



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

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Eric J. Holcomb
Governor

Bruno Pigott
Commissioner

November 24, 2020

Via Email to: robert.maciel@arcelormittal.com

Mr. Robert Maciel, Environmental Manager
ArcelorMittal Burns Harbor, LLC
250 West US Highway 20
Burns Harbor, Indiana 46304

Dear Mr. Maciel:

Re: Inspection Summary/ Enforcement Referral
ArcelorMittal Burns Harbor LLC
NPDES Permit No. IN0000175
Burns Harbor, Porter County

An inspection of the above-referenced facility or location was conducted by a representative of the Indiana Department of Environmental Management, Northwest Regional Office, pursuant to IC 13-18-3-9. A summary of the inspection is provided below:

Date(s) of Inspection: October 26, 2020
Type of Inspection: Reconnaissance Inspection
Inspection Results: Violations were observed and will be referred to the Enforcement Section.

The following concerns were noted:

1. The Permit category was rated as unsatisfactory. A temporary stripping tower has been installed and sodium hydroxide is being used for pH adjustment to test for treatment for ammonia within the blast furnace recycle water system. Notice of this planned change to the facility was not provided to IDEM as required, in violation of Part II.C.1 and Part I.A.1[2] of the Permit.
2. Maintenance was rated as marginal. A discussion regarding lagoon maintenance indicated the lagoons have not been checked for sludge depth and sludge sampling has not occurred since September 2012. One hard copy of the report for the September 2012 sludge depth check and sampling was made available during the inspection and, subsequently, emailed to the inspectors. The report is currently under review by IDEM. On-site staff stated that, as the lagoons are presently achieving Total Suspended Solids (TSS) removal and there have been no TSS problems, the lagoons are operating well. The lagoons contents should be sounded and sampled again given the length of time since the previous review and

the pollutants discharged during the fish kill in August 2019.

3. Self Monitoring was rated as unsatisfactory. A demonstration of the 24 hour compositing for Total Cyanide was observed. The grab was taken at Outfall 002 and compositing conducted within the on-site lab. The grab samples are stored within the auto-samplers located at the respective outfalls. The temperatures of the samples stored in the auto-samplers are presumed to be the same as the temperature readouts displayed on the auto-samplers rather than determined by thermometers in liquids stored within the auto-samplers. The auto-sampler temperature readouts are reflective of the air temperature within the auto-sampler and are subject to fluctuations, caused by such things as the auto-sampler door being briefly opened. Accordingly, these readouts are not necessarily reflective of the temperatures of the liquids stored within the auto-samplers. 40 CFR 136 requires that samples be held at or below six degrees Celsius, but above freezing, for several analytes. In order to accurately document the sample temperatures, a thermometer within a liquid, such as water, stored within the auto-samplers must be used.

The cyanide composite example utilized three composite parts. The calculations indicated the need for volumes of sample in the tenths of a milliliter. The graduated cylinder used during the demonstration is not designed to measure to the tenths of a milliliter. Please ensure that sample volumes are precisely measured for compositing.

This matter is being referred to the OWQ Enforcement Section for appropriate action in conjunction with the existing action. Please direct any questions to Nicholas Ream at or by email to nream@idem.in.gov . A copy of the NPDES Industrial Facility Inspection Report is enclosed for your records.

Sincerely,



Rick Massoels, Deputy Director
Northwest Regional Office

Enclosure



NPDES Industrial Facility Inspection Report

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

NPDES Permit Number: IN0000175	Facility Type: Industrial Major	Facility Classification: D	TEMPO AI ID 12029
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Date(s) of Inspection: October 26, 2020

Type of Inspection: Reconnaissance Inspection

Name and Location of Facility Inspected: ArcelorMittal Burns Harbor LLC 250 West US Highway 20 Burns Harbor IN 46304	County: Porter	Receiving Waters/POTW: East Branch of the Little Calumet River and Lake Michigan	Permit Expiration Date: 6/30/2021
			Design Flow: NA

On Site Representative(s):				
First Name	Last Name	Title	Email	Phone
Robert	Maciel	Environmental Manager	robert.maciel@arcelormittal.com	
Morgan	Swanson	Environmental Engineer	morgan.swanson@arcelormittal.com	
Joyce	Casillas	Operations	joyce.casillas@arcelormittal.com	
Patrick	Gorman	Operator	patrick.gorman@arcelormittal.com	
Cary	Matthias	Regional Waste Manager	cary.matthias@arcelormittal.com	
Blake	Crisman	Operations Tech Manager	blake.crisman@arcelormittal.com	
Brandon	Frye	Project Manager - ALS		

Was a verbal summary of the inspection given to the on-site rep? **Yes**

Certified Operator: Pat Gorman	Number: 9310	Class: D	Effective Date: 7-1-19	Expiration Date: 6-30-22	Email: patrick.gorman@arcelormittal.com
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Cyber Security Contact
Name: _____ Email: _____

Responsible Official: Mr. Robert Maciel, Environmental Manager 250 West US Highway 20 Burns Harbor, Indiana 46304	Permittee: ArcelorMittal Burns Harbor, LLC Email: robert.maciel@arcelormittal.com Phone: _____ Fax: _____
Contacted? Yes	

INSPECTION FINDINGS

- Conditions evaluated were found to be satisfactory at the time of the inspection. (5)
- Violations were discovered but corrected during the inspection. (4)
- Potential problems were discovered or observed. (3)
- Violations were discovered and require a submittal from you and/or a follow-up inspection by IDEM. (2)
- Violations were discovered and may subject you to an appropriate enforcement response. (1)

AREAS EVALUATED DURING INSPECTION

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Receiving Waters	N	Facility/Site	U	Self-Monitoring	N	Compliance Schedules
S	Effluent/Discharge	S	Operation	N	Flow Measurement		
U	Permit	M	Maintenance	N	Laboratory	N	Effluent Limits Compliance
		N	Sludge	N	Records/Reports	N	Other:

DETAILED AREA EVALUATIONS

Receiving Waters:

Comments:
The receiving stream was free of notable foam, algae or solids at Outfalls 001, 002 and 011.

Effluent/Discharge:**Evaluation of Multiple Outfalls:**

Outfall #	Insp. Date	Outfall Inspection Comments
001	10/26/2020	The effluent was clear and free of color at the time of the inspection.
002	10/26/2020	The effluent was clear and free of color at the time of the inspection.
011	10/26/2020	The effluent was clear and free of color at the time of the inspection.

Comments:

The effluent was clear and free of color at Outfalls 001, 002, and 011 at the time of the inspection.

Permit:

Comments:

The Permit category was rated as unsatisfactory. A temporary stripping tower has been installed and sodium hydroxide is being used for pH adjustment to test for treatment for ammonia within the blast furnace recycle water system (as described in the Operation category below). Notice of this planned change to the facility was not provided to IDEM as required, in violation of Part II.C.1 and Part I.A.1[2] of the Permit.

Operation:

Comments:

The following areas were inspected:

Blast Furnace D Block and Bleed Valve System

The Blast Furnace D block and bleed valve system had an incident that resulted in the self-reported release of an estimated 15,000 gallons of blast furnace recycle system (BFRS) water through Outfall 002 on June 15, 2020. This incident was cited in the report for the inspection conducted on August 12, 2020 for a violation of 327 IAC 5-2-2, which prohibits the point source discharge of pollutants to waters of the state except in conformity with a valid NPDES permit obtained prior to the discharge. Following the root cause analysis, on-site staff stated that the BFRS water made contact with the non-contact cooling water, which discharges to Outfall 002, after two valves were turned in an incorrect order. The BFRS system water is kept at a pressure of approximately 80 psi and the non-contact cooling water is generally at 60 psi. The current configuration of the BFRS system water and non-contact cooling water provides a cross-connection and a risk of discharge of BFRS system water to the non-contact cooling water system. ArcelorMittal Burns Harbor personnel attributed the discharge to operator error and stated further training had been implemented to operations staff.

Cyanide Destruction System

The Cyanide Destruction system is currently being operated on a continuous basis for all blowdown generated as ArcelorMittal tests ammonia reduction and chlorine dioxide addition for cyanide reduction treatment. pH is being adjusted to 10 standard units with sodium hydroxide before discharge into a stripping tower, which has been installed on a temporary basis. After exiting the stripper tower, the wastewater enters cell number six, then cell number five, then cell number four prior to entering the Dirty Industrial Water (DIW) to the secondary wastewater treatment facility. Chlorine dioxide can be added into Cell 6, Cell 4, and upon exiting Cell 4 to the DIW.

The blowdown is being screened in the process for cyanide, though cyanide concentrations were anticipated to be low at the time of inspection as the blast furnaces were not being brought on-line or taken off-line.

The addition of the stripping tower and the use of sodium hydroxide for pH adjustment without proper notification to IDEM resulted in an unsatisfactory rating under the Permit category. Please refer to that category for more information.

Outfalls 001, 002, and 011

Outfalls 001, 002, and 011 were observed during the inspection. No odors, discoloration, or solids were observed in the discharges from these three outfalls.

Laboratory

Please refer to the Self-Monitoring section of this report.

Discussion Regarding Lagoon Maintenance

Please refer to the Maintenance section of this report.

Maintenance:

Comments:

Maintenance was rated as marginal. A discussion regarding lagoon maintenance indicated the lagoons have not been checked for sludge depth and sludge sampling has not occurred since September 2012. One hard copy of the report for the September 2012 sludge depth check and sampling was made available during the inspection and, subsequently, emailed to the inspectors. The report is currently under review by IDEM. On-site staff stated that, as the lagoons are presently achieving Total Suspended Solids (TSS) removal and there have been no TSS problems, the lagoons are operating well. The lagoons contents should be sounded and sampled again given the length of time since the previous review and the pollutants discharged during the fish kill in August 2019.

Self-Monitoring:

Comments:

Self Monitoring was rated as unsatisfactory. A demonstration of the 24 hour compositing for Total Cyanide was observed. The grab was taken at Outfall 002 and compositing conducted within the on-site lab. The grab samples are stored within the auto-samplers located at the respective outfalls. The temperatures of the samples stored in the auto-samplers are presumed to be the same as the temperature readouts displayed on the auto-samplers rather than determined by thermometers in liquids stored within the auto-samplers. The auto-sampler temperature readouts are reflective of the air temperature within the auto-sampler and are subject to fluctuations, caused by such things as the auto-sampler door being briefly opened. Accordingly, these readouts are not necessarily reflective of the temperatures of the liquids stored within the auto-samplers. 40 CFR 136 requires that samples be held at or below six degrees Celsius, but above freezing, for several analytes. In order to accurately document the sample temperatures, a thermometer within a liquid, such as water, stored within the auto-samplers must be used.

The cyanide composite example utilized three composite parts. The calculations indicated the need for volumes of sample in the tenths of a milliliter. The graduated cylinder used during the demonstration is not designed to measure to the tenths of a milliliter. Please ensure that sample volumes are precisely measured for compositing.

Effluent Limits Compliance:

No 1. Were DMRs reviewed as part of the inspection?

Comments:

IDEM REPRESENTATIVE

Inspector Name:	Email:	Phone Number:
Nicholas Ream	nream@idem.IN.gov	219-730-1691
Other staff participating in the inspection:		
Name(s)	Phone Number(s)	
Joan Rogers - EPA	312-886-2785	
Robert Lugar - IDEM	317-234-6019	

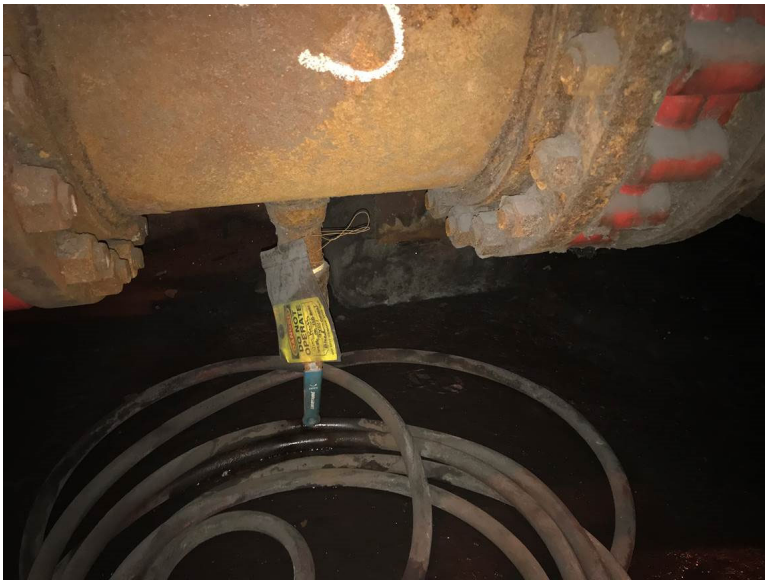
IDEM MANAGER REVIEW

IDEM Manager:	Date:
Rick Massoels	11/13/2020

Inspection Photographs



Facility:	ArcelorMittal Burns Harbor LLC		
Photographer:	Nicholas Ream		
Date:	10/26/2020	Time:	11:15 AM
Others Present:	Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel		
Location/Description:	South view of a portion of the block and bleed valve system in the D Furnace Pump House.		
Also Present:	Blake Crisman		



Facility:	ArcelorMittal Burns Harbor LLC		
Photographer:	Nicholas Ream		
Date:	10/26/2020	Time:	11:15 AM
Others Present:	Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel		
Location/Description:	West view of the bleed portion of the block and bleed system in the D Furnace Pump house,		
Also Present:	Blake Crisman		



Facility: ArcelorMittal Burns Harbor LLC
Photographer: Nicholas Ream
Date: 10/26/2020 Time: 11:15 AM
Others Present: Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel
Location/Description: Northwest view of a portion of the block and bleed system within the D Furnace Pump House. Also Present: Blake Crisman



Facility: ArcelorMittal Burns Harbor LLC
Photographer: Nicholas Ream
Date: 10/26/2020 Time: 11:50 AM
Others Present: Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel
Location/Description: North view of a demonstration of cyanide sampling at the Outfall 002 auto-sampler location. Also Present: Brandon Frye



Facility:	ArcelorMittal Burns Harbor LLC
Photographer:	Nicholas Ream
Date:	10/26/2020
Time:	11:50 AM
Others Present:	Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel
Location/Description:	Southern view of the new auto-sampler for Outfall 002. Cyanide samples are stored within until it is time to manually composite them within the lab. Temperature should be monitored via a thermometer in liquid and recorded daily when the sampler is in use. ArcelorMittal is currently utilizing the auto-sampler's built-in temperature gauge.
Also Present:	Brandon Frye



Facility:	ArcelorMittal Burns Harbor LLC
Photographer:	Nicholas Ream
Date:	10/26/2020
Time:	11:50 AM
Others Present:	Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel
Location/Description:	Southern view of the flow meter display for Outfall 002.
Also Present:	Brandon Frye



Facility: ArcelorMittal Burns Harbor LLC
Photographer: Nicholas Ream
Date: 10/26/2020 Time: 12:10 PM
Others Present: Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel
Location/Description: Brandon Frye demonstrating manually compositing cyanide samples.
Also Present: Brandon Frye



Facility: ArcelorMittal Burns Harbor LLC
Photographer: Nicholas Ream
Date: 10/26/2020 Time: 12:40 PM
Others Present: Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel
Location/Description: Sulfuric Acid used in the production of Chlorine Dioxide.



Facility: ArcelorMittal Burns Harbor LLC
Photographer: Nicholas Ream
Date: 10/26/2020 Time: 12:40 PM
Others Present: Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel
Location/Description: Sodium Chlorate used in the production of Chlorine Dioxide.



Facility: ArcelorMittal Burns Harbor LLC
Photographer: Nicholas Ream
Date: 10/26/2020 Time: 12:40 PM
Others Present: Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel
Location/Description: Southeast view of the Sodium Dioxide production area.



Facility:	
ArcelorMittal Burns Harbor LLC	
Photographer:	
Nicholas Ream	
Date: 10/26/2020	Time: 12:40 PM
Others Present:	
Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel	
Location/Description:	
East view of the Sodium Dioxide production area.	



Facility:	
ArcelorMittal Burns Harbor LLC	
Photographer:	
Nicholas Ream	
Date: 10/26/2020	Time: 12:50 PM
Others Present:	
Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel	
Location/Description:	
West view of the line carrying blowdown of the BFRS water to the stripping tower.	



Facility:

ArcelorMittal Burns Harbor LLC

Photographer:

Nicholas Ream

Date: 10/26/2020

Time: 12:50 PM

Others Present:

Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel

Location/Description:

South view of the stripping tower. pH is adjusted to 10+ standard units with Sodium Hydroxide for ammonia removal. This is meant to be a test to improve overall ammonia treatment at the facility.



Facility:	
ArcelorMittal Burns Harbor LLC	
Photographer:	
Nicholas Ream	
Date: 10/26/2020	Time: 12:40 PM
Others Present:	
Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel	
Location/Description:	
South view of the discharge from the stripping tower into Cell #6 where Chlorine Dioxide was added.	



Facility:	
ArcelorMittal Burns Harbor LLC	
Photographer:	
Nicholas Ream	
Date: 10/26/2020	Time: 12:45 PM
Others Present:	
Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel	
Location/Description:	
Northwest view of Cell #5 (background) and Cell #4 (foreground).	



Facility: ArcelorMittal Burns Harbor LLC
Photographer: Nicholas Ream
Date: 10/26/2020 Time: 12:45 PM
Others Present: Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel
Location/Description: East view of the location where Chlorine Dioxide can be added to Cell #4.



Facility:	
ArcelorMittal Burns Harbor LLC	
Photographer:	
Nicholas Ream	
Date: 10/26/2020	Time: 12:45 PM
Others Present:	
Joan Rogers, Bob Lugar, Morgan Swanson, Joyce Casillas, Cary Mathias, Patrick Gorman, Robert Maciel	
Location/Description:	
Southeast view of the discharge from Cell #4 to the DIW line. This discharge can also be dosed with Chlorine Dioxide.	