a BAT effluent limitation guideline for 2,3,7,8-tetrachlorodibenzofuran (2,3,7,8-TCDF), which is a toxic pollutant associated with sinter plant process wastewaters. 40 CFR 420.29(a) requires that compliance with 2,3,7,8-TCDF effluent limitations contained in the NPDES permit effluent limitations be determined at the discharge from the sinter plant wastewater treatment; or, if sinter plant and blast furnace wastewaters are combined for treatment, at the effluent of the combined wastewater treatment system prior to mixing with more than 5% by volume of other process or non-process wastewaters. Therefore, the technology based effluent limitation for 2,3,7,8-TCDF will be applied at internal monitoring location 509; the discharge of process wastewater from the sintering operations.

- Ammonia-N and Phenols

Section 301(g) of the Clean Water Act provides variances to BAT limitations. The facility has a previously approved 301(g) variance for ammonia and phenols. That variance approved net limitations for ammonia and phenols for Outfalls 009, 010, and 011. The facility has submitted a request for a continuance of the 301(g) variance for ammonia and phenols (4AAP). This request proposes a gross ammonia-N limitation of 600 lbs/day monthly average and 1,450 lbs/day daily maximum and a phenol daily maximum limitation of 21 lbs/day at Internal Outfall 509. IDEM has reviewed the submittal from ArcelorMittal and, as a result of that review, determined that the net limit requirements for the three outfalls shall remain in the permit. The variance will assign specific net limits for ammonia (as N) and phenols (4AAP) as before but since the sinter plant and blast furnace systems were removed from the Outfall 011 discharge and redirected to Outfall 009, the ammonia and phenol allocations have been rearranged but the total net limits will still apply across the three outfalls as before.

Outfall 010

Outfall 010 consists of storm water, ground water from basement sumps, and non-contact cooling wastewater from the blast furnace, sinter plant, powerhouse and boiler house. Outfall 010 also collects overflow from Outfall 009 and from the blast furnace recirculation system in the event of an emergency. Categorical limits will apply at Internal Outfall 509.

Outfall 011

Outfall 011 previously consisted of sinter plant (40 CFR 420.20), blast furnace (40 CFR 420.30), vacuum degassing (40 CFR 420.50), and continuous casting (40 CFR 420.60) process wastewaters. However, the facility directed the sinter plant and blast furnace wastewaters to Outfall 009 via Internal Outfall 509 and has incorporated two new treatment systems for the vacuum degasser and continuous casting process wastewaters, respectively. Internal Outfall 701 will be included to regulate the vacuum degasser operations (40 CFR 420.50) while Internal Outfall 702 will be included to regulate the continuous casting operations (40 CFR 420.60).

Internal Outfall 701

The new treatment system for the vacuum degasser process wastewater is incorporated into this NPDES permit. Internal monitoring point 701 will be included to regulate the discharge with categorical effluent limits for the vacuum degasser operations (40 CFR 420.50). As indicated in the previous permit, New Source Performance Standards (NSPS) are included for the vacuum degassing and are more stringent than the BAT/BPT limitations.

The facility has indicated that it is feasible to direct the treated effluent from the vacuum degasser treatment system to the BOF and evaporated. Therefore, TBELs at Internal Outfall 701 will only apply when wastewater from 701 is expected to be discharged to the receiving stream. Flow at Internal Outfall 701 will be monitored regardless of the wastestream's fate.

Total Suspended Solids					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.54 (NSPS)	4,069.1 Tons/Day	0.00261 lbs/1000lbs	21.2	0.00730 lbs/1000lbs	59.4
Total TSS Limitation		21.2 lbs/day		59.4 lbs/day	

Lead					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.54 (NSPS)	4,069.1 Tons/Day	0.0000313 lbs/1000lbs	0.255	0.0000939 lbs/1000lbs	0.764
Total Lead Limitation		0.255 lbs/day		0.764 lbs/day	

Zinc					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.54 (NSPS)	4,069.1 Tons/Day	0.0000469 lbs/1000lbs	0.382	0.000141 lbs/1000lbs	1.15
Total Zinc Limitation		0.382 lbs/day		1.15 lbs/day	

The categorical limitations included at Internal Outfall 701 are:

- TSS, Lead, and Zinc

  The above mentioned parameters have TBELs that are more stringent than the Water Quality-Based Effluent Limitations (WQBELs). Therefore, the TBELs for monthly average and daily maximums, identified in the tables above, are included at Internal Outfall 701.

Internal Outfall 702

The new treatment system for the continuous casting process wastewaters is incorporated into this NPDES permit. Internal monitoring point 702 will be included to regulate the discharge in regards to applicable categorical effluent limits for the continuous casting operations (40 CFR 420.60). As indicated in the previous permit, New Source Performance Standards (NSPS) are included for the continuous casting operations and are more stringent than the BAT/BPT limitations.

The facility has indicated that it is feasible to direct the treated effluent from the continuous casting treatment system to the BOF and evaporated. Therefore, TBELs at Internal Outfall 702 will only apply when wastewater from 702 is expected to be discharged to the receiving stream. Flow at Internal Outfall 702 will be monitored regardless of the wastestream's fate.

Total Suspended Solids					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.64 (NSPS)	11,558.7 Tons/Day	0.00261 lbs/1000lbs	60.3	0.00730 lbs/1000lbs	169
Total TSS Limitation		60.3 lbs/day		169 lbs/day	

Oil and Grease					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.64 (NSPS)	11,558.7 Tons/Day	0.00104 lbs/1000lbs	24.0	0.00313 lbs/1000lbs	72.4
Total O+G Limitation		24.0 lbs/day		72.4 lbs/day	

Lead					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.64 (NSPS)	11,558.7 Tons/Day	0.0000313 lbs/1000lbs	0.724	0.0000939 lbs/1000lbs	2.17
Total Lead Limitation		0.724 lbs/day		2.17 lbs/day	

Zinc					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.64 (NSPS)	11,558.7 Tons/Day	0.0000469 lbs/1000lbs	1.08	0.000141 lbs/1000lbs	3.26
Total Zinc Limitation		1.08 lbs/day		3.26 lbs/day	

The categorical limitations included at Internal Outfall 702 are:

- TSS, O+G, Lead, and Zinc
  The above mentioned parameters have TBELs that are more stringent than the Water Quality-Based Effluent Limitations (WQBELs). Therefore, the TBELs for

EXHIBIT 6

monthly average and daily maximums, identified in the tables above, are included at Internal Outfall 702.

Outfall 012

Outfall 012 currently consists of storm water, ground water from basement sumps, non-contact cooling water and discharges from Internal Outfalls 111 and 211. No categorical limits apply at this point.

Internal Outfall 111

Internal Outfall 111 consists of process wastewaters from the Hot Strip Mill (40 CFR 420.70). Internal Outfall 111 is designated as immediately after the filter plant but prior to entry into the North Lagoon.

Total Suspended Solids					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.72(c)(1) (BPT)	11,664 Tons/Day	0.160 lbs/1000lbs	3,732	0.427 lbs/1000lbs	9,961
420.73 (BAT)		-------	--------	--------	--------
Total TSS Limitation		3,732 lbs/day		9,961 lbs/day	

Oil and Grease					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.72(c)(1) (BPT)	11,664 Tons/Day	1/3 x 0.107 lbs/1000lbs*	832*	0.107 lbs/1000lbs	2,496
420.73 (BAT)		-------	--------	--------	--------
Total O+G Limitation		832* lbs/day		2,496 lbs/day	

The categorical limitations included at Internal Outfall 111 are:

- TSS and O+G

The above mentioned parameters have TBELs that are more stringent than the Water Quality-Based Effluent Limitations (WQBELs). Therefore, the TBELs for monthly average and daily maximums, identified in the tables above, are included for Internal Outfall 111. However, the wastewaters from Internal Outfall 111 and 211 have the potential to comingle. Therefore, reporting requirements will be incorporated at Internal Outfall 111 and the summation of mass loading for 111 and 211 will be incorporated at Internal Outfall 411.

* There are no categorical monthly average limitations for oil and grease at Internal Outfall 111. Since there is an inherent contribution of oil and grease, that must be considered for calculation at Internal Outfall 411. IDEM has determined ,under authority of BPJ, that 1/3 of the daily

maximum limitations will be used to calculate the summation of oil and grease monthly limitations at Internal Outfall 411.

Internal Outfall 211

Internal Outfall 211 consists of pickling (40 CFR 420.90) and cold rolling process wastewaters (40 CFR 420.100). Internal Outfall 211 is designated as immediately after the Oily Wastewater Treatment Plant but prior to comingling with any other wastestreams.

Total Suspended Solids					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.92(b)(2) (BPT)	4,335.6 Tons/Day	0.0350 lbs/1000lbs	303	0.0818 lbs/1000lbs	709
420.93(b)(2) (BAT)		-------	---------	---------	---------
420.92(b)(4) (BPT)	2 Scrubbers	2.45 kg/day	10.8	5.72 kg/day	25.2
420.93(b)(4) (BAT)		-------	---------	---------	---------
420.102(a)(2) (BPT)	4,961.5 Tons/Day	0.00313 lbs/1000lbs	31.1	0.00626 lbs/1000lbs	62.1
420.103(a)(2) (BAT)		-------	---------	---------	---------
420.102(a)(5) (BPT)	3,038.6 Tons/Day	0.0501 lbs/1000lbs	304	0.100 lbs/1000lbs	608
420.103(a)(5) (BAT)		-------	---------	---------	---------
Total TSS Limitation		649 lbs/day		1,404 lbs/day	

[1] Below is an example TSS calculation for Hydrochloric Acid Pickling; Fume Scrubbers:

$$\text{TSS Average Monthly Limit} = 2.45\frac{kg}{day} \times 2.20\frac{lb}{kg} \times 2 Scrubbers = 10.8\frac{lb}{day}$$

Oil and Grease					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.92(b)(2) (BPT)	4,335.6 Tons/Day	0.0117 lbs/1000lbs	101	0.0350 lbs/1000lbs	303
420.93(b)(2) (BAT)		-------	---------	---------	---------
420.92(b)(4) (BPT)	2 Scrubbers	0.819 kg/day	3.60	2.45 kg/day	10.8
420.93(b)(4) (BAT)		-------	---------	---------	---------
420.102(a)(2) (BPT)	4,961.5 Tons/Day	0.00104 lbs/1000lbs	10.3	0.00261 lbs/1000lbs	25.9
420.103(a)(2) (BAT)		-------	---------	---------	---------
420.102(a)(5) (BPT)	3,038.6 Tons/Day	0.0167 lbs/1000lbs	101	0.0417 lbs/1000lbs	253
420.103(a)(5) (BAT)		-------	---------	---------	---------
Total O+G Limitation		216 lbs/day		593 lbs/day	

EXHIBIT 6

Lead					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.92(b)(2) (BPT)	4,335.6 Tons/Day	0.000175 lbs/1000lbs	1.52	0.000526 lbs/1000lbs	4.56
420.93(b)(2) (BAT)		0.000175 lbs/1000lbs	1.52	0.000526 lbs/1000lbs	4.56
420.92(b)(4) (BPT)	2 Scrubbers	0.0123 kg/day	0.0541	0.0368 kg/day	0.162
420.93(b)(4) (BAT)		0.0123 kg/day	0.0541	0.0368 kg/day	0.162
420.102(a)(2) (BPT)	4,961.5 Tons/Day	0.0000156 lbs/1000lbs	0.155	0.0000469 lbs/1000lbs	0.465
420.103(a)(2) (BAT)		0.0000156 lbs/1000lbs	0.155	0.0000469 lbs/1000lbs	0.465
420.102(a)(5) (BPT)	3,038.6 Tons/Day	0.000250 lbs/1000lbs	1.52	0.000751 lbs/1000lbs	4.56
420.103(a)(5) (BAT)		0.000250 lbs/1000lbs	1.52	0.000751 lbs/1000lbs	4.56
Total Lead Limitation		3.25 lbs/day		9.75 lbs/day	

Zinc					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.92(b)(2) (BPT)	4,335.6 Tons/Day	0.000234 lbs/1000lbs	2.03	0.000701 lbs/1000lbs	6.08
420.93(b)(2) (BAT)		0.000234 lbs/1000lbs	2.03	0.000701 lbs/1000lbs	6.08
420.92(b)(4) (BPT)	2 Scrubbers	0.0164 kg/day	0.0722	0.0491 kg/day	0.216
420.93(b)(4) (BAT)		0.0164 kg/day	0.0722	0.0491 kg/day	0.216
420.102(a)(2) (BPT)	4,961.5 Tons/Day	0.0000104 lbs/1000lbs	0.103	0.0000313 lbs/1000lbs	0.311
420.103(a)(2) (BAT)		0.0000104 lbs/1000lbs	0.103	0.0000313 lbs/1000lbs	0.311
420.102(a)(5) (BPT)	3,038.6 Tons/Day	0.000167 lbs/1000lbs	1.01	0.000501 lbs/1000lbs	3.04
420.103(a)(5) (BAT)		0.000167 lbs/1000lbs	1.01	0.000501 lbs/1000lbs	3.04
Total Zinc Limitation		3.22 lbs/day		9.65 lbs/day	

EXHIBIT 6

Chromium					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.92(b)(2) (BPT) **420.93(b)(2)** (BAT)	4,335.6 Tons/Day	PARAMETER NOT IDENTIFIED IN THIS CATEGORY			
420.92(b)(4) (BPT) **420.93(b)(4)** (BAT)	2 Scrubbers	PARAMETER NOT IDENTIFIED IN THIS CATEGORY			
420.102(a)(2) (BPT) **420.103(a)(2)** (BAT)	4,961.5 Tons/Day	COLD ROLLING WASTEWATERS ARE NOT TREATED WITH DESCALING OR COMBINATION ACID PICKLING WASTEWATERS. THEREFORE, CHROMIUM LIMITATIONS ARE NOT APPLICABLE FROM THIS CATEGORY.			
420.102(a)(5) (BPT) **420.103(a)(5)** (BAT)	3,038.6 Tons/Day	COLD ROLLING WASTEWATERS ARE NOT TREATED WITH DESCALING OR COMBINATION ACID PICKLING WASTEWATERS. THEREFORE, CHROMIUM LIMITATIONS ARE NOT APPLICABLE FROM THIS CATEGORY.			
Total Chromium Limitation		NOT APPLICABLE		NOT APPLICABLE	

Nickel					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.92(b)(2) (BPT) **420.93(b)(2)** (BAT)	4,335.6 Tons/Day	PARAMETER NOT IDENTIFIED IN THIS CATEGORY			
420.92(b)(4) (BPT) **420.93(b)(4)** (BAT)	2 Scrubbers	PARAMETER NOT IDENTIFIED IN THIS CATEGORY			
420.102(a)(2) (BPT) **420.103(a)(2)** (BAT)	4,961.5 Tons/Day	COLD ROLLING WASTEWATERS ARE NOT TREATED WITH DESCALING OR COMBINATION ACID PICKLING WASTEWATERS. THEREFORE, CHROMIUM LIMITATIONS ARE NOT APPLICABLE FROM THIS CATEGORY.			
420.102(a)(5) (BPT) **420.103(a)(5)** (BAT)	3,038.6 Tons/Day	COLD ROLLING WASTEWATERS ARE NOT TREATED WITH DESCALING OR COMBINATION ACID PICKLING WASTEWATERS. THEREFORE, CHROMIUM LIMITATIONS ARE NOT APPLICABLE FROM THIS CATEGORY.			
Total Nickel Limitation		NOT APPLICABLE		NOT APPLICABLE	

EXHIBIT 6

Naphthalene					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.92(b)(2) (BPT)	4,335.6 Tons/Day	PARAMETER NOT IDENTIFIED IN THIS CATEGORY			
420.93(b)(2) (BAT)					
420.92(b)(4) (BPT)	2 Scrubbers	PARAMETER NOT IDENTIFIED IN THIS CATEGORY			
420.93(b)(4) (BAT)					
420.102(a)(2) (BPT)	4,961.5 Tons/Day	----------	--------	0.0000104 lbs/1000lbs	0.103
420.103(a)(2) (BAT)		----------	--------	0.0000104 lbs/1000lbs	0.103
420.102(a)(5) (BPT)	3,038.6 Tons/Day	----------	--------	0.000167 lbs/1000lbs	1.01
420.103(a)(5) (BAT)		----------	--------	0.000167 lbs/1000lbs	1.01
Total Naphthalene Limitation		----------		1.11 lbs/day	

Tetrachloroethylene					
40 CFR	Production	Monthly Average		Daily Maximum	
		Categorical Limitation	Subtotal (lbs/day)	Categorical Limitation	Subtotal (lbs/day)
420.92(b)(2) (BPT)	4,335.6 Tons/Day	PARAMETER NOT IDENTIFIED IN THIS CATEGORY			
420.93(b)(2) (BAT)					
420.92(b)(4) (BPT)	2 Scrubbers	PARAMETER NOT IDENTIFIED IN THIS CATEGORY			
420.93(b)(4) (BAT)					
420.102(a)(2) (BPT)	4,961.5 Tons/Day	----------	--------	0.0000156 lbs/1000lbs	0.155
420.103(a)(2) (BAT)		----------	--------	0.0000156 lbs/1000lbs	0.155
420.102(a)(5) (BPT)	3,038.6 Tons/Day	----------	--------	0.000250 lbs/1000lbs	1.52
420.103(a)(5) (BAT)		----------	--------	0.000250 lbs/1000lbs	1.52
Total TCE Limitation		----------		1.68 lbs/day	

The categorical limitations included at Internal Outfall 211 are:

- TSS and O+G,

  The above mentioned parameters have TBELs that are more stringent than the Water Quality-Based Effluent Limitations (WQBELs). Therefore, the TBELs for monthly average and daily maximums, identified in the tables above, are included for Internal Outfall 211. However, reporting requirements will be incorporated at Internal Outfall 211 and the summation of mass loading for 111 and 211 will be incorporated at Internal Outfall 411 because wastewater from the oily waste sumps and the rolling operations have the potential to commingle with wastewater from Internal Outfall 111.

- Lead and Zinc

  The calculated daily maximum WQBEL for lead is more stringent than the TBELs calculated in the table above. Therefore, the daily maximum WQBEL for this parameter has have been included at Internal Outfall 211 to ensure Indiana's Water Quality Standards are not violated. The calculated monthly average TBEL

for lead, however, is more stringent than the WQBEL and, since it is specific to Internal Outfall 211, is enforced at Internal Outfall 211; not Internal Outfall 411.

The TBEL for zinc is more stringent than the calculated WQBEL. Therefore, daily maximum and monthly average TBELS for zinc is included at Internal Outfall 211. Since zinc is specific to Internal Outfall 211, limitations will apply there; not at Internal Outfall 411.

- Naphthalene and Tetrachloroethylene (TCE)

  The daily maximum TBELs identified in the table above for naphthalene and TCE are more stringent than the WQBELs for those parameters and have been included at Internal Outfall 211. The above identified parameters are specific to Internal Outfall 211 and will apply there; not at Internal Outfall 411.

Internal Outfall 411

The permittee requested during the application process that an additional monitoring point be established that included the summation of mass loadings at Internal Outfalls 111 and 211. Due to the fact that the wastestreams from each treatment system has the ability to comingle, Internal Outfall 411 is incorporated as the summation of TBELs at Internal Outfalls 111 and 211 for TSS and Oil and Grease. Zinc, lead, naphthalene, and TCE are specific to Internal Outfall 211 and TBELs will be enforced there.

5.3 Water Quality-Based Effluent Limits

The water quality-based effluent limitations for this facility are based on water quality criteria in 327 IAC 2-1.5-8 or under the procedures described in 327 IAC 2-1.5-11 through 327 IAC 2-1.5-16 and implementation procedures in 327 IAC 5. Further discussion concerning water-quality based effluent derivation has been included as Attachment A of this Fact Sheet.

- Flow

  The permittee's flow at each outfall is to be monitored in accordance with 327 IAC 5-2-13(a)2.

- pH

  Limitations for pH for each outfall in the proposed permit are taken from 327 IAC 2-1.5-8(c)(2).

Outfall 002

Outfall 002 contains storm water, ground water from basement sumps, and non-contact cooling wastewater from the pickling and hot-dip galvanizing lines. The following parameters have been included at Outfall 002.

- Oil and Grease (O+G) and Total Suspended Solids (TSS

  The above mentioned parameters are carried over from the previous permit. Reporting requirements will be included for the above mentioned parameters at Outfall 002.

- Temperature and Thermal Discharge Report

  Based on the results of instream sampling and a multi-discharger thermal model, the discharges from AM West do not have a reasonable potential to exceed a water quality criterion for temperature. However, in accordance with 327 IAC 5-2-11.5(e), the commissioner may require monitoring for a pollutant of concern even if it is determined that a WQBEL is not required based on a reasonable

potential determination. Therefore, monitoring for temperature and thermal discharge is added to this outfall.

- Total Residual Chlorine (TRC)

The TRC effluent limit was calculated in the WLA and is 1.5 lbs/day (0.016 mg/l) for monthly average and 3.5 lbs/day (0.038 mg/l) for the daily maximum. The limit is included because the facility chlorinates/dechloronates water. The daily maximum WQBEL for TRC is greater than the Level of Detection (LOD) but less than the Level of Quantization (LOQ). Compliance with the daily maximum concentration limit will be demonstrated if the observed effluent concentrations are less than the LOQ (0.06 mg/l). Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 19.7 lbs/day. This is calculated by multiplying the LOQ by the discharge flow in MGD and by a conversion factor of 8.345. Monitoring for TRC shall be performed during Zebra or Quagga mussel intake chlorination, and continue for three additional days after Zebra or Quagga mussel treatment has been completed.

- Mercury

Mercury was identified in the permittee's application in quantities that showed a Reasonable Potential to Exceed (RPE) Indiana's Water Quality Criteria. Therefore, WQBELs for mercury were calculated in the WLA report and identify the monthly average as 0.00012 lbs/day (1.3 ng/l) and the daily maximum as 0.00030 lbs/day (3.2 ng/l) at Outfall 002. A fifty-four (54) month schedule of compliance has been incorporated into this permit for this parameter.

- Free Cyanide and Fluoride

Monitoring requirements for the above mentioned parameters is included to determine if a Reasonable Potential to Exceed (RPE) Indiana WQBELs exists. The monitoring of these parameters will begin no later than the thirty-sixth (36) months from the effective date of the permit and will last for twelve (12) consecutive months. The information gathered from the monitoring program will be used for RPE calculations in the next NPDES permit renewal and shall be submitted to IDEM with the next renewal application.

Outfall 009

Outfall 009 contains storm water, ground water from basement sumps, and non-contact cooling wastewater from the powerhouse area. The discharges to Outfall 009 will incorporate a new treatment system for the blast furnace and sinter plant blowdown. Categorical limits will apply at Internal Outfall 509.

- O+G, TSS, Lead, and Zinc

The above mentioned parameters are identified in the federally promulgated guidelines for this facility. The WQBELs for the above mentioned parameters is less stringent than the TBELs. TBELs will be monitored at Internal Outfall 509. However, reporting requirements will be included for the above mentioned parameters at Outfall 009.

- Temperature and Thermal Discharge Report

Based on the results of instream sampling and a multi-discharger thermal model, the discharges from AM West do not have a reasonable potential to exceed a water quality criterion for temperature. However, in accordance with 327 IAC 5-

2-11.5(e), the commissioner may require monitoring for a pollutant of concern even if it is determined that a WQBEL is not required based on a reasonable potential determination. Therefore, monitoring for temperature and thermal discharge is added to this outfall.

- Total Residual Chlorine (TRC)

The TRC effluent limit was calculated in the WLA and is 5.5 lbs/day (0.012 mg/l) for monthly average and 13 lbs/day (0.028 mg/l) for the daily maximum. The limit is included because the facility chlorinates/dechloronates water. The daily maximum WQBEL for TRC is greater than the Level of Detection (LOD) but less than the Level of Quantization (LOQ). Compliance with the daily maximum concentration limit will be demonstrated if the observed effluent concentrations are less than the LOQ (0.06 mg/l). Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 27.7 lbs/day. This is calculated by multiplying the LOQ by the discharge flow in MGD and by a conversion factor of 8.345. Monitoring for TRC shall be performed during Zebra or Quagga mussel intake chlorination, and continue for three additional days after Zebra or Quagga mussel treatment has been completed.

- Free Cyanide and Fluoride

Monitoring requirements for the above mentioned parameters is included to determine if a Reasonable Potential to Exceed (RPE) Indiana WQBELs exists. The monitoring of these parameters will begin no later than the thirty-sixth (36) months from the effective date of the permit and will last for twelve (12) consecutive months. The information gathered from the monitoring program will be used for RPE calculations in the next NPDES permit renewal and shall be submitted to IDEM with the next renewal application.

- Ammonia-N and Phenols

Section 301(g) of the Clean Water Act provides variances to BAT limitations. The facility has a previously approved 301(g) variance for ammonia and phenols. That variance approved net limitations for ammonia and phenols for Outfalls 009, 010, and 011. The facility has submitted a request for a continuance of the 301(g) variance for ammonia and phenols (4AAP). This request proposes a gross ammonia-N limitation of 600 lbs/day monthly average and 1,450 lbs/day daily maximum and a phenol daily maximum limitation of 21 lbs/day at Internal Outfall 509. IDEM has reviewed the submittal from ArcelorMittal and, as a result of that review, determined that the net limit requirements for the three outfalls shall remain in the permit. The variance will assign specific net limits for ammonia (as N) and phenols (4AAP) as before but since the sinter plant and blast furnace systems were removed from the Outfall 011 discharge and redirected to Outfall 009, the ammonia and phenol allocations have been rearranged but the total net limits will still apply across the three outfalls as before.

- Mercury

Mercury was identified in the permittee's application in quantities that showed a Reasonable Potential to Exceed (RPE) Indiana's Water Quality Criteria. Therefore, WQBELs for mercury were calculated in the WLA report and identify the monthly average as 0.00060 lbs/day (1.3 ng/l) and the daily maximum as

0.0015 lbs/day (3.2 ng/l). A fifty-four (54) month schedule of compliance has been incorporated into this permit for this parameter.

Outfall 010

Outfall 010 consists of storm water, ground water from basement sumps, and non-contact cooling wastewater from the blast furnace, sinter plant, powerhouse and boiler house. Outfall 010 also collects overflow from Outfall 009 and from the blast furnace recirculation system in the event of an emergency.

- O+G, TSS, Lead, and Zinc

  The above mentioned parameters are identified in the federally promulgated guidelines for this facility at Outfall 009. Since Outfall 010 accepts an overflow from 009, TBELs are still applicable at Internal Outfall 509. In addition, reporting requirements for the above mentioned parameters will be included at Outfall 010.

- Total Residual Chlorine (TRC)

  The TRC effluent limit was calculated in the WLA and is 3.7 lbs/day (0.012 mg/l) for monthly average and 8.6 lbs/day (0.028 mg/l) for the daily maximum. The limit is included because the facility chlorinates/dechloronates water. The daily maximum WQBEL for TRC is greater than the Level of Detection (LOD) but less than the Level of Quantization (LOQ). Compliance with the daily maximum concentration limit will be demonstrated if the observed effluent concentrations are less than the LOQ (0.06 mg/l). Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 18.3 lbs/day. This is calculated by multiplying the LOQ by the discharge flow in MGD and by a conversion factor of 8.345. Monitoring for TRC shall be performed during Zebra or Quagga mussel intake chlorination, and continue for three additional days after Zebra or Quagga mussel treatment has been completed.

- Temperature and Thermal Discharge Report

  Based on the results of instream sampling and a multi-discharger thermal model, the discharges from AM West do not have a reasonable potential to exceed a water quality criterion for temperature. However, in accordance with 327 IAC 5-2-11.5(e), the commissioner may require monitoring for a pollutant of concern even if it is determined that a WQBEL is not required based on a reasonable potential determination. Therefore, monitoring for temperature and thermal discharge is added to this outfall.

- Free Cyanide and Fluoride

  Monitoring requirements for the above mentioned parameters is included to determine if a Reasonable Potential to Exceed (RPE) Indiana WQBELs exists. The monitoring of these parameters will begin no later than the thirty-sixth (36) months from the effective date of the permit and will last for twelve (12) consecutive months. The information gathered from the monitoring program will be used for RPE calculations in the next NPDES permit renewal and shall be submitted to IDEM with the next renewal application.

- Ammonia and Phenols

  Section 301(g) of the Clean Water Act provides variances to BAT limitations. The facility has a previously approved 301(g) variance for ammonia and phenols.

That variance approved net limitations for ammonia and phenols for Outfalls 009, 010, and 011. The facility has submitted a request for a continuance of the 301(g) variance for ammonia and phenols (4AAP). This request proposes a gross ammonia-N limitation of 600 lbs/day monthly average and 1,450 lbs/day daily maximum and a phenol daily maximum limitation of 21 lbs/day at Internal Outfall 509. IDEM has reviewed the submittal from ArcelorMittal and, as a result of that review, determined that the net limit requirements for the three outfalls shall remain in the permit. The variance will assign specific net limits for ammonia (as N) and phenols (4AAP) as before but since the sinter plant and blast furnace systems were removed from the Outfall 011 discharge and redirected to Outfall 009, the ammonia and phenol allocations have been rearranged but the total net limits will still apply across the three outfalls as before.

- Mercury

Mercury was identified in the permittee's application in quantities that showed a Reasonable Potential to Exceed (RPE) Indiana's Water Quality Criteria. Therefore, WQBELs for mercury were calculated in the WLA report and identify the monthly average as 0.00040 lbs/day (1.3 ng/l) and the daily maximum as 0.00098 lbs/day (3.2 ng/l). A fifty-four (54) month schedule of compliance has been incorporated into this permit for this parameter.

Outfall 011

Outfall 011 currently consists of storm water, ground water, vacuum degassing, continuous casting, and on-site oil processing facility process wastewaters, boiler house wastewater, vacuum truck decant as well as non-contact cooling water serving the BOF, vacuum degasser and continuous caster. The proposed changes contributing to Outfall 011 will incorporate a new treatment system for the vacuum degasser process wastewater and continuous casting process wastewaters.

- TSS, O+G, Lead and Zinc

The above mentioned parameters are identified in the federally promulgated guidelines for this facility. The WQBELs for the above mentioned parameters is less stringent than the TBELs. TBELs will be monitored at Internal Outfalls 701 and 702. However, reporting requirements will be included for the above mentioned parameters at Outfall 011.

- Ammonia, and Phenols

Section 301(g) of the Clean Water Act provides variances to BAT limitations. The facility has a previously approved 301(g) variance for ammonia and phenols. That variance approved net limitations for ammonia and phenols for Outfalls 009, 010, and 011. The facility has submitted a request for a continuance of the 301(g) variance for ammonia and phenols (4AAP). This request proposes a gross ammonia-N limitation of 600 lbs/day monthly average and 1,450 lbs/day daily maximum and a phenol daily maximum limitation of 21 lbs/day at Internal Outfall 509. IDEM has reviewed the submittal from ArcelorMittal and, as a result of that review, determined that the net limit requirements for the three outfalls shall remain in the permit. The variance will assign specific net limits for ammonia (as N) and phenols (4AAP) as before but since the sinter plant and blast furnace systems were removed from the Outfall 011 discharge and redirected to Outfall 009, the ammonia and phenol allocations have been rearranged but the total net limits will still apply across the three outfalls as before.

- Free Cyanide and Fluoride

Monitoring requirements for the above mentioned parameters is included to determine if a Reasonable Potential to Exceed (RPE) Indiana WQBELs exists. The monitoring of these parameters will begin no later than the thirty-sixth (36) months from the effective date of the permit and will last for twelve (12) consecutive months. The information gathered from the monitoring program will be used for RPE calculations in the next NPDES permit renewal and shall be submitted to IDEM with the next renewal application.

- Temperature and Thermal Discharge Report

Based on the results of instream sampling and a multi-discharger thermal model, the discharges from AM West do not have a reasonable potential to exceed a water quality criterion for temperature. However, in accordance with 327 IAC 5-2-11.5(e), the commissioner may require monitoring for a pollutant of concern even if it is determined that a WQBEL is not required based on a reasonable potential determination. Therefore, monitoring for temperature and thermal discharge is added to this outfall.

- Total Residual Chlorine (TRC)

The TRC effluent limit was calculated in the WLA and is 2.5 lbs/day (0.013 mg/l) for monthly average and 5.9 lbs/day (0.030 mg/l) for the daily maximum. The limit is included because the facility chlorinates/dechloronates water. The daily maximum WQBEL for TRC is greater than the Level of Detection (LOD) but less than the Level of Quantization (LOQ). Compliance with the daily maximum concentration limit will be demonstrated if the observed effluent concentrations are less than the LOQ (0.06 mg/l). Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 11.7 lbs/day. This is calculated by multiplying the LOQ by the discharge flow in MGD and by a conversion factor of 8.345. Monitoring for TRC shall be performed during Zebra or Quagga mussel intake chlorination, and continue for three additional days after Zebra or Quagga mussel treatment has been completed.

- Mercury

Mercury was identified in the permittee's application in quantities that showed a Reasonable Potential to Exceed (RPE) Indiana's Water Quality Criteria. Therefore, WQBELs for mercury were calculated in the WLA report and identify the monthly average as 0.00040 lbs/day (1.3 ng/l) and the daily maximum as 0.00098 lbs/day (3.2 ng/l). A fifty-four (54) month schedule of compliance has been incorporated into this permit for this parameter.

Outfall 012

Outfall 012 consists of storm water, ground water from basement sumps, and discharges from Internal Outfalls 111 and 211.

- Ammonia and Mercury

Monitoring requirements for the above mentioned parameters is included to determine if a Reasonable Potential to Exceed (RPE) Indiana WQBELs exists.

- Vanadium and Zinc

Vanadium and zinc were identified in the permittee's application in quantities that showed a Reasonable Potential to Exceed (RPE) Indiana's Water Quality

Criteria. Therefore, WQBELs for vanadium and zinc were calculated in the Attachment A report and identify the monthly average as 13 lbs/day (0.022mg/l) and the daily maximum as 26 lbs/day (0.044mg/l) for vanadium and 76 lbs/day (0.13mg/l) monthly average and 150 lbs/day (0.26mg/l) daily maximum for zinc.

- Lead

  The daily maximum WQBEL for lead is more stringent than the daily maximum TBEL. Therefore, the daily maximum WQBEL for lead is included at Internal Outfall 211 in lieu of the less stringent TBEL.

- Total Residual Chlorine (TRC)

  The TRC effluent limit was calculated in the WLA and is 5.8 lbs/day (0.010 mg/l) for monthly average and 12 lbs/day (0.020 mg/l) for the daily maximum. The limit is included because the facility chlorinates/dechloronates water. The daily maximum WQBEL for TRC is greater than the Level of Detection (LOD) but less than the Level of Quantization (LOQ). Compliance with the daily maximum concentration limit will be demonstrated if the observed effluent concentrations are less than the LOQ (0.06 mg/l). Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 35.0 lbs/day. This is calculated by multiplying the LOQ by the discharge flow in MGD and by a conversion factor of 8.345. Monitoring for TRC shall be performed during Zebra or Quagga mussel intake chlorination, and continue for three additional days after Zebra or Quagga mussel treatment has been completed.

5.4 Whole Effluent Toxicity

The Indiana Water Quality Standards require that a discharge shall not cause acute toxicity, as measured by Whole Effluent Toxicity Tests (WETT), at any point in the water body and that a discharge shall not cause chronic toxicity, as measured by whole effluent toxicity tests, outside of the applicable mixing zone. Per Indiana Rule 327 IAC 5-2-11 .5(c)(2), the commissioner may include, in the NPDES permit, WETT requirements to generate the data needed to adequately characterized the toxicity of the effluent to aquatic life.

Therefore, the permittee is required to conduct WETT at Outfalls 009, 011, and 012 based upon the combination of process wastestreams and the use of several water treatment additives. This does not negate the necessity to submit Water Treatment Additive (WTA) approval worksheets for additives used at this site.

5.5 Antibacksliding

Pursuant to 327 IAC 5-2-10(11) a permit may not be renewed, reissued or modified which contain effluent limitations that are less stringent than the comparable effluent limitation in the previous permit. Antibacksliding is not an issue in this NPDES permit.

5.6 Antidegradation

The Indiana Harbor and Ship Canal is a high quality water of the Great Lakes Basin, as defined in 327 IAC 2-1.5-4. The Indiana Harbor and Ship Canal is also a tributary to Lake Michigan, which is designated as an Outstanding State Resource Water (OSRW). According to 327 IAC 5-2-11.7(a)(2), for a new or increased discharge of a pollutant or pollutant parameter from a new or existing Great Lakes discharger into a tributary of an OSRW for which a new or increased permit limit would be required, the following apply:

(1) 5-2-11.3(a) and 5-2-11.3(b) apply to the new or increased discharge; and

(2) the discharge shall not cause a significant lowering of water quality in the OSRW.

A complete antidegradation review of the proposed ArcelorMittal permit is included in Attachment A of this Fact Sheet. Based on the antidegradation review, the Department has determined that the proposed permit complies with the antidegradation policy found in 2-1.5-4 and an antidegradation demonstration is not required.

New mass limits for Total Residual Chlorine are required at Outfalls 002, 009, 010 and 011. The current permit only has concentration limits at these outfalls and they are less stringent than the proposed concentration limits. The existing effluent flow was used to calculate the WQBELs for the proposed permit so the new mass limits will not result in a concentration increase outside of the mixing zone. Therefore, the new mass limits will not cause a significant lowering of water quality and antidegradation under 5-2-11.3(b) is satisfied.

New limits for Mercury are required at Outfalls 002, 009, 010 and 011 based on a reasonable potential analysis using data collected in 1999. Since the permit was last renewed in 1986, more stringent water quality criteria for Mercury have become effective and a new analytical method has become available that allows Mercury in the discharge to be quantified. The new limits for Mercury are a result of the following items in the antidegradation exemption in 5-2-11.3(b)(1)(C)(ii):

(AA) New or improved monitoring data.
(BB) New or improved analytical methods.
(CC) New or modified water quality criteria or values.

The new limits for Mercury are not a result of changes in pollutant loading and will not allow an increase in pollutant loading since the projected effluent quality is greater than the proposed effluent limits and the existing discharge flow was used to calculate the proposed mass limits. Therefore, the new limits for Mercury at Outfall 011 do not cause a lowering of water quality for Mercury and antidegradation under 5-2-11.3(a) is satisfied, and the new limits for Mercury at Outfalls 002, 009 and 010 do not cause a significant lowering of water quality for Mercury and antidegradation under 5-2-11.3(b) is satisfied.

A new concentration TBEL for 2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF) is required at Internal Outfall 509. A TBEL for this pollutant was added to the sintering subcategory under 40 CFR Part 420.23(a) during the 2002 revision of the Federal Effluent Limitations Guidelines for the Iron and Steel Manufacturing Point Source Category. Therefore, a TBEL for this pollutant was not applicable when the 1986 permit was issued. The new TBEL is a result of the application of a new Federal Effluent Limitation Guideline and falls under the antidegradation exemption in 5-2-11.3(b)(1)(C)(ii)(DD) so it does not cause a significant lowering of water quality and antidegradation under 5-2-11.3(b) is satisfied.

New TBELs for Naphthalene and Tetrachloroethylene are required at Internal Outfall 211 as a result of the new application of TBELs at this outfall and are a new application of Federal Effluent Limitations Guidelines. Therefore, the new TBELs fall under the antidegradation exemption in 5-2-11.7(b)(2)(D) and antidegradation under 5-2-11.7 is satisfied.

A new monthly average TBEL for Oil and Grease is required at Internal Outfall 411 which is a mathematical combination of the discharges from Internal Outfalls 111 and 211. Monthly average and daily maximum TBELs for Oil and Grease were authorized for the combination of

Internal Outfalls 111 and 211 under the current permit, but only a daily maximum limit was applied. The Fact Sheet of the 1986 permit includes the calculation of monthly average and daily maximum TBELs for Oil and Grease at Internal Outfalls 111 and 211. The TBELs were a combination of the monthly average and daily maximum mass allowed for several process operations with separate TBELs. Monthly average TBELs were not provided for the Hot Strip Mill under 40 CFR 420.72(c)(1). A portion of the calculated daily maximum TBELs for other process operations at the facility were also bubbled to Internal Outfalls 111 and 211. Through application of BPJ, IDEM has calculated for the permit renewal, based on current production, monthly average mass limits for the 84-inch Hot Strip Mill at one-third of the daily maximum. In the Fact Sheet of the 1986 permit, the combined monthly average allowance for the process operations contributing to Internal Outfalls 111 and 211 that had monthly average TBELs was 321.31 lbs/day and the daily maximum TBEL for the Hot Strip Mill was 3142.2 lbs/day. The amount of daily maximum mass that was bubbled to Internal Outfalls 111 and 211 was 1154 lbs/day. The monthly average mass for the Hot Strip Mill calculated as one-third of the daily maximum is 1047.4 lbs/day. The monthly average mass bubbled calculated through BPJ as one-third of the daily maximum is 385 lbs/day. The monthly average Oil and Grease limit for Internal Outfalls 111 and 211 that was authorized, but not applied in the 1986 permit is 1754 lbs/day. The proposed monthly average TBEL for Oil and Grease at Internal Outfall 411 in the renewal permit is 1048 lbs/day. Therefore, the new monthly average limit does not allow an increase above what was authorized, but not applied in the current permit. The new TBEL is a new application of Federal Effluent Limitations Guidelines and falls under the antidegradation exemption in 5-2-11.7(b)(2)(D) so it is allowed and antidegradation under 5-2-11.7 is satisfied.

New limits for Vanadium and Zinc are required at Outfall 012 based on a reasonable potential analysis using data collected for the permit renewal. The new limits are a result of the following item in the antidegradation exemption in 5-2-11.7(b)(2):

(A) New or improved monitoring data.

The new limits for Vanadium and Zinc at Outfall 012 are not a result of changes in pollutant loading and will not allow an increase in pollutant loading since the projected effluent quality is greater than the proposed effluent limits and the existing discharge flow was used to calculate the proposed mass limits. The new limits fall under the antidegradation exemption in 5-2-11.7(b)(2)(A) so they are allowed and antidegradation under 5-2-11.7 is satisfied.

In accordance with 327 IAC 2.2-11.7(a)(2)(B), a new or increased discharge to a tributary of an OSRW may not cause a significant lowering of water quality in the downstream OSRW. The permittee is prohibited from undertaking any deliberate action that would result in a new or increased discharge of a Bioaccumulative Chemical of Concern (BCC) or a new or increased permit limit for a pollutant or pollutant parameter that is not a BCC unless one of the following is completed prior to the commencement of the action; (i) Information is submitted to the commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality; (ii) An antidegradation demonstration submitted and approved in accordance 327 IAC 5-2-11.3.

5.7 Stormwater

According to 40 CFR 122.26(b)(14)(ii) and 327 IAC 5-4-6(b)(1) facilities classified under Industrial Classification (SIC) Code 3312 – Steel Mill, are considered to be engaging in "industrial activity" for purposes of 40 CFR 122.26(b). Therefore the permittee is required to have all storm water discharges associated with industrial activity permitted. Treatment for storm water discharges associated with industrial activities is required to meet, at a minimum, best available technology economically achievable/best conventional pollutant control technology

(BAT/BCT) requirements. EPA has determined that non-numeric technology-based effluent limits have been determined to be equal to BPT/BAT/BCT for storm water associated with industrial activity.

Storm water associated with industrial activity must be assessed to determine compliance with all water quality standards. The non-numeric storm water conditions and effluent limits contain the technology-based effluent limitations. Effluent limitations, as defined in the CWA, are restrictions on quantities, rates, and concentrations of constituents which are discharged. Effective implementation of these requirements should meet the applicable water quality based effluent limitations. Violation of any of these effluent limitations constitutes a violation of the permit.

The technology-based effluent limitations require the permittee to minimize exposure of raw, final, or waste materials to rain, snow, snowmelt, and runoff. In doing so, the permittee is required, to the extent technologically available and economically practicable and achievable, to either locate industrial materials and activities inside or to protect them with storm resistant coverings. In addition, the permittee is required to: (1) use good housekeeping practices to keep exposed areas clean, (2) regularly inspect, test, maintain and repair all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in storm water discharges, (3) minimize the potential for leaks, spills and other releases that may be exposed to storm water and develop plans for effective response to such spills if or when they occur, (4) stabilize exposed area and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants, (5) divert, infiltrate, reuse, contain or otherwise reduce storm water runoff, to minimize pollutants in your discharges, (6) enclose or cover storage piles of salt or piles containing salt used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces, (7) train all employees who work in areas where industrial materials or activities are exposed to storm water, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your Pollution Prevention Team, (8) ensure that waste, garbage and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged, and (9) minimize generation of dust and off-site tracking of raw, final or waste materials.

To meet the non-numeric effluent limitations in Part I.D.4, the permit requires ArcelorMittal West to select control measures (including best management practices) to address the selection and design considerations in Part I.D.3.

The permittee must control its discharge as necessary to meet applicable water quality standards. It is expected that compliance with the non-numeric effluent limitations and other terms and conditions in this permit will meet this effluent limitation. However, if at any time the permittee, or IDEM, determines that the discharge causes or contributes to an exceedance of applicable water quality standards, the permittee must take corrective actions, and conduct follow-up monitoring.

"Term and Condition" to Provide Information in a SWPPP

Distinct from the effluent limitation provisions in the permit, the permit requires the discharger to prepare a Storm water Pollution Prevention Plan (SWPPP) for its facility. The SWPPP is intended to document the selection, design, installation, and implementation (including inspection, maintenance, monitoring, and corrective action) of control measures being used to comply with the effluent limits set forth in Part I.D. of the permit. In general, the SWPPP must be kept up-to-date, and modified whenever necessary to reflect any changes in control measures that were found to be necessary to meet the effluent limitations in this permit.

The requirement to prepare a SWPPP is not an effluent limitation, rather it documents what practices the discharger is implementing to meet the effluent limitations in Part I.D. of the permit. The SWPPP is not an effluent limitation because it does not restrict quantities, rates, and concentrations of constituents which are discharged. Instead, the requirement to develop a SWPPP is a permit "term or condition" authorized under sections 402(a)(2) and 308 of the Act. Section 402(a)(2) states, "[t]he Administrator shall prescribe conditions for [NPDES] permits to assure compliance with the requirements of paragraph (1) of this subsection, including conditions on data and information collection, reporting, and such other requirements as he deems appropriate." The SWPPP requirements set forth in this permit are terms or conditions under the CWA because the discharger is documenting information on how it intends to comply with the effluent limitations (and inspection and evaluation requirements) contained elsewhere in the permit. Thus, the requirement to develop a SWPPP and keep it updated is no different than other information collection conditions, as authorized by section 402(a)(2), in other permits.

IDEM's Non-Numeric Effluent Limitations and SWPPP language was modeled from and is consistent with the EPA's Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity, issued on September 29, 2008. It should be noted that EPA has developed a guidance document, "Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices", 1992 to assist facilities in developing a SWPPP. The guidance contains worksheets, checklists, and model forms that should assist a facility in developing a SWPPP.

Public availability of documents

Part I.E.2.d(2) of the permit requires that the permittee retain a copy of the current SWPPP at the facility and it must be immediately available, at the time of an onsite inspection or upon request, to IDEM. Additionally, interested persons can request a copy of the SWPPP through IDEM. By requiring members of the public to request a copy of the SWPPP through IDEM, the Agency is able to provide the permittees with assurance that any Confidential Business Information contained within its SWPPP is not released to the public.

5.8 Water Treatment Additives

In the event that changes are to be made in the use of water treatment additives including dosage rates and concentrations contributing to Outfalls 002, 009, 010, 011, and 012, the permittee shall notify the Indiana Department of Environmental Management as required by Part II.C. 1. of this permit. The permittee must provide the acute and chronic aquatic toxicity information on any new or changed water treatment additives. The following water treatment additives, by outfall, have been approved for use:

002
7408, Bleach

009
7766, 1392, 8187, 1393, 3DT195, Bleach

011
71301, 7290E, ELIMINOX, N2, 22300, 1720, 1800, 750, Caustic, Hydrated Lime, 3DT195, 8103P, Bleach

012
Bleach, Caustic, 8356D

During the public notice period, the facility requested the use of freeze protection agents. Due to the variability of which waters would be treated and discharged, toxicity information could not be identified at this time. This fact sheet hereby identifies the use freeze protection agents at the facility. However, it should be noted that the facility must submit the toxicological information, and receive approval from IDEM, prior to discharge of such waters.

6.0 PERMIT DRAFT DISCUSSION

6.1 Discharge Limitations

The permittee discharges to a waterbody that has been identified as a water of the state within the Great Lakes system. In addition to OSRW antidegradation implementation procedures, it is subject to other NPDES requirements specific to Great Lakes system dischargers under 327 IAC 2-1.5 and 327 IAC 5-2-11.2 through 327 IAC 5-2-11.6. These rules address water quality standards applicable to dischargers within the Great Lakes system and reasonable potential to exceed water quality standards procedures.

As required by 327 IAC 5-2-11.3(b)(2), Part II.A.16. of the renewal permit specifically prohibits the permittee from undertaking deliberate actions that would result in new or increased discharges of BCC's or new or increased permit limits for non-BCC's, or from allowing a new or increased discharge of a BCC from an existing or proposed industrial user, without first proving that the new or increased discharge would not result in a significant lowering of water quality, or by submission and approval of an antidegradation demonstration to the IDEM.

The tables below contain the proposed effluent limitations.

Outfall 002

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	Report	lbs/day (mg/l)
Total Suspended Solids	Report	Report	lbs/day (mg/l)
Total Residual Chlorine	1.5 (0.016)	3.5 (0.037)	lbs/day (mg/l)
Mercury			
Interim	Report	Report	lbs/day (ng/l)
Final	0.00012 (1.3)	0.00030 (3.2)	lbs/day (ng/l)
Temperature	Report	Report	°F
Thermal Discharge	Report	Report	MBTU/Hr.

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

Outfall 009

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	Report	lbs/day (mg/l)
Total Suspended Solids	Report	Report	lbs/day (mg/l)
Ammonia	425	1000	lbs/day
Phenols	Report	11	lbs/day
Total Residual Chlorine	5.5 (0.012)	13 (0.028)	lbs/day (mg/l)
Zinc	Report	Report	lbs/day (ug/l)
Lead	Report	Report	lbs/day (ug/l)
Mercury Interim Final	 Report 0.00060 (1.3)	 Report 0.0015 (3.2)	 lbs/day (ng/l) lbs/day (ng/l)
Temperature	Report	Report	°F
Thermal Discharge	Report	Report	MBTU/Hr.
Whole Effluent Toxicity Testing			See Part I.H

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

Internal Outfall 509

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	38.1	114	lbs/day
Total Suspended Solids	736	2,213	lbs/day
Zinc	4.46	13.4	lbs/day
Lead	2.98	8.95	lbs/day
T. Cyanide	29.8	59.6	lbs/day
Ammonia, as N	Report	Report	lbs/day
2,3,7,8-TCDF	Report	<ML	lbs/day
Phenols	Report	Report	lbs/day

Outfall 010

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	Report	lbs/day (mg/l)
Total Suspended Solids	Report	Report	lbs/day (mg/l)
Ammonia	100	300	lbs/day
Phenols	Report	5	lbs/day
Total Residual Chlorine	3.7 (0.012)	8.6 (0.028)	lbs/day (mg/l)
Zinc	Report	Report	lbs/day (ug/l)
Lead	Report	Report	lbs/day (ug/l)
Mercury Interim Final	 Report 0.00040 (1.3)	 Report 0.00098 (3.2)	 lbs/day (ng/l) lbs/day (ng/l)
Temperature	Report	Report	°F
Thermal Discharge	Report	Report	MBTU/Hr.

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

EXHIBIT 6

Outfall 011

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	Report	lbs/day (mg/l)
Total Suspended Solids	Report	Report	lbs/day (mg/l)
Ammonia	75	150	lbs/day
Phenols	Report	5	lbs/day
Total Residual Chlorine	2.5 (0.013)	5.9 (0.030)	lbs/day (mg/l)
Zinc	Report	Report	lbs/day (ug/l)
Lead	Report	Report	lbs/day (ug/l)
Mercury			
Interim	Report	Report	lbs/day (ng/l)
Final	0.00025 (1.3)	0.00062 (3.2)	lbs/day (ng/l)
Temperature	Report	Report	°F
Thermal Discharge	Report	Report	MBTU/Hr.
Whole Effluent Toxicity Testing			See Part I.H

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

Internal Outfall 701

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Total Suspended Solids	21.2[1]	59.4[1]	lbs/day
Zinc	0.382[1]	1.15[1]	lbs/day
Lead	0.255[1]	0.764[1]	lbs/day

[1] Effluent limitations are only applicable when the discharge does not get directed to the BOF and discharges through Internal Outfall 701.

Internal Outfall 702

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Total Suspended Solids	60.3[1]	169[1]	lbs/day
Oil and Grease	24.0[1]	72.4[1]	lbs/day
Zinc	1.08[1]	3.26[1]	lbs/day
Lead	0.724[1]	2.17[1]	lbs/day

[1] Effluent limitations are only applicable when the discharge does not get directed to the BOF and discharges through Internal Outfall 702.

EXHIBIT 6

Outfall 012

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Oil and Grease	Report	Report	lbs/day (mg/l)
Total Suspended Solids	Report	Report	lbs/day (mg/l)
Lead	Report	Report	lbs/day (ug/l)
Zinc	76 (130)	150 (260)	lbs/day (ug/l)
Vanadium	13 (0.022)	26 (0.044)	lbs/day (mg/l)
Mercury	Report	Report	lbs/day (ng/l)
Ammonia, as N	Report	Report	lbs/day (mg/l)
Total Residual Chlorine	5.8 (0.010)	12 (0.020)	lbs/day (mg/l)
Whole Effluent Toxicity Testing			See Part I.H

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

Internal Outfall 111

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Total Suspended Solids	Report	Report	lbs/day
Oil and Grease	Report	Report	lbs/day

Internal Outfall 211

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Total Suspended Solids	Report	Report	lbs/day
Oil and Grease	Report	Report	lbs/day
Zinc	3.22	9.65	lbs/day
Lead	3.25	9.3	lbs/day
Naphthalene	-------	1.11	lbs/day
TCE	-------	1.68	lbs/day

Internal Outfall 411

Parameter	Monthly Average	Daily Maximum	Units
Flow	Report	Report	MGD
Total Suspended Solids	4381	11365	lbs/day
Oil and Grease	1048	3089	lbs/day

Parameter	Daily Minimum	Daily Maximum	Units
pH	6.0	9.0	Std Units

EXHIBIT 6

6.2 Monitoring Conditions and Rationale

Outfall 002

Parameter	Minimum Frequency	Type of Sample
Flow	1/Week	24-hour total
Oil and Grease	1/Week	Grab
Total Suspended Solids	1/Week	24-hour composite
Total Residual Chlorine	5/Week	Grab
Free Cyanide	2/Month	Grab
Fluoride	2/Month	24-hour composite
Mercury	6/Year	Grab
Temperature	2/Week	Grab
Thermal Discharge	2/Week	Report
pH	1/Week	Grab

Outfall 009

Parameter	Minimum Frequency	Type of Sample
Flow	1/Week	24-hour total
Oil and Grease	1/Week	Grab
Total Suspended Solids	1/Week	24-hour composite
Free Cyanide	2/Month	Grab
Ammonia, as N	1/Week	24-hour composite
Phenols	1/Week	Grab
Total Residual Chlorine	5/Week	Grab
Zinc	1/Week	24-hour composite
Lead	1/Week	24-hour composite
Fluoride	2/Month	24-hour composite
Mercury	6/Year	Grab
Temperature	2/Week	Grab
Thermal Discharge	2/Week	Report
Whole Effluent Toxicity		See Part I.H
pH	1/Week	Grab

Internal Outfall 509

Parameter	Minimum Frequency	Type of Sample
Flow	2/Week	24-hour total
Oil and Grease	2/Week	Grab
Total Suspended Solids	2/Week	24-hour composite
Zinc	2/Week	24-hour composite
Lead	2/Week	24-hour composite
T. Cyanide	2/Week	Grab
Ammonia, as N	1/Week	24-hour composite
2,3,7,8-TCDF	1/Month	24-hour composite
Phenols	1/Week	Grab

Outfall 010

Parameter	Minimum Frequency	Type of Sample
Flow	1/Week	24-hour total
Oil and Grease	1/Week	Grab
Total Suspended Solids	1/Week	24-hour composite
Free Cyanide	2/Month	Grab
Ammonia, as N	1/Week	24-hour composite
Phenols	1/Week	Grab
Total Residual Chlorine	5/Week	Grab
Zinc	1/Week	24-hour composite
Lead	1/Week	24-hour composite
Fluoride	2/Month	24-hour composite
Mercury	6/Year	Grab
Temperature	2/Week	Grab
Thermal Discharge	2/Week	Report
pH	1/Week	Grab

Outfall 011

Parameter	Minimum Frequency	Type of Sample
Flow	1/Week	24-hour total
Oil and Grease	1/Week	Grab
Total Suspended Solids	1/Week	24-hour composite
Free Cyanide	2/Month	Grab
Ammonia, as N	1/Week	24-hour composite
Phenols	1/Week	Grab
Total Residual Chlorine	5/Week	Grab
Zinc	1/Month	24-hour composite
Lead	1/Week	24-hour composite
Fluoride	2/Month	24-hour composite
Mercury	6/Year	Grab
Temperature	2/Week	Grab
Thermal Discharge	2/Week	Report
Whole Effluent Toxicity		See Part I.H
pH	1/Week	Grab

Internal Outfall 701

Parameter	Minimum Frequency[1]	Type of Sample
Flow	2/Week	24-hour total
Total Suspended Solids	2/Week	24-hour composite
Zinc	2/Week	24-hour composite
Lead	2/Week	24-hour composite

[1] Effluent monitoring is only applicable when the discharge does not get directed to the BOF and discharges through Internal Outfall 701.

Internal Outfall 702

Parameter	Minimum Frequency[1]	Type of Sample
Flow	2/Week	24-hour total
Oil and Grease	2/Week	Grab
Total Suspended Solids	2/Week	24-hour composite
Zinc	2/Week	24-hour composite
Lead	2/Week	24-hour composite

[1] Effluent monitoring is only applicable when the discharge does not get directed to the BOF and discharges through Internal Outfall 702.

Outfall 012

Parameter	Minimum Frequency	Type of Sample
Flow	1/Week	24-hour total
Oil and Grease	1/Week	Grab
Total Suspended Solids	1/Week	24-hour composite
Lead	1/Week	24-hour composite
Zinc	1/Week	24-hour composite
Vanadium	1/Week	24-hour composite
Ammonia, as N	1/Week	24-hour composite
Mercury	6/Year	Grab
Total Residual Chlorine	1/Day	Grab
Whole Effluent Toxicity		See Part I.H
pH	1/Week	Grab

Internal Outfall 111

Parameter	Minimum Frequency[1]	Type of Sample
Flow	2/Week	24-hour total
Oil and Grease	2/Week	Grab
Total Suspended Solids	2/Week	24-hour composite

[1] Samples taken for Outfalls 111 and 211 must be collected on the same day.

Internal Outfall 211

Parameter	Minimum Frequency[1]	Type of Sample
Flow	2/Week	24-hour total
Total Suspended Solids	2/Week	24-hour composite
Oil and Grease	2/Week	Grab
Zinc	2/Week	24-hour composite
Lead	2/Week	24-hour composite
Naphthalene	2/Week	Grab
TCE	2/Week	Grab

[1] Samples taken for Outfalls 111 and 211 must be collected on the same day.

EXHIBIT 6

Internal Outfall 411

Parameter	Minimum Frequency[1]	Type of Sample
Flow	2/Week	24-hour total
Oil and Grease	2/Week	Grab
Total Suspended Solids	2/Week	24-hour composite

[1] Samples taken for Outfalls 111 and 211 must be collected on the same day.

6.3 Schedule of Compliance

A fifty-four (54) month Schedule of Compliance has been incorporated into this NPDES Permit for mercury.

6.4 Special Conditions

- 301(g) Variance Request

Section 301(g) of the Clean Water Act and 327 IAC 5-3-4(b)(2) allow for a variance from the applicable BAT requirements through the development of Proposed Modified Effluent Limitations (PMELs) for the non-conventional pollutants of ammonia, chlorine, color, iron, and total phenols (4AAP) provided the following conditions are met:

1. The proposed modified effluent limits (PMELs) will meet the categorical BPT effluent limits (Technology Based Effluent Limits) or applicable water quality based effluent limits (WQBEL), whichever are more stringent;

2. The PMELs will not result in any additional requirements on other point or non-point sources;

3. The PMELs will not interfere with the attainment or maintenance of water quality which will protect public water supplies, aquatic life, and recreational activities; and,

4. The PMELs will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity, or teratogenicity, or synergistic properties).

During the previous permit cycle, this agency granted Section 301(g) variances for ammonia (as N) and phenols (4AAP) in the ironmaking and sintering process wastewaters. This request was identified as approved by U.S.EPA to this agency in a letter dated March 3, 1986. Therefore, the previous permit included net limits for ammonia (as N) and phenols (4AAP) at Outfalls 009, 010, and 011 since such wastewaters were discharged through each of those outfalls. The permittee was required to sample intake water at pumping stations 1 and 2 for ammonia and phenols at the same frequency as the discharge waters. Net values were calculated by subtracting the measured intake values from the measured effluent values.

In a letter dated August 24, 2007, the permittee identified the reconfiguration of wastestreams and, more specifically, the redirection of blast furnace/sinter plant wastestreams. The permittee stated that the Section 301(g) variance limits for ammonia and phenols should apply at the blast furnace/sinter plant internal outfall (proposed Internal Outfall 510 at the time) as gross limitations. This request was updated in a June 15, 2009, letter identifying PMELs for ammonia of 400 lbs/day monthly average and 1,000 lbs/day daily maximum and 10 lbs/day daily maximum for phenols at the internal outfall.

Furthermore, in a letter dated December 20, 2010, the internal outfall was changed from Internal Outfall 510 to 509. Internal Outfall 509 is now the NPDES permit compliance monitoring station for process water discharges from the blast furnace and sinter plant. Outfall 509 discharges to Outfall 009 to the Indiana Harbor Ship Canal. After the new treatment plant for the blast furnaces and sinter plant was constructed and placed into operation, the ammonia limits initially requested in 2009 were not sufficient so an updated request was submitted dated May 10, 2011 requesting the entire 301 (g) limits as gross limits at internal outfall 509.

IDEM has reviewed the submittal from ArcelorMittal and, as a result of that review, determined that the net limit requirements for the three outfalls shall remain in the permit. The variance will assign specific net limits for ammonia (as N) and Phenols (4AAP) as before but since the sinter plant and blast furnace systems were removed from the Outfall 011 discharge and redirected to Outfall 009 the ammonia and phenol allocations have been rearranged but the total net limits will still apply across the three outfalls as before.

The categorical effluent limitation guidelines for ammonia (as N) and phenols (4AAP) which form the basis for the BPT and BAT effluent limits for discharges from Internal Outfall 509 are found at 40 CFR 420.32(a) and 420.33(a), respectively. The generally applicable BAT and BPT limits have been calculated and are presented in Table 1-301(g).

Table 1-301(g)
Nos. 5 & 6 Blast Furnaces
BPT, PMELs, BAT

	Ammonia-N (lbs/day)		Phenols (4AAP) (lbs/day)	
Limits (Outfall)	Monthly Avg	Daily Max	Monthly Avg	Daily Max
BPT	1128	3381	44	131
Current Variance Limits (net) Outfalls 009, 010, 011	600	1450	NA	21
PMELs (net) Outfalls 009, 010, 011	600	1450	NA	21
BAT	99	298	0.99	1.99

IDEM has reviewed ArcelorMittal Indiana Harbor West's request for the PMELs for ammonia (as N) and phenols (4AAP) based on the 301(g) variance continuance request dated June 15, 2009, and revised on May 10, 2011 in the context of Indiana's currently applicable water quality standards and IDEM's procedures for conducting wasteload allocations.

- Mercury

New mercury analytical and sampling methodology provide for limits of detection and quantification at levels below the water quality criterion, and the IDEM is requiring major NPDES dischargers to utilize these methodologies to determine if their discharges have reasonable potential to exceed the water quality criterion.

The NPDES permit requires that mercury sampling be conducted bi-monthly in the months of February, April, June, August, October, and December of each year for the term of the permit. This shall be achieved by either installing appropriate analytical facilities or by obtaining the services of a commercial laboratory.

- Pollutant Minimization Program

The permittee is required to develop and conduct a Pollutant Minimization Program (PMP) for TRC since the WQBEL is below the LOQ. The requirements for the PMP can be found in Part I.G of the permit.

- Thermal Requirements

Based on the results of instream sampling and a multi-discharger thermal model, the discharges from ArcelorMittal Indiana Harbor West Outfalls 002, 009, 010 and 011 do not have a reasonable potential to exceed a water quality criterion for temperature. Under 5-2-11.5(e), the commissioner may require monitoring for a pollutant of concern even if it is determined that a WQBEL is not required based on a reasonable potential determination. Thermal effluent requirements are being included in this permit to maintain compliance with Indiana Water Quality Standards.

The thermal discharge shall be calculated for Outfalls 002, 009, 010, and 011. Such discharge shall be limited and monitored by the permittee as specified below.

a. Flow and temperature values used in thermal discharge calculations shall be taken from the same day of monitoring.

b. The thermal discharge shall be computed as follows:

Thermal Discharge (MBTU/Hr.) = Q x (To – Ti) x 0.3477

where,

-MBTU/Hr. = million Btu/Hr.
Q = 24 hour discharge flow, MGD
To = effluent temperature, °F
Ti = influent temperature, °F
0.3477 = conversion factor

c. Temperature shall be monitored as follows at Outfalls 002, 009, 010, and 011:

DISCHARGE LIMITATIONS

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Temperature								
Intake[2]	----	----	----	Report	Report	°F	2 X Week	Grab
Outfall[1]	----	----	----	Report	Report	°F	2 X Week	Grab

[1] Temperature at Outfalls 002, 009, 010, and 011 shall be sampled between the hours of 12 pm and 4 pm. As an alternative to direct grab measurements during this time period the facility may install a more permanent temperature measuring device that will retain the highest temperature value during any given 24 hour period.

[2] On days when temperature is sampled at an outfall, temperature shall also be sampled at the intake supplying the most significant source of water to the outfall.

- 316(b)

Section 316(b) of the federal Clean Water Act requires that facilities minimize adverse environmental impact resulting from the operation of cooling water intake structures (CWIS) by using the "best technology available" (BTA). U.S. EPA has promulgated rules to implement these requirements for new facilities (Phase I rules), large, existing power plants (Phase II rules) which are currently remanded, and offshore oil and gas extraction facilities (Phase III rules), and that implementation must take place through the issuance of NPDES permits. However, there is a large universe of facilities which are not specifically addressed by the rules, including:

- New facilities with a CWIS design flow less than 2 MGD;
- Existing power plants with a CWIS design flow less than 50 MGD; and
- Manufacturing facilities such as existing steel mills, paper mills, etc. with a surface water intake that use at least a portion of their intake flow for cooling purposes.

U.S. EPA has recently emphasized that all of these facilities, including those not specifically addressed by rules must be evaluated for 316(b) compliance. 40 C.F.R. §125.90(b) directs permitting authorities to establish 316(b) requirements on a best professional judgment (BPJ) basis for existing facilities not subject to categorical section 316(b) regulations (Phase I, II (currently remanded) or III rules. IDEM is required to make a BTA determination using BPJ so the permit will comply with the federal regulation.

ArcelorMittal submitted documentation on the design and operation of the CWISs at the Indiana Harbor West facility in November 2008 and updated in February 2011. ArcelorMittal West has five (5) active pumping stations. The intake structures for Indiana Harbor West are identified as the No. 1 Pump House, the No.2 Pump House, Low Head Pump House, Power House Pump House, and the No. 3 Pump House.

The following is a summary of information regarding the CWISs submitted by the permittee for this facility.

<u>No. 1 Pump House</u>

- Indiana Harbor and Ship Canal is the source water.
- The No. 1 Pump House is located in the interior of the Plant at the terminus of a narrow intake canal approximately 1,000 ft long and 7 ft wide. The pump house was constructed in 1939 to provide cooling water and process make-up water to the No. 3 and 4 Blast Furnaces. The pump house was initially designed to contain six service pumps of various capacities. Since then the pumps have been replaced and two removed entirely.
- Currently, only two pumps are operational.
- 49 MGD effective design intake capacity.
- Four vertical traveling screens (single entry/exit) in a common wet well. Two screens have been retrofitted to function in a fixed panel mode utilizing No. 0.51 diamond-shaped, flattened-expanded aluminum mesh. Of the remaining two vertical traveling screens, one has been removed and screen opening blocked. The other is fitted with 0.50" stainless steel square-mesh screening.
- 0.42 ft/s velocity under normal operating conditions as calculated by the permittee.

EXHIBIT 6

- 0.86 ft/s total rated capacity velocity as calculated by the permittee.
- Fixed screens are manually removed and washed as needed. The traveling screen includes a wash system used to remove impinged debris and/or fish, which are washed into one of two collection baskets. Collection basket contents are returned manually discarded.

No. 2 Pump House

- Lake Michigan is the source water.
- The No. 2 Pump House is located at the terminus of an intake canal approximately 1.2 miles long and 70 feet wide, opening to 300 feet at the entrance to the pump house forebay. The No. 2 Pump House was originally designed with three circulating pumps and two service pumps.
- Currently, only two circulating pumps and one service pump is in operation.
- 87 MGD flow based on current and fixed pump configuration and operation.
- Centralized Screen House that serves the No. 2 Pump House, Low Head Pump House, and Power House Pump House. The only potential for entrainment and/or impingement as a result of operation of the No. 2 Pump House is at the Centralized Screen House.
- Three vertical traveling screens (single entry/exit) in a common wet well with 0.35" stainless steel square-mesh screening and two fixed panel screens utilizing No. 0.51 diamond-shaped, flattened-expanded aluminum mesh.
- 1.66 ft/s velocity under normal operating conditions as calculated by the permittee.
- 2.66 ft/s total rated capacity velocity as calculated by the permittee.
- Fixed screens are manually removed and washed as needed. Traveling screens include a wash system used to remove impinged debris and/or fish, which are washed into a common collection basket. The collection basket contents are returned manually discarded.

Low Head Pump House

- After passing through screens in the Common Screen House, water is directed via vertical shaft to a deep tunnel approximately 3,137 feet to the Low Head Pump Station. The only potential for entrainment and/or impingement as a result of operation of the Low Head Pump House is at the Centralized Screen House.
- Currently, there are two operable pumps.
- Approximately 101 MGD flow based on current pump configuration and operation.

Power House Pump House

- After passing through screens in the Common Screen House, non-contact cooling water for the Power House is drawn directly from the deep tunnel. The only potential for entrainment and/or impingement as a result of operation of the Power House Pump House is at the Centralized Screen House.
- Currently, there are ten operable pumps.
- Approximately 117 MGD flow based on current pump configuration and operation.

No. 3 Pump House

- Lake Michigan is the source water.
- The No. 3 Pump House is located in the northeast portion of the facility and withdrawals water from the same intake canal as the No. 2 Pump House. The No. 3 Pump House was originally designed for eight pumps but only four were installed and provides cooling water to the No. 3 Cold Strip Mill and the 84-inch Hot Strip Mill via four pumps.
- Currently, there are operable pumps but only two are used during normal operations.
- 144 MGD flow based on current pump configuration during normal operations.
- Six vertical traveling screens (single entry/exit) in a common wet well with most utilizing a 1/8" stainless steel woven-mesh screening and the rest with standard 3/8" mesh. Four of the six screens are currently operated.
- 0.30 ft/s velocity under normal operating conditions as calculated by the permittee.
- 1.33 ft/s total rated capacity velocity as calculated by the permittee.
- The traveling screens are designed with individual wash systems used to remove impinged debris and/or fish, which are washed into a common collection trough.

Based on an evaluation of the documents and information provided by the ArcelorMittal Indiana Harbor West facility, IDEM has made a BTA determination that the existing CWIS is BTA based on BPJ for the following reasons:

a. There has been a substantial reduction in water intake demand;
b. Fewer pumps are currently used; and
c. An effective increase in screen surface area due to the use of fewer pumps.

ArcelorMittal West is being required to conduct studies during this permit cycle to further characterize the nature and extent of the environmental impacts, if any, from the CWISs in a scientifically valid manner. Impingement and entrainment have been determined to be appropriate measures for determining whether adverse environmental impacts have been minimized. The permit contains monitoring conditions and reporting requirements to ensure operation of all intakes in a manner that will minimize adverse environmental impact as outlined in Part IV of the permit.

The centralized screen house is the point at which water drawn by the No. 2, Low Head, and Power House Pump Houses passes through screens and is the potential point of impingement for the three pump houses. It is also the location of highest through-screen velocity at the facility. Therefore, the studies required in Part IV of the permit will be performed at the centralized screen house. This approach will analyze a 'worst-case' scenario in relationship to intake velocity and fish entrainment/impingement. It should be noted that any changes required as a result of a study's finding must be applied to *all* CWISs at the facility. This determination will be reassessed at the next permit reissuance to ensure that the CWIS continues to meet the requirements of Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326).

In accordance with 327 IAC 2-1.5-8 the permit proposes that the ArcelorMittal West CWISs must be designed and located to minimize entrainment and damage to desirable organisms. In general, the intake structure shall have minimum water velocity and shall not be located in spawning or nursery areas of important fishes. Water velocity at screens and other exclusion

devices shall also be at a minimum. The specific requirements pertaining to the intake structures are contained in Part IV of the proposed NPDES Permit.

The following are additional requirements pertaining to CWISs:

a. CHANGES DURING TERM OF PERMIT

ArcelorMittal shall provide advance notice to IDEM of any proposed changes to the CWISs or proposed changes to operations at the facility that affect the information taken into account in the current BTA evaluation.

b. INTAKE SCREEN WASH

The discharge of Intake Screen Backwash shall meet the Narrative Water Quality Standards contained in Part I.B. of the permit.

c. FISH RETURN EVALUATION

Fish returns shall be evaluated for all intakes to determine if they minimize fish mortality. The permittee shall submit to IDEM an evaluation of options to minimize fish mortality within one year from the effective date of the permit. This evaluation should include time frames to implement these measures. The permittee will implement any options that IDEM identifies as BTA after the information becomes available.

6.5 Spill Response and Reporting Requirement

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.c. and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedances that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedance to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.