INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
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Eric J. Holcomb
Governor
Brian C. Rockensuess
Commissioner

December 29, 2023

VIA ELECTRONIC MAIL - Anthony.pacilio@clevelandcliffs.com

Mr. Anthony Pacilio, General Manager
Cleveland-Cliffs Steel LLC
3210 Watling Street
East Chicago, IN 46312

Dear Mr. Pacilio:

Re: NPDES Permit No. IN0000205
Final Permit
Cleveland-Cliffs Steel LLC –
Indiana Harbor West
East Chicago, IN - Lake County

Your application for a National Pollutant Discharge Elimination System (NPDES) permit for authorization to discharge into the waters of the State of Indiana has been processed in accordance with Section 402 and 405 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, et seq.), and IC 13-15, IDEM's permitting authority. All discharges from this facility shall be consistent with the terms and conditions of this permit.

One condition of your permit requires periodic reporting of several effluent parameters. You are required to submit both federal discharge monitoring reports (DMRs) and state Monthly Monitoring Reports (MMRs) on a routine basis. The MMR form is available on the internet at the following web site: https://www.in.gov/idem/cleanwater/wastewater-compliance/wastewater-reporting-forms-notices-and-instructions/.

Once you are on this page, select the "IDEM Forms" page and locate the "Monthly Monitoring Report (MMR) for Industrial Discharge Permits-30530" under the Wastewater Facilities heading. We recommend selecting the "XLS" version because it will complete all of the calculations when you enter the data.

All NPDES permit holders are required to submit their monitoring data to IDEM using NetDMR. Please contact Rose McDaniel at (317) 233-2653 or Helen Demmings at (317) 232-8815 if you would like more information on NetDMR. Information is also available on our website at https://www.in.gov/idem/cleanwater/resources/netdmr/.

Another condition, which needs to be clearly understood, concerns violation of the effluent limitations in the permit. Exceeding the limitations constitutes a violation of the permit and may subject the permittee to criminal or civil penalties. (See Part II A.2.) It is therefore urged that your office and treatment operator understand this part of the permit.

The draft NPDES permit for Cleveland-Cliffs Steel LLC - Indiana Harbor West was made available for public comment from September 30, 2023, through November 16, 2023, as part of Public Notice No. 2023 - 0930 – IN0000205 PH/RD on IDEM's website at https://www.in.gov/idem/public-notices/public-notices-all-regions/. Responses to comments pertaining to the draft NPDES permit are contained in the Post Public Notice Addendum. The Post Public Notice Addendum is located at the end of the Fact Sheet.

It should also be noted that any appeal must be filed under procedures outlined in IC 13-15-6, IC 4-21.5, and the enclosed Public Notice. The appeal must be initiated by filing a petition for administrative review with the Office of Environmental Adjudication (OEA) within fifteen (15) days of the emailing of an electronic copy of this letter or within eighteen (18) days of the mailing of this letter by filing at the following addresses:

Director
Office of Environmental Adjudication
Indiana Government Center North
Room N103
100 North Senate Avenue
Indianapolis, Indiana 46204

Commissioner
Indiana Department of Environmental Management
Indiana Government Center North
Room 1301
100 North Senate Avenue
Indianapolis, Indiana 46204

If you have any questions concerning the permit, please contact Matt Warrener at 317-233-0798 or mwarrene@idem.in.gov. More information on the appeal review process is available at the website for the Office of Environmental Adjudication at http://www.in.gov/oea/.

Sincerely,

Jerry Dittmer, Chief
Permits Branch
Office of Water Quality

Enclosures
cc: Chief, Permits Section, U.S. EPA, Region 5
Lake County Health Department
Thomas Barnett, Cleveland-Cliffs Steel LLC
Mariya Trenkinshu, Cleveland-Cliffs Steel LLC
Nick Ream, IDEM Inspector
Miya Spratt, IDEM Inspector
All Commenters

STATE OF INDIANA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Clean Water Act" or "CWA"), and IDEM's authority under IC 13-15,

CLEVELAND-CLIFFS STEEL LLC – INDIANA HARBOR WEST

is authorized to discharge from a steel mill located at 3001 Dickey Road, East Chicago, Indiana to receiving waters named Indiana Harbor Ship Canal and Lake Michigan in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III, IV, and V hereof. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

Effective Date: February 1, 2024

Expiration Date: January 31, 2029

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Issued on December 29, 2023 for the Indiana Department of Environmental Management.

Jerry Dittmer, Chief
Permits Branch
Office of Water Quality

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 002, located at Latitude 41° 39' 19", Longitude - 87° 27' 37". The discharge is limited to non-contact cooling water from the USS/ECTO Pickle Line (idled), the No. 2 Galvanizing Line, stormwater, and groundwater. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Indiana Harbor Ship Canal. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]

Outfall 002

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	**Monthly Average**	**Daily Maximum**	**Units**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
Flow	Report	Report	MGD	----	----	----	1 X Weekly	24-Hr. Total
TSS	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
TRC [4][5]	1.7	3.9 [6]	lbs/day	0.016 [7]	0.037 [6]	mg/l	5 X Weekly	Grab
Mercury [4][8]	Report	Report	lbs/day	Report	Report	ng/l	6 X Annually [9]	Grab
Temperature [10]								
Intake	----	----	----	Report	Report	°F	2 X Weekly	Grab
Outfall	----	----	----	Report	Report	°F	2 X Weekly	Grab

Table 2

	Quality or Concentration				Monitoring Requirements	
Parameter	**Daily Minimum**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
pH [11]	6.0	----	9.0	s.u.	1 X Weekly	Grab

[1] See Part I.B. of the permit for the minimum narrative limitations.

[2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval

to Use Water Treatment Additives) currently available at: https://www.in.gov/idem/forms/idem-agency-forms/

[3] The Stormwater Monitoring and Non Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E of this permit.

[4] The following EPA approved test methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM and EPA, if applicable.

Parameter	Test Method	LOD	LOQ
Mercury	1631E	0.2 ng/l	0.5 ng/l
Chlorine, Total residual	4500-Cl D-2000, E-2000 or G-2000	20 ug/l	60 ug/l

Case-Specific LOD/LOQ

The permittee may determine and use a case-specific LOD or LOQ using the analytical method specified above, or any other analytical method which is approved by the Commissioner, and EPA if applicable, prior to use. The LOD and LOQ shall be determined as established in 327 IAC 5-2-11.6(h)(2)(B).

[5] The permittee is required to develop and conduct a pollutant minimization program (PMP) for each pollutant with a WQBEL below the LOQ as specified in footnote [4]. See Part I.H of the permit for the Pollutant Minimization Program (PMP) requirements.

[6] The daily maximum WQBEL for TRC is greater than or equal to the LOD but less than the LOQ as specified in footnote [4]. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOQ. Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 6.3 lbs/day.

[7] The monthly average water quality based effluent limit (WQBEL) for TRC is less than the limit of quantitation (LOQ) as specified in footnote [4]. Compliance with the calculated monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. When calculating the monthly average effluent level, daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

[8] The permittee shall measure and report the identified metal as total recoverable metal.

[9] Mercury monitoring shall be conducted 6 X annually in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E.

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

[11] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

2. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 009A [18], located at Latitude 41° 39' 40", Longitude - 87° 27' 10". The discharge is limited to treated blowdown from the Blast Furnace Recycle System (internal Outfall 509), non-contact cooling water from the Powerhouse area, stormwater and groundwater when No. 4 Blast Furnace is operating. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Indiana Harbor Ship Canal. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]

Outfall 009A

	Quantity or Loading			**Quality or Concentration**			**Monitoring Requirements**	
Parameter	**Monthly Average**	**Daily Maximum**	**Units**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
Flow	Report	Report	MGD	----	----	----	1 X Weekly	24-Hr. Total
TSS	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
TRC [4][5]	4.2	9.6 [6]	lbs/day	0.014 [7]	0.032 [6]	mg/l	5 X Weekly	Grab
Ammonia, as N (Net) [8]	425	1000	lbs/day	Report	Report	mg/l	1 X Weekly [9]	24-Hr. Comp.
Ammonia, as N (Gross)	Report	Report	lbs/day	2.4	4.8	mg/l	1 X Weekly [9]	24-Hr. Comp.
Phenols (4AAP) [8]	Report	11	lbs/day	Report	Report	mg/l	1 X Weekly [9]	Grab
Zinc [10]	51	99	lbs/day	170	330	ug/l	1 X Weekly	24-Hr. Comp.
Lead [10]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Mercury [4][10] WQBELs Interim Discharge Limit [11][12]	0.00039 ----	0.00096 ----	lbs/day	1.3 1.8 [13]	3.2 Report	ng/l	6 X Annually [14]	Grab
Temperature [15] Intake Outfall	 ---- ----	 ---- ----	 ---- ----	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab
Whole Effluent Toxicity Testing [16]								

Table 2

	Quality or Concentration				Monitoring Requirements	
Parameter	**Daily Minimum**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
pH [17]	6.0	----	9.0	s.u.	1 X Weekly	Grab

[1] See Part I.B. of the permit for the minimum narrative limitations.

[2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: https://www.in.gov/idem/forms/idem-agency-forms/

[3] The Stormwater Monitoring and Non Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E of this permit.

[4] The following EPA approved test methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM and EPA, if applicable.

Parameter	Test Method	LOD	LOQ
Mercury	1631E	0.2 ng/l	0.5 ng/l
Chlorine, Total residual	4500-Cl D-2000, E-2000 or G-2000	20 ug/l	60 ug/l

Case-Specific LOD/LOQ

The permittee may determine and use a case-specific LOD or LOQ using the analytical method specified above, or any other analytical method which is approved by the Commissioner, and EPA if applicable, prior to use. The LOD and LOQ shall be determined as established in 327 IAC 5-2-11.6(h)(2)(B).

[5] The permittee is required to develop and conduct a pollutant minimization program (PMP) for each pollutant with a WQBEL below the LOQ as specified in footnote [4]. See Part I.H of the permit for the Pollutant Minimization Program (PMP) requirements.

[6] The daily maximum WQBEL for TRC is greater than or equal to the LOD but less than the LOQ as specified in footnote [4]. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOQ. Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 18.0 lbs/day.

[7] The monthly average water quality based effluent limit (WQBEL) for TRC is less than the limit of quantitation (LOQ) as specified in footnote [4]. Compliance with the calculated monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. When calculating the monthly average effluent level, daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

[8] Ammonia (as N) and Phenols (4AAP) shall be reported on a net basis. For the purpose of this permit, net values are to be calculated by subtracting the measured intake values from the measured effluent values. The intake water shall be sampled for ammonia and phenols at the same frequency and sample type as the discharge waters. Samples shall be taken at a point representative of the intake prior to any contamination of the influent by recycled wastewater. The intake water shall be monitored at pumping stations 1 and 2.

[9] Sampling for Ammonia (as N) and Phenols (4AAP) shall occur at the monitoring frequencies specified in the permit on the same day at Outfalls 009A, 010A, 011A, and 509.

[10] The permittee shall measure and report the identified metal as <u>total recoverable metal.</u>

[11] See Part IV of the permit for the Pollutant Minimization Program Plan (PMPP) requirements.

[12] The permittee applied for, and received, a variance from the water quality criterion used to establish the referenced mercury WQBEL under 327 IAC 5-3.5. For the term of this permit, the permittee is subject to the interim discharge limit developed in accordance with 327 IAC 5-3.5-8.

<u>The permittee shall report both a daily maximum concentration and an annual average concentration for total mercury.</u> The annual average value shall be calculated as the average of the measured effluent daily values from the most recent twelve-month period.

Calculating and reporting of the annual average value for mercury is only required for the months when samples are taken for mercury.

[13] The interim discharge limit is the annual average. Compliance with the interim discharge limit will be achieved when the annual average measured over the most recent (rolling) twelve-month period is less than the interim discharge limit.

Compliance with the interim discharge limit will demonstrate compliance with mercury discharge limitations of this permit for this outfall.

[14] Mercury monitoring shall be conducted 6 X annually in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E.

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

[16] The permittee shall continue the biomonitoring program for Outfall 009A using the procedures contained under Part I.F. of this permit.

[17] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

[18] Effluent limitations and monitoring requirements for Outfall 009A are effective when the No. 4 Blast Furnace is operating and during periods when the No. 4 Blast Furnace has been idled, but internal Outfall 509 is still discharging.

3. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 009B [16], located at Latitude 41° 39' 40", Longitude - 87° 27' 10". The discharge is limited to non-contact cooling water from the Powerhouse area, stormwater and groundwater. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Indiana Harbor Ship Canal. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]

Outfall 009B

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	**Monthly Average**	**Daily Maximum**	**Units**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
Flow	Report	Report	MGD	----	----	----	1 X Weekly	24-Hr. Total
TSS	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
TRC [4][5]	4.2	9.6 [6]	lbs/day	0.014 [7]	0.032 [6]	mg/l	5 X Weekly	Grab
Mercury [4][8] WQBELs Interim Discharge Limit [9][10]	0.00039 ----	0.00096 ----	lbs/day	1.3 1.8 [11]	3.2 Report	ng/l	6 X Annually [12]	Grab
Temperature [13] Intake Outfall	 ---- ----	 ---- ----	 ---- ----	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab
Whole Effluent Toxicity Testing [14]								

Table 2

	Quality or Concentration				Monitoring Requirements	
Parameter	**Daily Minimum**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
pH [15]	6.0	----	9.0	s.u.	1 X Weekly	Grab

[1] See Part I.B. of the permit for the minimum narrative limitations.

[2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water

quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: https://www.in.gov/idem/forms/idem-agency-forms/

[3] The Stormwater Monitoring and Non Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E of this permit.

[4] The following EPA approved test methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM and EPA, if applicable.

Parameter	Test Method	LOD	LOQ
Mercury	1631E	0.2 ng/l	0.5 ng/l
Chlorine, Total residual	4500-Cl D-2000, E-2000 or G-2000	20 ug/l	60 ug/l

Case-Specific LOD/LOQ

The permittee may determine and use a case-specific LOD or LOQ using the analytical method specified above, or any other analytical method which is approved by the Commissioner, and EPA if applicable, prior to use. The LOD and LOQ shall be determined as established in 327 IAC 5-2-11.6(h)(2)(B).

[5] The permittee is required to develop and conduct a pollutant minimization program (PMP) for each pollutant with a WQBEL below the LOQ as specified in footnote [4]. See Part I.H of the permit for the Pollutant Minimization Program (PMP) requirements.

[6] The daily maximum WQBEL for TRC is greater than or equal to the LOD but less than the LOQ as specified in footnote [4]. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOQ. Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 18.0 lbs/day.

[7] The monthly average water quality based effluent limit (WQBEL) for TRC is less than the limit of quantitation (LOQ) as specified in footnote [4]. Compliance with the calculated monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. When calculating the monthly average effluent level, daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

[8] The permittee shall measure and report the identified metal as total recoverable metal.

[9] See Part IV of the permit for the Pollutant Minimization Program Plan (PMPP) requirements.

[10] The permittee applied for, and received, a variance from the water quality criterion used to establish the referenced mercury WQBEL under 327 IAC 5-3.5. For the term of this permit, the permittee is subject to the interim discharge limit developed in accordance with 327 IAC 5-3.5-8.

The permittee shall report both a daily maximum concentration and an annual average concentration for total mercury. The annual average value shall be calculated as the average of the measured effluent daily values from the most recent twelve-month period.

Calculating and reporting of the annual average value for mercury is only required for the months when samples are taken for mercury.

[11] The interim discharge limit is the annual average. Compliance with the interim discharge limit will be achieved when the annual average measured over the most recent (rolling) twelve-month period is less than the interim discharge limit.

Compliance with the interim discharge limit will demonstrate compliance with mercury discharge limitations of this permit for this outfall.

[12] Mercury monitoring shall be conducted 6 X annually in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E.

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

[14] The permittee shall continue the biomonitoring program for Outfall 009B using the procedures contained under Part I.F. of this permit.

[15] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

[16] Effluent limitations and monitoring requirements for Outfall 009B are effective when the No. 4 Blast Furnace is not operating and internal Outfall 509 is not discharging.

4. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Internal Outfall 509, located at Latitude 41° 39' 60", Longitude - 87° 26' 56". The discharge is limited to treated wastewater from the Blast Furnace Recycle System Blowdown Wastewater Treatment Plant (WWTP). Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Indiana Harbor Ship Canal via Outfall 009A. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [4]

Internal Outfall 509

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	**Monthly Average**	**Daily Maximum**	**Units**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
Flow	Report	Report	MGD	----	----	----	1 X Weekly	24-Hr. Total
TSS	364	1,100	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Total Cyanide [1]	12.3	24.5	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
Ammonia, as N	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly [3]	24-Hr. Comp.
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly [3]	Grab
Zinc [2]	1.83	5.52	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Lead [2]	1.23	3.68	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.

[1] The following EPA approved test methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM and EPA, if applicable.

Parameter	Test Method	LOD	LOQ
Total Cyanide	335.4, Rev. 1.0 (1993) or 4500-CN^- E-1999	5 µg/l	16 µg/l
Cyanide, Total	Kelada-01	0.5 µg/l	1.6 µg/l

Case-Specific LOD/LOQ

The permittee may determine and use a case-specific LOD or LOQ using the analytical method specified above, or any other analytical method which is approved by the Commissioner, and EPA if applicable, prior to use. The LOD and LOQ shall be determined as established in 327 IAC 5-2-11.6(h)(2)(B).

[2] The permittee shall measure and report the identified metal as total recoverable metal.

[3] Sampling for Ammonia (as N) and Phenols (4AAP) shall occur at the monitoring frequencies specified in the permit on the same day at Outfalls 009A, 010A, 011A, and 509.

[4] If the permittee intends to operate the No. 4 Blast Furnace and discharge from Internal Outfall 509, this Office must be notified within 30 days of beginning operation.

5. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 010A [17], located at Latitude 41° 39' 40", Longitude - 87° 27' 05". The discharge is limited to non-contact cooling water from the No. 4 Blast Furnace, Boilerhouse and Ironside Energy, non-contact cooling water from the Powerhouse area, stormwater, and groundwater when No. 4 Blast Furnace is operating. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Indiana Harbor Ship Canal. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]

Outfall 010A

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	**Monthly Average**	**Daily Maximum**	**Units**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
Flow	Report	Report	MGD	----	----	----	1 X Weekly	24-Hr. Total
TSS	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
TRC [4][5]	4.1	9.5 [6]	lbs/day	0.014 [7]	0.032 [6]	mg/l	5 X Weekly	Grab
Ammonia, as N [8]	100	300	lbs/day	Report	Report	mg/l	1 X Weekly [9]	24-Hr. Comp.
Phenols (4AAP) [8]	Report	5	lbs/day	Report	Report	mg/l	1 X Weekly [9]	Grab
Zinc [10]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Lead [10]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Mercury [4][10] WQBELs Interim Discharge Limit [11][12]	0.00038 ----	0.00095 ----	lbs/day	1.3 1.5 [13]	3.2 Report	ng/l	6 X Annually [14]	Grab
Temperature [15] Intake Outfall	 ---- ----	 ---- ----	 ---- ----	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab

Table 2

	Quality or Concentration				Monitoring Requirements	
Parameter	**Daily Minimum**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
pH [16]	6.0	----	9.0	s.u.	1 X Weekly	Grab

[1] See Part I.B. of the permit for the minimum narrative limitations.

[2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: https://www.in.gov/idem/forms/idem-agency-forms/

[3] The Stormwater Monitoring and Non Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E of this permit.

[4] The following EPA approved test methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM and EPA, if applicable.

Parameter	Test Method	LOD	LOQ
Mercury	1631E	0.2 ng/l	0.5 ng/l
Chlorine, Total residual	4500-Cl D-2000, E-2000 or G-2000	20 ug/l	60 ug/l

Case-Specific LOD/LOQ

The permittee may determine and use a case-specific LOD or LOQ using the analytical method specified above, or any other analytical method which is approved by the Commissioner, and EPA if applicable, prior to use. The LOD and LOQ shall be determined as established in 327 IAC 5-2-11.6(h)(2)(B).

[5] The permittee is required to develop and conduct a pollutant minimization program (PMP) for each pollutant with a WQBEL below the LOQ as specified in footnote [4]. See Part I.H of the permit for the Pollutant Minimization Program (PMP) requirements.

[6] The daily maximum WQBEL for TRC is greater than or equal to the LOD but less than the LOQ as specified in footnote [4]. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOQ. Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 18 lbs/day.

[7] The monthly average water quality based effluent limit (WQBEL) for TRC is less than the limit of quantitation (LOQ) as specified in footnote [4]. Compliance with the calculated monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. When calculating the monthly average effluent level, daily effluent values that are less

than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

[8] Ammonia (as N) and Phenols (4AAP) shall be reported on a net basis. For the purpose of this permit, net values are to be calculated by subtracting the measured intake values from the measured effluent values. The intake water shall be sampled for ammonia and phenols at the same frequency and sample type as the discharge waters. Samples shall be taken at a point representative of the intake prior to any contamination of the influent by recycled wastewater. The intake water shall be monitored at pumping stations 1 and 2.

[9] Sampling for Ammonia (as N) and Phenols (4AAP) shall occur at the monitoring frequencies specified in the permit on the same day at Outfalls 009A, 010A, 011A, and 509.

[10] The permittee shall measure and report the identified metal as <u>total recoverable metal.</u>

[11] See Part IV of the permit for the Pollutant Minimization Program Plan (PMPP) requirements.

[12] The permittee applied for, and received, a variance from the water quality criterion used to establish the referenced mercury WQBEL under 327 IAC 5-3.5. For the term of this permit, the permittee is subject to the interim discharge limit developed in accordance with 327 IAC 5-3.5-8.

<u>The permittee shall report both a daily maximum concentration and an annual average concentration for total mercury.</u> The annual average value shall be calculated as the average of the measured effluent daily values from the most recent twelve-month period.

Calculating and reporting of the annual average value for mercury is only required for the months when samples are taken for mercury.

[13] The interim discharge limit is the annual average. Compliance with the interim discharge limit will be achieved when the annual average measured over the most recent (rolling) twelve-month period is less than the interim discharge limit.

Compliance with the interim discharge limit will demonstrate compliance with mercury discharge limitations of this permit for this outfall.

[14] Mercury monitoring shall be conducted 6 X annually in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E.

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

[16] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

[17] Effluent limitations and monitoring requirements for Outfall 010A are effective when the No. 4 Blast Furnace is operating and during periods when the No. 4 Blast Furnace has been idled, but internal Outfall 509 is still discharging.

6. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 010B [15], located at Latitude 41° 39' 40", Longitude - 87° 27' 05". The discharge is limited to non-contact cooling water from the Boilerhouse and Ironside Energy, non-contact cooling water from the Powerhouse area, stormwater, and groundwater when No. 4 Blast Furnace is not operating. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Indiana Harbor Ship Canal. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]

Outfall 010B

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	**Monthly Average**	**Daily Maximum**	**Units**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
Flow	Report	Report	MGD	----	----	----	1 X Weekly	24-Hr. Total
TSS	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
TRC [4][5]	4.1	9.5 [6]	lbs/day	0.014 [7]	0.032 [6]	mg/l	5 X Weekly	Grab
Mercury [4][8] WQBELs Interim Discharge Limit [9][10]	0.00038 ----	0.00095 ----	lbs/day	1.3 1.5 [11]	3.2 Report	ng/l	6 X Annually [12]	Grab
Temperature [13] Intake Outfall	 ---- ----	 ---- ----	 ---- ----	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab

Table 2

	Quality or Concentration				Monitoring Requirements	
Parameter	**Daily Minimum**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
pH [14]	6.0	----	9.0	s.u.	1 X Weekly	Grab

[1] See Part I.B. of the permit for the minimum narrative limitations.

[2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment

additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: https://www.in.gov/idem/forms/idem-agency-forms/

[3] The Stormwater Monitoring and Non Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E of this permit.

[4] The following EPA approved test methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM and EPA, if applicable.

Parameter	Test Method	LOD	LOQ
Mercury	1631E	0.2 ng/l	0.5 ng/l
Chlorine, Total residual	4500-Cl D-2000, E-2000 or G-2000	20 ug/l	60 ug/l

Case-Specific LOD/LOQ

The permittee may determine and use a case-specific LOD or LOQ using the analytical method specified above, or any other analytical method which is approved by the Commissioner, and EPA if applicable, prior to use. The LOD and LOQ shall be determined as established in 327 IAC 5-2-11.6(h)(2)(B).

[5] The permittee is required to develop and conduct a pollutant minimization program (PMP) for each pollutant with a WQBEL below the LOQ as specified in footnote [4]. See Part I.H of the permit for the Pollutant Minimization Program (PMP) requirements.

[6] The daily maximum WQBEL for TRC is greater than or equal to the LOD but less than the LOQ as specified in footnote [4]. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOQ. Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 18 lbs/day.

[7] The monthly average water quality based effluent limit (WQBEL) for TRC is less than the limit of quantitation (LOQ) as specified in footnote [4]. Compliance with the calculated monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. When calculating the monthly average effluent level, daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

[8] The permittee shall measure and report the identified metal as total recoverable metal.

[9] See Part IV of the permit for the Pollutant Minimization Program Plan (PMPP) requirements.

[10] The permittee applied for, and received, a variance from the water quality criterion used to establish the referenced mercury WQBEL under 327 IAC 5-3.5. For the term of this permit, the permittee is subject to the interim discharge limit developed in accordance with 327 IAC 5-3.5-8.

The permittee shall report both a daily maximum concentration and an annual average concentration for total mercury. The annual average value shall be calculated as the average of the measured effluent daily values from the most recent twelve-month period.

Calculating and reporting of the annual average value for mercury is only required for the months when samples are taken for mercury.

[11] The interim discharge limit is the annual average. Compliance with the interim discharge limit will be achieved when the annual average measured over the most recent (rolling) twelve-month period is less than the interim discharge limit.

Compliance with the interim discharge limit will demonstrate compliance with mercury discharge limitations of this permit for this outfall.

[12] Mercury monitoring shall be conducted 6 X annually in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E.

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

[14] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

[15] Effluent limitations and monitoring requirements for Outfall 010B are effective when the No. 4 Blast Furnace is not operating and internal Outfall 509 is not discharging.

7. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 011A [17], located at Latitude 41° 40' 20", Longitude - 87° 26' 35". The discharge is limited to discharge from the Main Scale Pit/Terminal Lagoon Wastewater Treatment System, which treats the following wastestreams: vacuum degasser WWTP (Outfall 701; intermittent discharge), continuous caster WWTP (Outfall 702; intermittent discharge), BOF/Continuous Caster/Vacuum Degasser non-contact cooling water, blast furnace slurry still well, boilerhouse wastewater, oil tech wastewater, vacuum truck decant water (intermittent), No. 9 generator cooling tower blowdown, stormwater, and groundwater when No. 4 Blast Furnace is operating. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Indiana Harbor. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3][18][19]

Outfall 011A

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	**Monthly Average**	**Daily Maximum**	**Units**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
Flow	Report	Report	MGD	----	----	----	1 X Weekly	24-Hr. Total
TSS	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
Ammonia, as N [9]	75	150	lbs/day	Report	Report	mg/l	1 X Weekly [10]	24-Hr. Comp.
Phenols (4AAP) [9]	Report	5	lbs/day	Report	Report	mg/l	1 X Weekly [10]	Grab
Zinc [11]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Lead [11]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Mercury [4][11]	Report	Report	lbs/day	Report	Report	ng/l	6 X Annually [12]	Grab
Total Residual Oxidants (Bromine + TRC) [4][5][8]	0.19	0.44 [6]	lbs/day	0.74 [7]	1.7 [13]	ug/l	5 X Weekly	Grab
Temperature [14]								
Intake	----	----	----	Report	Report	°F	2 X Weekly	Grab
Outfall	----	----	----	Report	Report	°F	2 X Weekly	Grab
Whole Effluent Toxicity Testing [15]								

Table 2

	Quality or Concentration				Monitoring Requirements	
Parameter	**Daily Minimum**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
pH [16]	6.0	----	9.0	s.u.	1 X Weekly	Grab

[1] See Part I.B. of the permit for the minimum narrative limitations.

[2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: https://www.in.gov/idem/forms/idem-agency-forms/

[3] The Stormwater Monitoring and Non Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E of this permit.

[4] The following EPA approved test methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM and EPA, if applicable.

Parameter	Test Method	LOD	LOQ
Mercury	1631E	0.2 ng/l	0.5 ng/l
Oxidants, Total Residual (Bromine + Total Residual Chlorine)	4500-Cl D-2000, E-2000 or G-2000	20 ug/l	60 ug/l

Case-Specific LOD/LOQ

The permittee may determine and use a case-specific LOD or LOQ using the analytical method specified above, or any other analytical method which is approved by the Commissioner, and EPA if applicable, prior to use. The LOD and LOQ shall be determined as established in 327 IAC 5-2-11.6(h)(2)(B).

[5] The permittee is required to develop and conduct a pollutant minimization program (PMP) for each pollutant with a WQBEL below the LOQ as specified in footnote [4]. See Part I.H of the permit for the Pollutant Minimization Program (PMP) requirements.

[6] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 15.4 lbs/day.

[7] The monthly average water quality based effluent limit (WQBEL) for TRC and TRO (Bromine) is less than the limit of quantitation (LOQ) specified in footnote [4]. Compliance with the calculated monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. When calculating the monthly average effluent level, daily effluent values that are

less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

[9] Ammonia (as N) and Phenols (4AAP) shall be reported on a net basis. For the purpose of this permit, net values are to be calculated by subtracting the measured intake values from the measured effluent values. The intake water shall be sampled for ammonia and phenols at the same frequency and sample type as the discharge waters. Samples shall be taken at a point representative of the intake prior to any contamination of the influent by recycled wastewater. The intake water shall be monitored at pumping stations 1 and 2.

[10] Sampling for Ammonia (as N) and Phenols (4AAP) shall occur at the monitoring frequencies specified in the permit on the same day at Outfalls 009A, 010A, 011A, and 509.

[11] The permittee shall measure and report the identified metal as <u>total recoverable metal.</u>

[12] Mercury monitoring shall be conducted 6 X annually in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E.

[13] The daily maximum WQBEL for Total Residual Oxidants (Bromine) is less than the LOD as specified in footnote [4]. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOD. Effluent levels greater than or equal to the LOD but less than the LOQ are in compliance with the daily maximum WQBEL, except when confirmed by a sufficient number of analyses of multiple samples and use of appropriate statistical techniques.

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

[15] The permittee shall continue the biomonitoring program for Outfall 011A using the procedures contained under Part I.F. of this permit.

[16] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

[17] Effluent limitations and monitoring requirements for Outfall 011A are effective when the No. 4 Blast Furnace is operating and during periods when the No. 4 Blast Furnace has been idled, but internal Outfall 509 is still discharging.

[18] During Outfall 509 treatment system maintenance periods, non-contact cooling water and process wastewaters from the blast furnace process wastewater treatment and recycle system may be transported to the sewers leading to the Terminal Lagoon, Filter Plant, or Outfall 011 on an intermittent basis and subject to the following requirements:

a. Such events shall not exceed ten (10) events per year,
b. The maximum volume or process wastewater transported shall not exceed 25,000 gallons per event,
c. For each event, the permittee shall report the following as an attachment to the respective MMR:
    i. Volume of wastewater transported.
    ii. Quality of wastewater transported, both loading and concentration. Wastewater samples shall be collected using the grab sample method and analyzed for TSS, ammonia (as N), total cyanide, phenols (4AAP), lead, zinc, oil & grease, TRC, and 2,3,7,8-TCDF.
    iii. Dates and time periods during which transport occurred.
    iv. Location where the transported water was deposited (i.e. Terminal Lagoon, Filter Plant, or Outfall 011).

[19] During Outfall 701 and Outfall 702 treatment system maintenance periods, process wastewater from the No. 3 Steel Producing LMF and Caster Systems may be transported to the Terminal Lagoon Filter Plant and Outfall 011 on an intermittent basis and subject to the following requirements:

a. Such events shall not exceed ten (10) events per year,
b. The maximum volume or process wastewater transported shall not exceed 25,000 gallons per event,
c. For each event, the permittee shall report the following as an attachment to the respective MMR:
    i. Volume of wastewater transported.
    ii. Quality of wastewater transported, both loading and concentration. Wastewater samples shall be collected using the grab sample method and analyzed for all parameters monitored at Outfall 701 and Outfall 702.
    iii. Dates and time periods during which transport occurred.
    iv. Location where the transported water was deposited (i.e. Terminal Lagoon, Filter Plant, or Outfall 011).

8. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 011B [15], located at Latitude 41° 40' 20", Longitude - 87° 26' 35". The discharge is limited to discharge from the Main Scale Pit/Terminal Lagoon Wastewater Treatment System, which treats the following wastestreams: vacuum degasser WWTP (Outfall 701; intermittent discharge), continuous caster WWTP (Outfall 702; intermittent discharge), BOF/Continuous Caster/Vacuum Degasser non-contact cooling water, blast furnace slurry still well, boilerhouse wastewater, oil tech wastewater, vacuum truck decant water (intermittent), No. 9 generator cooling tower blowdown, stormwater, and groundwater when No. 4 Blast Furnace is not operating. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Indiana Harbor. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3][16][17]

Outfall 011B

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	**Monthly Average**	**Daily Maximum**	**Units**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
Flow	Report	Report	MGD	----	----	----	1 X Weekly	24-Hr. Total
TSS	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
Zinc [9]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Lead [9]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Mercury [4][9]	Report	Report	lbs/day	Report	Report	ng/l	6 X Annually [10]	Grab
Total Residual Oxidants (Bromine + TRC) [4][5][8]	0.19	0.44 [6]	lbs/day	0.74 [7]	1.7 [11]	ug/l	5 X Weekly	Grab
Temperature [12]								
Intake	----	----	----	Report	Report	°F	2 X Weekly	Grab
Outfall	----	----	----	Report	Report	°F	2 X Weekly	Grab
Whole Effluent Toxicity Testing [13]								

Table 2

	Quality or Concentration				Monitoring Requirements	
Parameter	**Daily Minimum**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
pH [14]	6.0	----	9.0	s.u.	1 X Weekly	Grab

[1] See Part I.B. of the permit for the minimum narrative limitations.

[2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: https://www.in.gov/idem/forms/idem-agency-forms/

[3] The Stormwater Monitoring and Non Numeric Effluent Limits and the Stormwater Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E of this permit.

[4] The following EPA approved test methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM and EPA, if applicable.

Parameter	Test Method	LOD	LOQ
Mercury	1631E	0.2 ng/l	0.5 ng/l
Oxidants, Total Residual (Bromine + Total Residual Chlorine)	4500-Cl D-2000, E-2000 or G-2000	20 ug/l	60 ug/l

Case-Specific LOD/LOQ

The permittee may determine and use a case-specific LOD or LOQ using the analytical method specified above, or any other analytical method which is approved by the Commissioner, and EPA if applicable, prior to use. The LOD and LOQ shall be determined as established in 327 IAC 5-2-11.6(h)(2)(B).

[5] The permittee is required to develop and conduct a pollutant minimization program (PMP) for each pollutant with a WQBEL below the LOQ as specified in footnote [4]. See Part I.H of the permit for the Pollutant Minimization Program (PMP) requirements.

[6] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 15 lbs/day.

[7] The monthly average water quality based effluent limit (WQBEL) for TRC and TRO (Bromine) is less than the limit of quantitation (LOQ) as specified in footnote [4]. Compliance with the calculated monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. When calculating the monthly average effluent level, daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than

the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

[9] The permittee shall measure and report the identified metal as total recoverable metal.

[10] Mercury monitoring shall be conducted 6 X annually in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E.

[11] The daily maximum WQBEL for Total Residual Oxidants (Bromine) is less than the LOD as specified in footnote [4]. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOD. Effluent levels greater than or equal to the LOD but less than the LOQ are in compliance with the daily maximum WQBEL, except when confirmed by a sufficient number of analyses of multiple samples and use of appropriate statistical techniques.

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

[13] The permittee shall continue the biomonitoring program for Outfall 011B using the procedures contained under Part I.F. of this permit.

[14] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.

[15] Effluent limitations for Outfall 011B are effective when the No. 4 Blast Furnace is not operating and internal Outfall 509 is not discharging.

[16] During Outfall 509 treatment system maintenance periods, non-contact cooling water and process wastewaters from the blast furnace process wastewater treatment and recycle system may be transported to the sewers leading to the Terminal Lagoon, Filter Plant, or Outfall 011 on an intermittent basis and subject to the following requirements:

a. Such events shall not exceed ten (10) events per year,
b. The maximum volume or process wastewater transported shall not exceed 25,000 gallons per event,
c. For each event, the permittee shall report the following as an attachment to the respective MMR:

i. Volume of wastewater transported.
ii. Quality of wastewater transported, both loading and concentration. Wastewater samples shall be collected using the grab sample method and analyzed for TSS, ammonia (as N), total cyanide, phenols (4AAP), lead, zinc, oil & grease, TRC, and 2,3,7,8-TCDF.
iii. Dates and time periods during which transport occurred.
iv. Location where the transported water was deposited (i.e. Terminal Lagoon, Filter Plant, or Outfall 011).

[17] During Outfall 701 and Outfall 702 treatment system maintenance periods, process wastewater from the No. 3 Steel Producing LMF and Caster Systems may be transported to the Terminal Lagoon Filter Plant and Outfall 011 on an intermittent basis and subject to the following requirements:

a. Such events shall not exceed ten (10) events per year,
b. The maximum volume or process wastewater transported shall not exceed 25,000 gallons per event,
c. For each event, the permittee shall report the following as an attachment to the respective MMR:
    i. Volume of wastewater transported.
    ii. Quality of wastewater transported, both loading and concentration. Wastewater samples shall be collected using the grab sample method and analyzed for all parameters monitored at Outfall 701 and Outfall 702.
    iii. Dates and time periods during which transport occurred.
    iv. Location where the transported water was deposited (i.e. Terminal Lagoon, Filter Plant, or Outfall 011).

9. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Internal Outfall 701, located at Latitude 41° 40' 37", Longitude - 87° 27' 21". The discharge is limited to treated vacuum degasser wastewater. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to mixing with other wastestreams contributing to Outfall 011. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS

Internal Outfall 701

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	**Monthly Average**	**Daily Maximum**	**Units**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
Flow	Report	Report	MGD	----	----	----	2 X Weekly	24-Hr. Total
TSS [1]	31.6	88.3	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Zinc [1][2]	0.568	1.71	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Lead [1][2]	0.379	1.14	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.

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

[2] The permittee shall measure and report the identified metal as total recoverable metal.

10. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Internal Outfall 702, located at Latitude 41° 40' 34", Longitude - 87° 27' 34". The discharge is limited to treated wastewater from the continuous casting wastewater treatment system. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to mixing with other wastestreams contributing to Outfall 011. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS

Internal Outfall 702

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	**Monthly Average**	**Daily Maximum**	**Units**	**Monthly Average**	**Daily Maximum**	**Units**	**Measurement Frequency**	**Sample Type**
Flow	Report	Report	MGD	----	----	----	2 X Weekly	24-Hr. Total
TSS [1]	51.4	144	lbs/day	Report	Report	mg/l	2 X Weekly	Grab
Oil and Grease [1]	20.5	61.7	lbs/day	Report	Report	mg/l	2 X Weekly	Grab
Zinc [1][2]	0.924	2.78	lbs/day	Report	Report	ug/l	2 X Weekly	Grab
Lead [1][2]	0.617	1.85	lbs/day	Report	Report	ug/l	2 X Weekly	Grab

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

[2] The permittee shall measure and report the identified metal as total recoverable metal.

11. The permittee shall comply with the limitations at Outfall 000 below in accordance with the terms and conditions of this permit. This is an outfall created to report cooling water intake data.

Parameter	Monthly Average	Daily Maximum	Hourly Maximum	Units	Measurement Frequency
Intake No. 1					
Intake Flow [1]	-----	Report	-----	MGD	Daily
Intake No. 2					
Intake Flow [2][3]	-----	Report	-----	MGD	Daily
Interim [3]					
Velocity	-----	-----	-----	Feet/second	Daily
Water Depth, Screens	-----	-----	-----	Feet	Daily
Open Area, Screens	-----	-----	-----	Square feet	Daily
Final [3]					
Intake Flow [2]	-----	Report	Report	MGD	Daily
Velocity	-----	-----	0.5	Feet/second	Daily
Water Depth, Screens	-----	Report	-----	Feet	Daily
Open Area, Screens	-----	Report	-----	Square feet	Daily

[1] The permittee must monitor the intake flow at this intake at a minimum frequency of daily. The intake flow may be estimated. The permittee shall submit an annual report containing this daily intake flow data. If the intake flow rate is estimated, the annual report must include the data and calculations used to estimate the intake flow.

[2] The permittee must monitor the intake flow at this intake, as follows.

a. If a flow measurement device is required to be installed pursuant to the 316(b) compliance schedule in Part I.G. (if the permittee selects the BTA alternative contained in 40 CFR 125.94(c)(3) and installs a cooling water intake structure that has a maximum through-screen actual intake velocity of 0.5 feet per second as the impingement mortality BTA) the following requirements are applicable:

i. The permittee must install an intake flow measurement device that continuously monitors the intake flow at the No. 2 Intake pursuant to this compliance schedule.

ii. After the intake flow measurement device is installed, the permittee must report the daily maximum and hourly maximum flow for each day on the MMR with the monthly results summarized on the DMRs that are submitted every month. (The hourly maximum flow is the maximum hourly average flow measured over the calendar day of any twenty-four period that reasonably represents the calendar day for the purpose of sampling. There will be 24 hourly average flows determined over the course of the day, the maximum of these 24 values is the hourly maximum flow).

iii. Until the flow monitoring device is installed, the permittee may estimate the

flow at this intake and must report the daily flow for each day on the MMR with the monthly results summarized on the DMRs that are submitted every month.

b. If a flow measurement device is not required to be installed the permittee may estimate the flow at this intake and must report the daily maximum flow for each day on the MMR with the monthly results summarized on the DMRs that are submitted every month.
c. The permittee must submit an annual report of the actual intake flows and include in the report both the hourly maximum intake flow (if applicable) and the daily maximum intake flow for each day. For all estimated intake flows, the permittee must provide the data and calculations used to estimate each estimated intake flow in this annual report. As part of the annual report, the permittee shall also provide a spreadsheet containing the data and calculations.

[3] These Interim and Final requirements are only applicable at Intake No. 2 if the permittee selects the BTA alternative contained in 40 CFR 125.94(c)(3); a cooling water intake structure that has a maximum through-screen actual intake velocity of 0.5 feet per second as the impingement mortality BTA at this intake pursuant to the 316(b) compliance schedule in Part I.G. The Final requirements are applicable beginning on the date that the schedule of compliance for Intake 2 is completed, or 36 months after the effective date of the permit, whichever is earlier:

a. The permittee must calculate the velocity at the screens at Intake 2 using water flow (hourly maximum intake flow), water depth (the minimum ambient Lake Michigan level or actual water level at the screens if a method of measuring the actual water depth is installed), and the screen open area.
b. These daily calculations including the hourly maximum intake flow must be reported on the MMR with the monthly results summarized on the DMRs that are submitted every month and included in the annual report required under Footnote [1] and [2], above.

The Interim requirements are applicable until the Final requirements take effect.

B. MINIMUM NARRATIVE LIMITATIONS

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

1. including waters within the mixing zone, to contain substances, materials, floating debris, oil, scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges that do any of the following:

   a. will settle to form putrescent or otherwise objectionable deposits;

   b. are in amounts sufficient to be unsightly or deleterious;

   c. produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;

   d. are in amounts sufficient to be acutely toxic to , or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;

   e. are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.

2. outside the mixing zone, to contain substances in concentrations that on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

C. MONITORING AND REPORTING

1. Representative Sampling

   Samples and measurements taken as required herein shall be representative of the volume and nature of the discharge flow and shall be taken at times which reflect the full range and concentration of effluent parameters normally expected to be present. Samples shall not be taken at times to avoid showing elevated levels of any parameter.

2. Monthly Reporting

   The permittee shall submit federal and state discharge monitoring reports to the Indiana Department of Environmental Management (IDEM) containing results obtained during the previous month and shall be submitted no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the month in which the permit becomes effective. These reports shall include,

but not necessarily be limited to, the Discharge Monitoring Report (DMR) and the Monthly Monitoring Report (MMR). All reports shall be submitted electronically by using the NetDMR application, upon registration, receipt of the NetDMR Subscriber Agreement, and IDEM approval of the proposed NetDMR Signatory. Access the NetDMR website (for initial registration and DMR/MMR submittal) via CDX at: https://cdx.epa.gov/. The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit. See Part II.C.10 of this permit for Future Electronic Reporting Requirements.

a. For parameters with monthly average water quality based effluent limitations (WQBELs) below the LOQ, daily effluent values that are less than the limit of quantitation (LOQ) may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

b. For all other parameters for which the monthly average WQBEL is equal to or greater than the LOQ, calculations that require averaging of measurements of daily values (both concentration and mass) shall use an arithmetic mean, except the monthly average for *E. coli* shall be calculated as a geometric mean. Daily effluent values that are less than the LOQ, that are used to determine the monthly average effluent level shall be accommodated in calculation of the average using statistical methods that have been approved by the Commissioner.

c. Effluent concentrations less than the LOD shall be reported on the Discharge Monitoring Report (DMR) forms as < (less than) the value of the LOD. For example, if a substance is not detected at a concentration of 0.1 µg/l, report the value as <0.1 µg/l.

d. Effluent concentrations greater than or equal to the LOD and less than the LOQ that are reported on a DMR shall be reported as the actual value and annotated on the DMR to indicate that the value is not quantifiable.

e. Mass discharge values which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge value.

f. Mass discharge values that are calculated from effluent concentrations greater than the limit of detection shall be reported as the calculated value.

3. Definitions

a. “Monthly Average” means the total mass or flow-weighted concentration of all daily discharges during a calendar month on which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar month.

The monthly average discharge limitation is the highest allowable average monthly discharge for any calendar month.

b. “Daily Discharge” means the total mass of a pollutant discharged during the calendar day or, in the case of a pollutant limited in terms other than mass pursuant to 327 IAC 5-2-11(e), the average concentration or other measurement of the pollutant specified over the calendar day or any twenty-four hour period that reasonably represents the calendar day for the purposes of sampling.

c. “Daily Maximum” means the maximum allowable daily discharge for any calendar day.

d. A “24-hour composite sample” means a sample consisting of at least 3 individual flow-proportioned samples of wastewater, taken by the grab sample method or by an automatic sampler, which are taken at approximately equally spaced time intervals for the duration of the discharge within a 24-hour period and which are combined prior to analysis. A flow-proportioned composite sample may be obtained by:

(1) recording the discharge flow rate at the time each individual sample is taken,

(2) adding together the discharge flow rates recorded from each individuals sampling time to formulate the “total flow” value,

(3) the discharge flow rate of each individual sampling time is divided by the total flow value to determine its percentage of the total flow value,

(4) then multiply the volume of the total composite sample by each individual sample’s percentage to determine the volume of that individual sample which will be included in the total composite sample.

e. “Concentration” means the weight of any given material present in a unit volume of liquid. Unless otherwise indicated in this permit, concentration values shall be expressed in milligrams per liter (mg/l).

f. The “Regional Administrator” is defined as the Region 5 Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.

g. The “Commissioner” is defined as the Commissioner of the Indiana Department of Environmental Management, which is located at the following address: 100 North Senate Avenue, Indianapolis, Indiana 46204.

h. “Limit of Detection” or “LOD” means the minimum concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix.

i. “Limit of Quantitation” or “LOQ” means a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration above the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant. This term is also sometimes called limit quantification or quantification level.

j. “Method Detection Level” or “MDL” means the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by procedure set forth in 40 CFR 136, Appendix B. The method detection level or MDL is equivalent to the LOD.

k. “Grab Sample” means a sample which is taken from a wastestream on a one-time basis without consideration of the flow rate of the wastestream and without considerations of time.

4. Test Procedures

The analytical and sampling methods used shall conform to the version of 40 CFR 136 incorporated by reference in 327 IAC 5. Different but equivalent methods are allowable if they receive the prior written approval of the Commissioner and the U.S. Environmental Protection Agency. When more than one test procedure is approved for the purposes of the NPDES program under 40 CFR 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 122.21(e)(3) and 122.44(i)(1)(iv).

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall maintain records of all monitoring information and monitoring activities, including:

a. The date, exact place and time of sampling or measurement;

b. The person(s) who performed the sampling or measurements;

c. The date(s) analyses were performed;

d. The person(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such measurements and analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of this monitoring shall be included in the calculation and reporting of the values required in the monthly Discharge Monitoring Report (DMR) and Monthly Monitoring Report (MMR). Such increased frequency shall also be indicated. Other monitoring data not specifically required in this permit (such as internal process or internal waste stream data) which is collected by or for the permittee need not be submitted unless requested by the Commissioner.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three years shall be extended:

a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or

b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

D. STORMWATER MONITORING AND NON-NUMERIC EFFLUENT LIMITS

The permittee shall implement the non-numeric permit conditions in this Section of the permit for the entire site as it relates to stormwater associated with industrial activity regardless which outfall the stormwater is discharged from.

1. Control Measures and Effluent Limits

   In the technology-based limits included in Part D.2-4., the term “minimize” means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.

2. Control Measures

   Select, design, install, and implement control measures (including best management practices) to address the selection and design considerations in Part D.3 to meet the non-numeric effluent limits in Part D.4. The selection, design, installation, and implementation of these control measures must be in accordance with good engineering practices and manufacturer’s specifications. Any deviation from the manufacturer’s specifications shall be documented. If the control measures are not achieving their intended effect in minimizing pollutant discharges, the control measures must be modified as expeditiously as practicable. Regulated stormwater discharges from the facility include stormwater run-on that commingles with stormwater discharges associated with industrial activity at the facility.

3. Control Measure Selection and Design Considerations

   When selecting and designing control measures consider the following:

   a. preventing stormwater from coming into contact with polluting materials is generally more effective, and cost-effective, than trying to remove pollutants from stormwater;

   b. use of control measures in combination is more effective than use of control measures in isolation for minimizing pollutants in stormwater discharge;

   c. assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;

d. minimizing impervious areas at your facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches), can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care must be taken to avoid groundwater contamination;

e. flow can be attenuated by use of open vegetated swales and natural depressions;

f. conservation and/or restoration of riparian buffers will help protect streams from stormwater runoff and improve water quality; and

g. use of treatment interceptors (e.g. swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

4. Technology-Based Effluent Limits (BPT/BAT/BCT)

Non-Numeric Effluent Limits:

a. Minimize Exposure

Minimize the exposure of raw, final, or waste materials to rain, snow, snowmelt, and runoff. To the extent technologically available and economically practicable and achievable, either locate industrial materials and activities inside or protect them with storm resistant coverings in order to minimize exposure to rain, snow, snowmelt, and runoff (although significant enlargement of impervious surface area is not recommended). In minimizing exposure, pay particular attention to the following areas:

Loading and unloading areas: locate in roofed or covered areas where feasible; use grading, berming, or curbing around the loading area to divert run-on; locate the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems.

Material storage areas: locate indoors, or in roofed or covered areas where feasible; install berms/dikes around these areas; use dry cleanup methods.

Note: Industrial materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged to receiving waters.

b. Good Housekeeping

Keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and stowing materials in appropriate containers.

As part of the developed good housekeeping program, include a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, especially areas where material loading and unloading, storage, handling, and processing occur; and where practicable, the paving of areas where vehicle traffic or material storage occur but where vegetative or other stabilization methods are not practicable (institute a sweeping program in these areas too). For unstabilized areas where sweeping is not practicable, consider using stormwater management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, or other equivalent measures that effectively trap or remove sediment.

c. Maintenance

Maintain all control measures which are used to achieve the effluent limits required by this permit in effective operating condition. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If control measures need to be replaced or repaired, make the necessary repairs or modifications as expeditiously as practicable.

d. Spill Prevention and Response Procedures

You must minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, you must implement:

(1) Procedures for plainly labeling containers (e.g., "Used Oil", "Spent Solvents", "Fertilizers and Pesticides", etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;

(2) Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;

(3) Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of your stormwater pollution prevention team;

(4) Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies. State or local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies. Contact information must be in locations that are readily accessible and available;

(5) Procedures for documenting where potential spills and leaks could occur that could contribute pollutants to stormwater discharges, and the corresponding outfalls that would be affected by such spills and leaks; and

(6) A procedure for documenting all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance.

e. Erosion and Sediment Controls

Through the use of structural and/or non-structural control measures stabilize, and contain runoff from, exposed areas to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants. Among other actions to meet this limit, place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to check out information from both the State and EPA websites. The following two websites are given as information sources:

https://www.in.gov/idem/stormwater/resources/indiana-storm-water-quality-manual/
and
https://www.epa.gov/npdes/stormwater-discharges-industrial-activities

f. Management of Runoff

Divert, infiltrate, reuse, contain or otherwise reduce stormwater runoff, to minimize pollutants in the discharge.

g. Salt Storage Piles or Piles Containing Salt

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. You must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered if stormwater runoff from the piles is not discharged.

h. Waste, Garbage, and Floatable Debris

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.

i. Employee Training

Train all employees who work in areas where industrial material or activities are exposed to stormwater, 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. Training must cover the specific control measures used to achieve the effluent limits in this part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit.

j. Non-Stormwater Discharges

You must determine if any non-stormwater discharges not authorized by an NPDES permit exist. Any non-stormwater discharges discovered must either be eliminated or modified into this permit. The following non-stormwater discharges are authorized and must be documented in the Stormwater Pollution Prevention Plan:

Discharges from fire-fighting activities;
Fire Hydrant flushings;
Potable water, including water line flushings;
Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
Irrigation drainage;
Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;

Pavement wash water where no detergents are used and no spills or leaks of toxic or hazardous material have occurred (unless all spilled material has been removed);
Routine external building washdown that does not use detergents;
Uncontaminated groundwater or spring water;
Foundation or footing drains where flows are not contaminated with process materials;
Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from cooling towers (e.g., "piped cooling tower blowdown or drains);
Vehicle wash- waters where uncontaminated water without detergents or solvents is utilized; and
Runoff from the use of dust suppressants approved for use by IDEM.

k. Dust Generation and Vehicle Tracking of Industrial Materials

You must minimize generation of dust and off-site tracking of raw, final, or waste materials.

5. Annual Review

At least once every twelve (12) months, you must review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limitations in this permit. You must document the results of your review in a report that shall be retained within the SWPPP. You must also submit the report to the Industrial NPDES Permit Section, as well as the Compliance Branch, on an annual basis. The report may be submitted by email to the Industrial NPDES Permit Section at OWQWWPER@idem.in.gov and to the Compliance Branch at wwReports@idem.in.gov. The email subject line should include the NPDES Permit # and the type of report being submitted (Annual Stormwater Report). The permittee's first annual review report will be due twelve (12) months from the effective date of the permit. All subsequent annual review reports will be due no later than the anniversary of the effective date of the permit.

6. Corrective Actions – Conditions Requiring Review

a. If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to ensure that the condition is eliminated and will not be repeated:

(1) an unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this NPDES permit) occurs at this facility;

(2) it is determined that your control measures are not stringent enough for the discharge to meet applicable water quality standards;

(3) it is determined in your routine facility inspection, an inspection by EPA or IDEM, comprehensive site evaluation, or the Annual Review required in Part D.5 that modifications to the control measures are necessary to meet the effluent limits in this permit or that your control measures are not being properly operated and maintained; or

(4) Upon written notice by the Commissioner that the control measures prove to be ineffective in controlling pollutants in stormwater discharges exposed to industrial activity.

b. If construction or a change in design, operation, or maintenance at your facility significantly changes the nature of pollutants discharged in stormwater from your facility, or significantly increases the quantity of pollutants discharged, you must review and revise the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limits in this permit:

7. Corrective Action Deadlines

You must document your discovery of any of the conditions listed in Part I.D.6 within thirty (30) days of making such discovery. Subsequently, within one-hundred and twenty (120) days of such discovery, you must document any corrective action(s) to be taken to eliminate or further investigate the deficiency or if no corrective action is needed, the basis for that determination. Specific documentation required within 30 and 120 days is detailed below. If you determine that changes to your control measures are necessary following your review, any modifications to your control measures must be made before the next storm event if possible, or as soon as practicable following that storm event. These time intervals are not grace periods, but schedules considered reasonable for the documenting of your findings and for making repairs and improvements. They are included in this permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely.

8. Corrective Action Report

a. Within 30 days of a discovery of any condition listed in Part I.D.6, you must document the following information:

(1) Brief description of the condition triggering corrective action;

(2) Date condition identified; and

(3) How deficiency identified.

b. Within 120 days of discovery of any condition listed in Part I.D.6, you must document the following information:

(1) Summary of corrective action taken or to be taken (or, for triggering events identified in Part I.D.6.b.(1), where you determine that corrective action is not necessary, the basis for this determination)

(2) Notice of whether SWPPP modifications are required as a result of this discovery or corrective action;

(3) Date corrective action initiated; and

(4) Date corrective action completed or expected to be completed.

9. Inspections

The inspections in this part must be conducted at this facility when the facility is operating. Any corrective action required as a result of an inspection or evaluation conducted under Part I.D.9. must be performed consistent with Part I.D.6 of this permit.

a. Quarterly Inspections

At a minimum, quarterly inspections of the stormwater management measures and stormwater run-off conveyances. The routine inspections must be performed by qualified personnel with at least one member of your stormwater pollution prevention team. Inspections must be documented and either contained in, or have the on-site record keeping location referenced in, the SWPPP.

As part of the routine inspections, address all potential sources of pollutants, including (if applicable) air pollution control equipment (e.g., baghouses, electrostatic precipitator, scrubbers, and cyclones), for any signs of degradation (e.g., leaks, corrosion, or improper operation) that could limit their efficiency and lead to excessive emissions.

Consider monitoring air flow at inlets and outlets (or use equivalent measures) to check for leaks (e.g., particulate deposition) or blockage in ducts. Also inspect all process and material handling equipment (e.g., conveyors, cranes, and vehicles) for leaks, drips, or the potential loss of material; and material storage areas (e.g., piles, bins, or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks and drums) for signs of material loss due to wind or stormwater runoff.

Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part I.E.2.b of this permit and pollution prevention measures and controls identified in the plan in accordance with Part I.D.4. of this permit shall be revised as appropriate within the timeframes contained in Part I.D.7 of this permit.

b. Annual Routine Facility Inspection

At least once during the calendar year, a routine facility inspection must be conducted while a discharge is occurring. You must document the findings of each routine facility inspection performed and maintain this documentation with your SWPPP or have the on-site record keeping location referenced in the SWPPP. At a minimum, your documentation must include:

(1) The inspection date and time;

(2) The name(s) and signature(s) of the inspectors;

(3) Weather information and a description of any discharges occurring at the time of the inspection;

(4) Any previously unidentified discharges of pollutants from the site;

(5) Any control measures needing maintenance or repairs;

(6) Any failed control measures that need replacement;

(7) Any incidents of noncompliance observed; and

(8) Any additional control measures needed to comply with the permit requirements.

c. Annual Comprehensive Site Compliance Evaluation

Qualified personnel and at least one member of your Pollution Prevention Team shall conduct a comprehensive site compliance evaluation, at least once per year, to confirm the accuracy of the description of potential pollution sources contained in the plan, determine the effectiveness of the plan, and assess compliance with the permit. Such evaluations shall provide:

(1) Areas contributing to a stormwater discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural stormwater management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(2) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the stormwater pollution prevention plan, and actions taken in accordance with the above paragraph must be documented and either contained in, or have on-site record keeping location referenced in, the SWPPP at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the stormwater pollution prevention plan and this permit. The report shall be signed in accordance with the signatory requirements of Part II.C.6 of this permit.

(3) Where compliance evaluation schedules overlap the inspections required under this part, the compliance evaluation may be conducted in place of one such inspection.

E. STORMWATER POLLUTION PREVENTION PLAN

1. Development of Plan

Within 12 months from the effective date of this permit, the permittee is required to revise and update the current Stormwater Pollution Prevention Plan (SWPPP) for the permitted facility. The plan shall at a minimum include the following:

a. Identify potential sources of pollution, which may reasonably be expected to affect the quality of stormwater discharges associated with industrial activity from the facility. Stormwater associated with industrial activity (defined in 40 CFR 122.26(b)(14)) includes, but is not limited to, the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or materials storage areas at an industrial plant;

b. Describe practices and measure to be used in reducing the potential for pollutants to be exposed to stormwater; and

c. Assure compliance with the terms and conditions of this permit.

ii. Contents

The plan shall include, at a minimum, the following items:

a. Pollution Prevention Team -The plan shall list, by position title, the member or members of the facility organization as members of a Stormwater Pollution Prevention Team who are responsible for developing the stormwater pollution prevention plan (SWPPP) and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each stormwater pollution prevention team member. Each member of the stormwater pollution prevention team must have ready access to either an electronic or paper copy of applicable portions of this permit and your SWPPP.

b. Description of Potential Pollutant Sources – The plan shall provide a description of areas at the site exposed to industrial activity and have a reasonable potential for stormwater to be exposed to pollutants. The plan shall identify all activities and significant materials (defined in 40 CFR 122.26(b)), which may potentially be significant pollutant sources. As a minimum, the plan shall contain the following:

(1) A soils map indicating the types of soils found on the facility property and showing the boundaries of the facility property.

(2) A graphical representation, such as an aerial photograph or site layout maps, drawn to an appropriate scale, which contains a legend and compass coordinates, indicating, at a minimum, the following:

(A) All on-site stormwater drainage and discharge conveyances, which may include pipes, ditches, swales, and erosion channels, related to a stormwater discharge.

(B) Known adjacent property drainage and discharge conveyances, if directly associated with run-off from the facility.

(C) All on-site and known adjacent property water bodies, including wetlands and springs.

(D) An outline of the drainage area for each outfall.

(E) An outline of the facility property, indicating directional flows, via arrows, of surface drainage patterns.

(F) An outline of impervious surfaces, which includes pavement and buildings, and an estimate of the impervious and pervious surface square footage for each drainage area placed in a map legend.

(G) On-site injection wells, as applicable.

(H) On-site wells used as potable water sources, as applicable.

(I) All existing major structural control measures to reduce pollutants in stormwater run-off.

(J) All existing and historical underground or aboveground storage tank locations, as applicable.

(K) All permanently designated plowed or dumped snow storage locations.

(L) All loading and unloading areas for solid and liquid bulk materials.

(M) All existing and historical outdoor storage areas for raw materials, intermediary products, final products, and waste materials. Include materials handled at the site that potentially may be exposed to precipitation or runoff, areas where deposition of particulate matter from process air emissions or losses during material-handling activities.

(N) All existing or historical outdoor storage areas for fuels, processing equipment, and other containerized materials, for example, in drums and totes.

(O) Outdoor processing areas.

(P) Dust or particulate generating process areas.

(Q) Outdoor assigned waste storage or disposal areas.

(R) Pesticide or herbicide application areas.

(S) Vehicular access roads.

(T) Identify any storage or disposal of wastes such as spent solvents and baths, sand, slag and dross; liquid storage tanks and drums; processing areas including pollution control equipment (e.g., baghouses); and storage areas of raw material such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. In addition, indicate where an accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions, losses from coal and coke handling operation, etc., and could result in a discharge of pollutants.

(U) The mapping of historical locations is only required if the historical locations have a reasonable potential for stormwater exposure to historical pollutants.

(3) An area site map that indicates:

(A) The topographic relief or similar elevations to determine surface drainage patterns;

(B) The facility boundaries;

(C) All receiving waters;

(D) All known drinking water wells; and

Includes at a minimum, the features in clauses (A), (C), and (D) within a one-fourth (1/4) mile radius beyond the property boundaries of the facility. This map must be to scale and include a legend and compass coordinates.

(4) A narrative description of areas that generate stormwater discharges exposed to industrial activity including descriptions for any existing or historical areas listed in subdivision 2.b.(2)(J) through (T) of this Part, and any other areas thought to generate stormwater discharges exposed to industrial activity. The narrative descriptions for each identified area must include the following:

(A) Type and typical quantity of materials present in the area.

(B) Methods of storage, including presence of any secondary containment measures.

(C) Any remedial actions undertaken in the area to eliminate pollutant sources or exposure of stormwater to those sources. If a corrective action plan was developed, the type of remedial action and plan date shall be referenced.

(D) Any significant release or spill history dating back a period of three (3) years from the effective date of this permit, in the identified area, for materials spilled outside of secondary containment structures and impervious surfaces in excess of their reportable quantity, including the following:

i. The date and type of material released or spilled.

ii. The estimated volume released or spilled.

iii. A description of the remedial actions undertaken, including disposal or treatment.

Depending on the adequacy or completeness of the remedial actions, the spill history shall be used to determine additional pollutant sources that may be exposed to stormwater. In subsequent permit terms, the history shall date back for a period of five (5) years from the date of the permit renewal application.

(E) Where the chemicals or materials have the potential to be exposed to stormwater discharges, the descriptions for each identified area must include a risk identification analysis of chemicals or materials stored or used within the area. The analysis must include the following:

i. Toxicity data of chemicals or materials used within the area, referencing appropriate material safety data sheet information locations.

ii. The frequency and typical quantity of listed chemicals or materials to be stored within the area.

iii. Potential ways in which stormwater discharges may be exposed to listed chemicals and materials.

iv. The likelihood of the listed chemicals and materials to come into contact with water.

(5) A narrative description of existing and planned management practices and measures to improve the quality of stormwater run-off entering a water of the state. Descriptions must be created for existing or historical areas listed in subdivision 2.b.(2)(J) through (T) and any other areas thought to generate stormwater discharges exposed to industrial activity. The description must include the following:

(A) Any existing or planned structural and nonstructural control practices and measures.

(B) Any treatment the stormwater receives prior to leaving the facility property or entering a water of the state.

(C) The ultimate disposal of any solid or fluid wastes collected in structural control measures other than by discharge.

(D) Describe areas that due to topography, activities, or other factors have a high potential for significant soil erosion.

(E) Document the location of any storage piles containing salt used for deicing.

(F) Information or other documentation required under Part I.E.2(d) of this permit.

(6) The results of stormwater monitoring. The monitoring data must include completed field data sheets, chain-of-custody forms, and laboratory results. If the monitoring data are not placed into the facility's SWPPP, the on-site location for storage of the information must be reference in the SWPPP.

c. Non-Stormwater Discharges – You must document that you have evaluated for the presence of non-stormwater discharges not authorized by an NPDES permit. Any non-stormwater discharges have either been eliminated or incorporated into this permit. Documentation of non-stormwater discharges shall include:

(1) A written non-stormwater assessment, including the following:

(A) A certification letter stating that stormwater discharges entering a water of the state have been evaluated for the presence of illicit discharges and non-stormwater contributions.

(B) Detergent or solvent-based washing of equipment or vehicles that would allow washwater additives to enter any stormwater only drainage system shall not be allowed at this facility unless appropriately permitted under this NPDES permit.

(C) All interior maintenance area floor drains with the potential for maintenance fluids or other materials to enter stormwater only storm sewers must be either sealed, connected to a sanitary sewer with prior authorization, or appropriately permitted under this NPDES permit. The sealing, sanitary sewer connecting, or permitting of drains under this item must be documented in the written non-stormwater assessment program.

(D) The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during the test.

d. General Requirements – The SWPPP must meet the following general requirements:

(1) The plan shall be certified by a qualified professional. The term qualified professional means an individual who is trained and experienced in water treatment techniques and related fields as may be demonstrated by state registration, professional certification, or completion of course work that enable the individual to make sound, professional judgments regarding stormwater control/treatment and monitoring, pollutant fate and transport, and drainage planning.

(2) The plan shall be retained at the facility and be available for review by a representative of the Commissioner upon request. IDEM may provide access to portions of your SWPPP to the public.

(3) The plan must be revised and updated as required. Revised and updated versions of the plan must be implemented on or before three hundred sixty-five (365) days from the effective date of this permit. The Commissioner may grant an extension of this time frame based on a request by the person showing reasonable cause.

(4) If the permittee has other written plans, required under applicable federal or state law, such as operation and maintenance, spill prevention control and countermeasures (SPCC), or risk contingency plans, which fulfill certain requirements of an SWPPP, these plans may be referenced, at the permittee's discretion, in the appropriate sections of the SWPPP to meet those section requirements.

(5) The permittee may combine the requirements of the SWPPP with another written plan if:

(A) The plan is retained at the facility and available for review;

(B) All the requirements of the SWPPP are contained within the plan; and

(C) A separate, labeled section is utilized in the plan for the SWPPP requirements.

F. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

To adequately assess the effects of the effluent on aquatic life, the permittee is required by this section of the permit to conduct chronic whole effluent toxicity (WET) testing. Part I.F.1. of this permit describes the testing procedures and Part I.F.2. describes the toxicity reduction evaluation (TRE) which is only required if the effluent demonstrates toxicity in two (2) consecutive toxicity tests as described in Part I.F.1.f.

1. Whole Effluent Toxicity (WET) Tests

The permittee must conduct the series of aquatic toxicity tests specified in Part I.F.1.d. to monitor the acute and chronic toxicity of the effluent discharged from Outfall(s) 009 and 011.

If toxicity is demonstrated in two (2) consecutive toxicity tests, as described in Part I.F.1.f., with any test species during the term of the permit, the permittee is required to conduct a TRE under Part I.F.2.

a. Toxicity Test Procedures and Data Analysis

(1) All test organisms, test procedures and quality assurance criteria used must be in accordance with the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, Section 11, Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test Method 1000.0, and Section 13, Daphnid (*Ceriodaphnia dubia*) Survival and Reproduction Test Method 1002.0, EPA 821-R-02-013, October 2002 (hereinafter "Chronic Toxicity Test Method"), or most recent update that conforms to the version of 40 CFR 136 incorporated by reference in 327 IAC 5. [References to specific portions of the Chronic Toxicity Test Method contained in this Part I.F. are provided for informational purposes. If the Chronic Toxicity Test Method is updated, the corresponding provisions of that updated method would be applicable.

(2) Any circumstances not covered by the above methods, or that require deviation from the specified methods must first be approved by the IDEM Permits Branch.

(3) The determination of acute and chronic endpoints of toxicity (LC50, NOEC and IC25 values) must be made in accordance with the procedures in Section 9, “Chronic Toxicity Test Endpoints and Data Analysis” and the Data Analysis procedures as outlined in Section 11 for fathead minnow (Test Method 1000.0; see flowcharts in Figures 5, 6 and 9) and Section 13 for *Ceriodaphnia dubia* (Test Method 1002.0; see flowcharts in Figures 4 and 6) of the Chronic Toxicity Test Method. The IC25 value together with 95% confidence intervals calculated by the Linear Interpolation and Bootstrap Methods in Appendix M of the Chronic Toxicity Test Method must be determined in addition to the NOEC value.

b. Types of Whole Effluent Toxicity Tests

(1) Tests may include a 3-brood (7-day) definitive static-renewal daphnid (*Ceriodaphnia dubia*) survival and reproduction toxicity test and a 7-day definitive static-renewal fathead minnow (*Pimephales promelas*) larval survival and growth toxicity test.

(2) All tests must be conducted using 24-hour composite samples of final effluent. Three effluent samples are to be collected on alternate days (e.g., collected on days one, three and five). The first effluent sample will be used for test initiation and for test solution renewal on day 2. The second effluent sample will be used for test solution renewal on days 3 and 4. The third effluent sample will be used for test solution renewal on days 5, 6 and 7. If shipping problems are encountered with renewal samples after a test has been initiated, the most recently used sample may continue to be used for test renewal, if first approved by the IDEM Permits Branch, but for no longer than 72 hours after first use.

(3) The whole effluent dilution series for the definitive test must include a control and at least five effluent concentrations with a minimum dilution factor of 0.5. The effluent concentrations selected must include and, if practicable, bracket the effluent concentrations associated with the determinations of acute and chronic toxicity provided in Part I.F.1.f. Guidance on selecting effluent test concentrations is included in Section 8.10 of the Chronic Toxicity Test Method. The use of an alternate procedure for selecting test concentrations must first be approved by the IDEM Permits Branch.

(4) If, in any control, more than 10% of the test organisms die in the first 48 hours with a daphnid species or the first 96 hours with fathead minnow, or more than 20% of the test organisms die in 7 days, that test is considered invalid and the toxicity test must be repeated. In addition, if in the *Ceriodaphnia dubia* survival and reproduction test, the average number of young produced per surviving female in the control group is less than 15, or if 60% of surviving control females have less than three broods; and in the fathead minnow (*Pimephales promelas*) survival and growth test, if the mean dry weight of surviving fish in the control group is less than 0.25 mg, that test is considered invalid and must also be repeated. All other test conditions and test acceptability criteria for the fathead minnow (*Pimephales promelas*) and *Ceriodaphnia dubia* chronic toxicity tests must be in accordance with the test requirements in Section 11 (Test Method 1000.0), Table 1 and Section 13 (Test Method 1002.0), Table 3, respectively, of the Chronic Toxicity Test Method.

c. Effluent Sample Collection and Chemical Analysis

(1) Whole effluent samples taken for the purposes of toxicity testing must be 24-hour composite samples collected at a point that is representative of the final effluent, but prior to discharge. Effluent sampling for the toxicity testing may be coordinated with other permit sampling requirements as appropriate to avoid duplication. First use of the whole effluent toxicity testing samples must not exceed 36 hours after termination of the 24-hour composite sample collection and must not be used for longer than 72 hours after first use. For discharges of less than 24 hours in duration, composite samples must be collected for the duration of the discharge within a 24-hour period (see “24-hour composite sample” definition in Part I.C.3. of this permit).

(2) Chemical analysis must accompany each effluent sample taken for toxicity testing, including each sample taken for the repeat testing as outlined in Part I.F.1.f.(3). The chemical analysis detailed in Part I.A.2, Part I.A.3, Part I.A.7 and Part I.A.8 must be conducted for the effluent sample in accordance with Part I.C.4. of this permit.

d. Toxicity Testing Species, Frequency and Duration

Chronic toxicity testing for *Ceriodaphnia dubia* must be conducted once every six (6) months, as calculated from the effective date of the permit, for the duration of the permit. Under the previous permit, this facility conducted whole effluent toxicity testing using the most

sensitive species. Based on the permittee's record of compliance with whole effluent toxicity testing, the number of species tested may continue to include only the one most sensitive to the toxicity in the effluent.

If a TRE is initiated during the term of the permit, after receiving notification under Part I.F.1.e, the Compliance Data Section will suspend the toxicity testing requirements above for the term of the TRE compliance schedule described in Part I.F.2. After successful completion of the TRE, the toxicity tests established under Part I.F.2.c.(4) must be conducted once quarterly, as calculated from the first day of the first month following successful completion of the post-TRE toxicity tests (see Part I.F.2.c.(4)), for the remainder of the permit term.

e. Reporting

(1) Notifications of the failure of two (2) consecutive toxicity tests and the intent to begin the implementation of a toxicity reduction evaluation (TRE) under Part I.F.1.f.(4) must be submitted in writing to the Compliance Data Section of IDEM's Office of Water Quality.

(2) Results of all toxicity tests, including invalid tests, must be reported to IDEM according to the general format and content recommended in the Chronic Toxicity Test Method, Section 10, "Report Preparation and Test Review". However, only the results of valid toxicity tests are to be reported on the discharge monitoring report (DMR). The results of the toxicity tests and laboratory report are due by the earlier of 60 days after completion of the test or the 28th day of the month following the end of the period established in Part I.F.1.d.

(3) The full whole effluent toxicity (WET) test laboratory report must be submitted to IDEM electronically as an attachment to an e-mail to the Compliance Data Section at wwreports@idem.IN.gov. The results must also be submitted via NetDMR.

(4) For quality control and ongoing laboratory performance, the laboratory report must include results from appropriate standard reference toxicant tests. This will consist of acute (LC_{50} values), if available, and chronic (NOEC, LOEC and IC_{25} values) endpoints of toxicity obtained from reference toxicant tests conducted within 30 days of the most current effluent toxicity tests and from similarly obtained historical reference

toxicant data with mean values and appropriate ranges for each species tested for at least three months to one year. Toxicity test laboratory reports must also include copies of chain-of-custody records and laboratory raw data sheets.

(5) Statistical procedures used to analyze and interpret toxicity data (e.g., Fisher's Exact Test and Steel's Many-one Rank Test for 7-day survival of test organisms; tests of normality (e.g., Shapiro-Wilk's Test) and homogeneity of variance (e.g., Bartlett's Test); appropriate parametric (e.g., Dunnett's Test) and non-parametric (e.g., Steel's Many-one Rank Test) significance tests and point estimates (IC_{25}) of effluent toxicity, etc.; together with graphical presentation of survival, growth and reproduction of test organisms), including critical values, levels of significance and 95% confidence intervals, must be described and included as part of the toxicity test laboratory report.

(6) For valid toxicity tests, the whole effluent toxicity (WET) test laboratory report must include a summary table of the results for each species tested as shown in the table presented below. This table will provide toxicity test results, reported in acute toxic units (TU_a) and chronic toxic units (TU_c), for evaluation under Part I.F.1.f. and reporting on the discharge monitoring report (DMR).

Test Organism [1]	Test Type	Endpoint [2]	Units	Result	Compliance Limit [6]	Pass/ Fail [7]	Reporting
Ceriodaphnia dubia	3-brood (7-day) Definitive Static-Renewal Survival and Reproduction	48-hr. LC_{50}	%	Report			Laboratory Report
			TU_a	Report			
		NOEC Survival	%	Report			
			TU_c	Report			
		NOEC Reproduction	%	Report			
			TU_c	Report			
		IC_{25} Reproduction	%	Report			
			TU_c	Report			
		Toxicity (acute) [3]	TU_a	Report [5]	1.0	Report	Laboratory Report **and NetDMR** (Parameter Code 61425)
		Toxicity (chronic) [4]	TU_c	Report [5]	2.8 (009A/B) 4.1 (011A/B)	Report	Laboratory Report **and NetDMR** (Parameter Code 61426)
Pimephales promelas	7-day Definitive Static-Renewal Larval Survival and Growth	96-hr. LC_{50}	%	Report			Laboratory Report
			TU_a	Report			
		NOEC Survival	%	Report			
			TU_c	Report			
		NOEC Growth	%	Report			
			TU_c	Report			
		IC_{25} Growth	%	Report			
			TU_c	Report			
		Toxicity (acute) [3]	TU_a	Report [5]	1.0	Report	Laboratory Report **and NetDMR** (Parameter Code 61427)
		Toxicity (chronic) [4]	TU_c	Report [5]	2.8 (009A/B) 4.1 (011A/B)	Report	Laboratory Report **and NetDMR** (Parameter Code 61428)

[1] For the whole effluent toxicity (WET) test laboratory report, eliminate from the table any species that was not tested.
[2] A separate acute test is not required. The endpoint of acute toxicity must be extrapolated from the chronic toxicity test.
[3] The toxicity (acute) endpoint for *Ceriodaphnia dubia* is the 48-hr. LC_{50} result reported in acute toxic units (TU_a). The toxicity (acute) endpoint for *Pimephales promelas* is the 96-hr. LC50 result reported in acute toxic units (TUa).
[4] The toxicity (chronic) endpoint for *Ceriodaphnia dubia* is the higher of the NOEC Survival, NOEC Reproduction and IC_{25} Reproduction values reported in chronic toxic units (TU_c). The

toxicity (chronic) endpoint for *Pimephales promelas* is the higher of the NOEC Survival, NOEC Growth and IC25 Growth values reported in chronic toxic units (TUc).
[5] Report the values for acute and chronic endpoints of toxicity determined in [3] and [4] for the corresponding species. These values are the ones that need to be reported on the discharge monitoring report (DMR).
[6] These values do not represent effluent limitations, but rather exceedance of these values results in a demonstration of toxicity that triggers additional action and reporting by the permittee.
[7] If the toxicity result (in TUs) is less than or equal to the compliance limit, report "Pass". If the toxicity result (in TUs) exceeds the compliance limit, report "Fail".

f. Demonstration of Toxicity

(1) Toxicity (acute) will be demonstrated if the effluent is observed to have exceeded 1.0 TU_a (acute toxic units) for *Ceriodaphnia dubia* in 48 hours or in 96 hours for *Pimephales promelas*. For this purpose, a separate acute toxicity test is not required. The results for the acute toxicity demonstration must be extrapolated from the chronic toxicity test. For the purpose of selecting test concentrations under Part I.F.1.b.(3), the effluent concentration associated with acute toxicity is 100%.

(2) Toxicity (chronic) will be demonstrated if the effluent is observed to have exceeded 2.8 TU_c (chronic toxic units) for Outfall 009A/B and 4.1 TU_c for Outfall 011A/B for *Ceriodaphnia dubia* or *Pimephales promelas* from the chronic toxicity test. For the purpose of selecting test concentrations under Part I.F.1.b.(3), the effluent concentration associated with chronic toxicity is 35.7% for Outfall 009A/B and 24.4% for Outfall 011A/B.

(3) If toxicity (acute) or toxicity (chronic) is demonstrated in any of the chronic toxicity tests specified above, a repeat chronic toxicity test using the procedures in Part I.F.1. of this permit and the same test species must be initiated within two (2) weeks of test failure. During the sampling for any repeat tests, the permittee must also collect and preserve sufficient effluent samples for use in any toxicity identification evaluation (TIE) and/or toxicity reduction evaluation (TRE), if necessary.

(4) If any two (2) consecutive chronic toxicity tests, including any and all repeat tests, demonstrate acute or chronic toxicity, the permittee must notify the Compliance Data Section under Part I.F.1.e. within 30 days of the date of termination of the second test, and begin the implementation of a toxicity reduction evaluation (TRE) as described in Part I.F.2. After receiving notification from the permittee, the Compliance Data Section

will suspend the whole effluent toxicity testing requirements in Part I.F.1. for the term of the TRE compliance schedule.

g. Definitions

(1) "Acute toxic unit" or "TU_a" is defined as $100/LC_{50}$ where the LC_{50} is expressed as a percent effluent in the test medium of an acute whole effluent toxicity (WET) test that is statistically or graphically estimated to be lethal to fifty percent (50%) of the test organisms.

(2) "Chronic toxic unit" or "TU_c" is defined as 100/NOEC or $100/IC_{25}$, where the NOEC or IC_{25} are expressed as a percent effluent in the test medium.

(3) "Inhibition concentration 25" or "IC_{25}" means the toxicant (effluent) concentration that would cause a twenty-five percent (25%) reduction in a nonquantal biological measurement for the test population. For example, the IC_{25} is the concentration of toxicant (effluent) that would cause a twenty-five percent (25%) reduction in mean young per female or in growth for the test population.

(4) "No observed effect concentration" or "NOEC" is the highest concentration of toxicant (effluent) to which organisms are exposed in a full life cycle or partial life cycle (short term) test, that causes no observable adverse effects on the test organisms, that is, the highest concentration of toxicant (effluent) in which the values for the observed responses are not statistically significantly different from the controls.

2. Toxicity Reduction Evaluation (TRE) Schedule of Compliance

The development and implementation of a TRE is only required if toxicity is demonstrated in two (2) consecutive tests as described in Part I.F.1.f.(4). The post-TRE toxicity testing requirements in Part I.F.2.c. must also be completed as part of the TRE compliance schedule.

Milestone Dates: See a. through e. below for more detail on the TRE milestone dates.

Requirement	**Deadline**
Development and Submittal of a TRE Plan	Within 90 days of the date of two (2) consecutive failed toxicity tests.
Initiate a TRE Study	Within 30 days of TRE Plan submittal.

Submit TRE Progress Reports	Every 90 days beginning six (6) months from the date of two (2) consecutive failed toxicity tests.
Post-TRE Toxicity Testing Requirements	Immediately upon completion of the TRE, conduct three (3) consecutive months of toxicity tests with both test species; if no acute or chronic toxicity is shown with any test species, reduce toxicity tests to once every six (6) months for the remainder of the permit term. If post-TRE toxicity testing demonstrates toxicity, continue the TRE study.
Submit Final TRE Report	Within 90 days of successfully completing the TRE (including the post-TRE toxicity testing requirements), not to exceed three (3) years from the date that toxicity is initially demonstrated in two (2) consecutive toxicity tests.

a. Development of TRE Plan

Within 90 days of the date of two (2) consecutive failed toxicity tests (i.e. the date of termination of the second test), the permittee must submit plans for an effluent TRE to the Compliance Data Section. The TRE plan must include appropriate measures to characterize the causative toxicants and reduce toxicity in the effluent discharge to levels that demonstrate no toxicity with any test species as described in Part I.F.1.f. Guidance on conducting effluent toxicity reduction evaluations is available from EPA and from the EPA publications listed below:

(1) Methods for Aquatic Toxicity Identification Evaluations:

Phase I Toxicity Characterization Procedures, Second Edition (EPA/600/6-91/003), February 1991.

Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080), September 1993.

Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081), September 1993.

(2) Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I (EPA/600/6-91/005F), May 1992.

(3) Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs) (EPA/600/2-88/070), April 1989.

(4) Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program, U.S. EPA, March 27, 2001.

b. Conduct the TRE

Within 30 days after submittal of the TRE plan to the Compliance Data Section, the permittee must initiate the TRE consistent with the TRE plan.

c. Post-TRE Toxicity Testing Requirements

(1) After completing the TRE, the permittee must conduct monthly post-TRE toxicity tests with the two (2) test species *Ceriodaphnia dubia* and fathead minnow (*Pimephales promelas*) for a period of three (3) consecutive months.

(2) If the three (3) monthly tests demonstrate no toxicity with any test species as described in Part I.F.1.f., the TRE will be considered successful. Otherwise, the TRE study must be continued.

(3) The post-TRE toxicity tests must be conducted in accordance with the procedures in Part I.F.1. The results of these tests must be submitted as part of the final TRE Report required under Part I.F.2.d.

(4) After successful completion of the TRE, the permittee must resume the chronic toxicity tests required in Part I.F.1. The permittee may reduce the number of species tested to only include the species demonstrated to be most sensitive to the toxicity in the effluent. The established starting date for the frequency in Part I.F.1.d. is the first day of the first month following successful completion of the post-TRE toxicity tests.

d. Reporting

(1) Progress reports must be submitted every 90 days to the Compliance Data Section beginning six (6) months from the date of two (2) consecutive failed toxicity tests. Each TRE progress report must include a listing of proposed activities for the next quarter and a schedule to reduce toxicity in the effluent

discharge to acceptable levels through control of the toxicant source or treatment of whole effluent.

(2) Within 90 days of successfully completing the TRE, including the three (3) consecutive monthly tests required as part of the post-TRE toxicity testing requirements in Part I.F.2.c., the permittee must submit to the Compliance Data Section a final TRE Report that includes the following:

(A) A discussion of the TRE results;
(B) The starting date established under Part I.F.2.c.(4) for the continuation of the toxicity testing required in Part I.F.1.; and
(C) If applicable, the intent to reduce the number of species tested to the one most sensitive to the toxicity in the effluent under Part I.F.2.c.(4).

e. Compliance Date

The permittee must complete items a., b., c. and d. from Part I.F.2. and reduce toxicity in the effluent discharge to acceptable levels as soon as possible, but no later than three (3) years from the date that toxicity is initially demonstrated in two (2) consecutive toxicity tests (i.e. the date of termination of the second test) as described in Part I.F.1.f.(4).

G. SCHEDULE OF COMPLIANCE: Cooling Water Intake Structures

The permittee shall achieve compliance with the 316(b)-impingement mortality BTA at Intake #2 in accordance with the following schedule:

a. As soon as practicable but no later than twelve (12) months after the effective date of this permit, the permittee must provide for IDEM review and approval, the impingement mortality BTA option it has selected for this intake to comply with the cooling water intake structure requirements and provide detailed descriptions, preliminary engineering study results, calculations, and the steps that will be taken to implement the selected impingement mortality BTA:
   (i) Compliance with the BTA alternative under 40 CFR 125.94(c)(3) (operate a cooling water intake structure that has a maximum through-screen actual intake velocity of 0.5 feet per second). This velocity is a not-to-exceed requirement that must be met under all conditions. The permittee shall provide documentation and calculations explaining how it intends to comply with this alternative which may include a combination of flow reductions and the addition of screens and shall provide the means for continuous intake flow measurement.

(ii) Compliance with the BTA alternative under 40 CFR 125.94(c)(2) (operate a cooling water intake structure that has a design through-screen velocity of 0.5 feet per second or less). Under this alternative, the permittee shall provide documentation and calculations explaining how it intends to comply with this alternative which may include a combination of modifications to intake pumps (flow reduction) and the addition of screens.

(iii) Compliance with one of the other BTA alternatives under 40 CFR 125.94(c)(1)-(c)(7).

The alternative selected and approved under this provision shall be referred to as the "selected BTA alternative". The permittee shall request and receive approval for its selected BTA alternative prior to completion of the design plans required for the alternative under G.b., below.

b. As soon as practicable but no later than twenty (20) months after the permit effective date the permittee shall complete detailed engineering plans for the selected BTA alternative (the alternative selected under G.a., above).

c. As soon as practicable but no later than twenty-four (24) months after the permit effective date the permittee shall initiate construction of any the modifications necessary to achieve compliance with the selected BTA alternative (the alternative selected under G.a, above). If the permittee selected an alternative of modified traveling screens under G.a.(iii) above, the permittee must also submit a study plan for conducting an impingement technology performance optimization study pursuant to 40 CFR 122.21(r)(6)(i).

d. As soon as practicable, but no later than thirty-six (36) months after the effective date of the permit, complete construction of any modifications necessary to achieve compliance with the selected BTA alternative (the alternative selected under G.a., above).

e. Within thirty (30) days of completion, the permittee shall file with the Industrial NPDES Permits Section of Office of Water Quality (OWQ) a notice describing all modifications and actions taken to install the selected BTA alternative and a design summary of any modifications.

f. The permittee shall submit a written progress report to the Compliance Data Section of the OWQ three (3) months from the effective date of this permit and every six (6) months thereafter until the requirements in the compliance schedule outlined above have been achieved. The progress reports shall include relevant information related to steps the permittee has taken to meet the requirements in the compliance schedule and whether the permittee is meeting the dates in the compliance schedule.

g. If the permittee fails to comply with any deadline contained in the foregoing schedules, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Data

Section of the OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance.

H. POLLUTANT MINIMIZATION PROGRAM

The permittee is required to develop and conduct a pollutant minimization program (PMP) for each pollutant with a WQBEL below the LOQ. This permit contains a WQBEL below the LOQ for total residual chlorine (TRC) at Outfalls 002, 009A/B, and 010 A/B; and TRO (Bromine + TRC) at Outfalls 011 A/B.

During the previous permit term, the permittee demonstrated that the discharge of TRC is reasonably expected to comply with the WQBEL at the point of discharge into the receiving water. Given that the test method, LOD, and LOQ are the same for TRC and TRO, it has been determined that the discharge of TRO is also reasonably expected to comply with the WQBEL at the point of discharge into the receiving water. Therefore, an updated pollutant minimization program for these parameters is not required. If something changes at the site that would require this information to be updated, the permittee shall update the pollutant minimization program requirements and submit to IDEM for review.

I. LINE DRAWINGS WITH WATER BALANCE

Updated line drawings with water balance must be provided with the next permit renewal application (see 40 CFR 122.21(g)(2)). Line drawings of the water flow through the facility with water balance, showing operations contributing wastewater to the effluent and treatment units must be provided. Similar processes, operations, or production areas may be indicated as a single unit, labeled to correspond to the more detailed identification under 40 CFR 122.21(g)(3). The water balance must show approximate average flows at intake and discharge points and between units, including treatment units.

J. ZEBRA AND QUAGGA MUSSEL CONTROL

As a means of controlling Zebra and Quagga Mussel colonization within the facility, the permittee chlorinates intake water on a continuous basis during a portion of each year. Wastewater shall be dechlorinated prior to discharge from all external Outfalls 002, 009A/B, 010A/B, and 011A/B. The discharge from each external Outfall shall have limitations and monitoring requirements for Total Residual Chlorine (TRC) or Total Residual Oxidants (TRO). The applicable monthly average limitations and daily maximum limitations are found in Parts I.A.1, I.A.2, I.A.3, I.A.5, I.A.6, I.A.7 and I.A.8 of this permit.

K. <u>BIOCIDES CONCENTRATION</u>

The use of any biocide containing tributyl tin oxide in any closed or open cooling system is prohibited.

L. POLYCHLORINATED BIPHENYL

There shall be no discharge of polychlorinated biphenyl (PCB) compounds attributable to facility operations such as those historically used in transformer fluids. In order to determine compliance with the PCB discharge prohibition, the permittee shall provide the following PCB data with the next NPDES permit renewal application for at least one sample taken from each final outfall. The corresponding facility water intakes shall be monitored at the same time as the final outfalls.

Parameter	Test Method	LOD	LOQ
Total PCBs*	608	0.1 ug/l	0.3 ug/l

*Total PCBs is the sum of the following aroclors: PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, and PCB-1260

M. 301(g) VARIANCE REQUEST

The facility is required to submit an updated 301(g) variance request no later than with the renewal application for the next permit cycle if the facility intends to continue the variance.

N. REOPENING CLAUSES

This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing:

1. to comply with any applicable effluent limitation or standard issued or approved under 301(b)(2)(C),(D) and (E), 304 (b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:

    a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

    b. controls any pollutant not limited in the permit.

2. for any of the causes listed under 327 IAC 5-2-16.

3. to include Whole Effluent Toxicity (WET) limitations or to include limitations for specific toxicants if the results of the WET testing and/or the Toxicity Reduction Evaluation (TRE) study indicate that such limitations are necessary.

4. to include a case-specific Limit of Detection (LOD) and/or Limit of Quantitation (LOQ). The permittee must demonstrate that such action is

warranted in accordance with the procedures specified under Appendix B, 40 CFR Part 136, using the most sensitive analytical methods approved by EPA under 40 CFR Part 136, or approved by the Commissioner.

5. to modify the 301(g) effluent limitation for ammonia-N and/or total phenols. At any time during the term of this NPDES permit, the permittee may request modification of Section 301(g) effluent limits. Such modified limits may be applied at Outfalls 009, 010, and 011, or any combination thereof.

6. to specify the use of a different analytical method if a more sensitive analytical method has been specified in or approved under 40 CFR 136 or approved by the Commissioner to monitor for the presence and amount in the effluent of the pollutant for which the WQBEL is established. The permit shall specify, in accordance with 327 IAC 5-2-11.6(h)(2)(B), the LOD and LOQ that can be achieved by use of the specified analytical method.

7. to include revised Streamlined Mercury Variance (SMV) and/or Pollutant Minimization Program Plan (PMPP) requirements.

8. to comply with any applicable standards, regulations and requirements issued or approved pursuant to section 316(b) of the Clean Water Act. This includes but is not limited to any revisions needed to reflect a change in the selected impingement mortality BTA at Intake No. 1 and Intake No. 2 based on the results of the velocity monitoring study required under Part III.B.8 or the entrainment mortality BTA at Intake No. 1 and Intake No. 2 based on the results of the entrainment study required under Part III.B.12.

9. if the permittee does not pursue the BTA alternative(s) in 40 CFR 125.94(c)(2) or 40 CFR 125.94(c)(3) and selects another BTA alternative under 40 CFR 125.94(c).

PART II

STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all terms and conditions of this permit in accordance with 327 IAC 5-2-8(1) and all other requirements of 327 IAC 5-2-8. Any permit noncompliance constitutes a violation of the Clean Water Act and IC 13 and is grounds for enforcement action or permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

2. Duty to Mitigate

In accordance with 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this permit. During periods of noncompliance, the permittee shall conduct such accelerated or additional monitoring for the affected parameters, as appropriate or as requested by IDEM, to determine the nature and impact of the noncompliance.

3. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must obtain and submit an application for renewal of this permit in accordance with 327 IAC 5-2-8(2). It is the permittee's responsibility to obtain and submit the application. In accordance with 327 IAC 5-2-3(c), the owner of the facility or operation from which a discharge of pollutants occurs is responsible for applying for and obtaining the NPDES permit, except where the facility or operation is operated by a person other than an employee of the owner in which case it is the operator's responsibility to apply for and obtain the permit. Pursuant to 327 IAC 5-3-2(a)(2), the application must be submitted at least 180 days before the expiration date of this permit. This deadline may be extended if all of the following occur:

a. permission is requested in writing before such deadline;

b. IDEM grants permission to submit the application after the deadline; and

c. the application is received no later than the permit expiration date.

4. Permit Transfers

In accordance with 327 IAC 5-2-8(4)(D), this permit is nontransferable to any person except in accordance with 327 IAC 5-2-6(c). This permit may be transferred to another person by the permittee, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

a. the current permittee notified the Commissioner at least thirty (30) days in advance of the proposed transfer date;

b. a written agreement containing a specific date of transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgment that the existing permittee is liable for violations up to that date, and the transferee is liable for violations from that date on) is submitted to the Commissioner;

c. the transferee certifies in writing to the Commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the Commissioner may allow a temporary transfer of the permit without permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility; and

d. the Commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act or state law.

5. Permit Actions

a. In accordance with 327 IAC 5-2-16(b) and 327 IAC 5-2-8(4), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

1. Violation of any terms or conditions of this permit;

2. Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts in the application, or during the permit issuance process; or

3. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit, e.g., plant closure, termination of discharge by connection to a POTW, a change in state law that requires the reduction or elimination of the discharge, or information indicating that the permitted discharge poses a substantial threat to human health or welfare.

b. Filing of either of the following items does not stay or suspend any permit condition: (1) a request by the permittee for a permit modification, revocation and reissuance, or termination, or (2) submittal of information specified in Part II.A.3 of the permit including planned changes or anticipated noncompliance.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility that:

1. could significantly change the nature of, or increase the quantity of pollutants discharged; or

2. the commissioner may request to evaluate whether such cause exists.

c. In accordance with 327 IAC 5-1-3(a)(5), the permittee must also provide any information reasonably requested by the Commissioner.

6. Property Rights

Pursuant to 327 IAC 5-2-8(6) and 327 IAC 5-2-5(b), the issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to persons or private property or invasion of other private rights, any infringement of federal, state, or local laws or regulations. The issuance of the permit also does not preempt any duty to obtain any other state, or local assent required by law for the discharge or for the construction or operation of the facility from which a discharge is made.

7. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstance is held invalid, the invalidity shall not affect any other provisions or applications of the permit which can be given effect without the invalid provision or application.

8. Oil and Hazardous Substance Liability

   Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

9. State Laws

   Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act or state law.

10. Penalties for Violation of Permit Conditions

    Pursuant to IC 13-30-4, a person who violates any provision of this permit, the water pollution control laws; environmental management laws; or a rule or standard adopted by the Environmental Rules Board is liable for a civil penalty not to exceed twenty-five thousand dollars ($25,000) per day of any violation.

    Pursuant to IC 13-30-5, a person who obstructs, delays, resists, prevents, or interferes with (1) the department; or (2) the department's personnel or designated agent in the performance of an inspection or investigation performed under IC 13-14-2-2 commits a class C infraction.

    Pursuant to IC 13-30-10-1.5(e), a person who willfully or negligently violates any NPDES permit condition or filing requirement, or any applicable standards or limitations of IC 13-18-3-2.4, IC 13-18-4-5, IC 13-18-12, IC 13-18-14, IC 13-18-15, or IC 13-18-16, commits a Class A misdemeanor.

    Pursuant to IC 13-30-10-1.5(i), an offense under IC 13-30-10-1.5(e) is a Level 4 felony if the person knowingly commits the offense and knows that the commission of the offense places another person in imminent danger of death or serious bodily injury. The offense becomes a Level 3 felony if it results in serious bodily injury to any person, and a Level 2 felony if it results in death to any person.

    Pursuant to IC 13-30-10-1.5(g), a person who willfully or recklessly violates any applicable standards or limitations of IC 13-18-8 commits a Class B misdemeanor.

    Pursuant to IC 13-30-10-1.5(h), a person who willfully or recklessly violates any applicable standards or limitations of IC 13-18-9, IC 13-18-10, or IC 13-18-10.5 commits a Class C misdemeanor.

    Pursuant to IC 13-30-10-1, a person who knowingly or intentionally makes any false material statement, representation, or certification in any NPDES form, notice, or report commits a Class B misdemeanor.

11. Penalties for Tampering or Falsification

In accordance with 327 IAC 5-2-8(10), the permittee shall comply with monitoring, recording, and reporting requirements of this permit. The Clean Water Act, as well as IC 13-30-10-1, provides that any person who knowingly or intentionally (a) destroys, alters, conceals, or falsely certifies a record, (b) tampers with, falsifies, or renders inaccurate or inoperative a recording or monitoring device or method, including the data gathered from the device or method, or (c) makes a false material statement or representation in any label, manifest, record, report, or other document; all required to be maintained under the terms of a permit issued by the department commits a Class B misdemeanor.

12. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health, and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

13. Wastewater treatment plant and certified operators

The permittee shall have 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. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7.

327 IAC 5-22-10.5(a) provides that a certified operator may be designated as being in responsible charge of more than one (1) wastewater treatment plant, if it can be shown that he will give adequate supervision to all units involved. Adequate supervision means that sufficient time is spent at the plant on a regular basis to assure that the certified operator is knowledgeable of the actual operations and that test reports and results are representative of the actual operations conditions. In accordance with 327 IAC 5-22-3(11), “responsible charge operator” means the person responsible for the overall daily operation, supervision, or management of a wastewater facility.

Pursuant to 327 IAC 5-22-10(4), the permittee shall notify IDEM when there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility. The notification shall be made no later than thirty (30) days after a change in the operator.

14. Construction Permit

In accordance with IC 13-14-8-11.6, a discharger is not required to obtain a state permit for the modification or construction of a water pollution treatment or control facility if the discharger has an effective NPDES permit.

If the discharger modifies their existing water pollution treatment or control facility or constructs a new water pollution treatment or control facility for the treatment or control of any new influent pollutant or increased levels of any existing pollutant, then, within thirty (30) days after commencement of operation, the discharger shall file with the Department of Environment Management a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

The notice and design summary shall be sent to the Office of Water Quality, Industrial NPDES Permits Section, 100 North Senate Avenue, Indianapolis, IN 46204-2251.

15. Inspection and Entry

In accordance with 327 IAC 5-2-8(8), the permittee shall allow the Commissioner, or an authorized representative, (including an authorized contractor acting as a representative of the Commissioner) upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept pursuant to the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;

c. Inspect at reasonable times any facilities, equipment or methods (including monitoring and control equipment), practices, or operations regulated or required pursuant to this permit; and

d. Sample or monitor at reasonable times, any discharge of pollutants or internal wastestreams for the purposes of evaluating compliance with the permit or as otherwise authorized.

16. New or Increased Discharge of Pollutants

This permit prohibits the permittee from undertaking any 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 regulated pollutant that is not a BCC unless one of the following is completed prior to the commencement of the action:

a. Information is submitted to the Commissioner demonstrating that the proposed new or increased discharges will not cause a significant lowering of water quality as defined under 327 IAC 2-1.3-2(50). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.

b. An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 2-1.3-5 and 327 IAC 2-1.3-6.

B. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for the collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8(9).

Neither 327 IAC 5-2-8(9), nor this provision, shall be construed to require the operation of installed treatment facilities that are unnecessary for achieving compliance with the terms and conditions of the permit.

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(12), the following are requirements for bypass:

a. The following definitions:

(1) “Bypass” means the intentional diversion of a waste stream from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. The permittee may allow a bypass to occur that does not cause a violation of the effluent limitations contained in this permit, but only if it is also for essential maintenance to assure efficient operation. These bypasses are not subject to Part II.B.2.c. and d.

c. The permittee must provide the Commissioner with the following notice:

(1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.

(2) As required by 327 IAC 5-2-8(11)(C), the permittee shall orally report an unanticipated bypass that exceeds any effluent limitations in the permit within twenty-four (24) hours from the time the permittee becomes aware of such noncompliance. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and if the cause of noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. If a complete report is submitted by e-mail within 24 hours of the noncompliance, then that e-mail report will satisfy both the oral and written reporting requirement. E-mails should be sent to wwreports@idem.in.gov.

d. The following provisions are applicable to bypasses:

(1) Except as provided by Part II.B.2.b., bypass is prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless the following occur:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance.

(C) The permittee submitted notices as required under Part II.B.2.c.

(2) The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.d.(1). The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.

e. Bypasses that result in death or acute injury or illness to animals or humans must be reported in accordance with the "Spill Response and Reporting Requirements" in 327 IAC 2-6.1, including calling 888/233-7745 as soon as possible, but within two (2) hours of discovery. However, under 327 IAC 2-6.1-3(1), when the constituents of the bypass are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

3. Upset Conditions

Pursuant to 327 IAC 5-2-8(13):

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this section, are met.

c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:

(1) An upset occurred and the permittee has identified the specific cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee complied with any remedial measures required under Part II.A.2; and

(4) The permittee submitted notice of the upset as required in the "Twenty-Four Hour Reporting Requirements," Part II.C.3, or 327 IAC 2-6.1, whichever is applicable. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

d. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof pursuant to 40 CFR 122.41(n)(4).

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal. The discharge of pollutants in treated wastewater is allowed in compliance with the applicable effluent limitations in Part I. of this permit.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(11)(F), the permittee shall give notice to the Commissioner as soon as possible of any planned physical alterations or additions to the permitted facility. In this context, permitted facility refers to a point source discharge, not a wastewater treatment facility. Notice is required only when either of the following applies:

a. The alteration or addition may meet one of the criteria for determining whether the facility is a new source as defined in 327 IAC 5-1.5.

b. The alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in Part I.A. nor to notification requirements in Part II.C.9. of this permit.

Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(10) and 327 IAC 5-2-13 through 15, monitoring results shall be reported at the intervals and in the form specified in "Discharge Monitoring Reports", Part I.C.2.

3. Twenty-Four Hour Reporting Requirements

Pursuant to 327 IAC 5-2-8(11)(C), the permittee shall orally report to the Commissioner information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance. If the noncompliance meets the requirements of item b (Part II.C.3.b) or 327 IAC 2-6.1, then the report shall be made within those prescribed time frames. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge that is in noncompliance are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

a. Any unanticipated bypass which exceeds any effluent limitation in the permit;

b. Any noncompliance which may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the noncomplying circumstances;

c. Any upset (as defined in Part II.B.3 above) that causes an exceedance of any effluent limitation in the permit; or

d. Violation of a maximum daily discharge limitation for any of the following toxic pollutants: mercury, lead, zinc, total cyanide, and ammonia.

The permittee can make the oral reports by calling (317)232-8670 during regular business hours and asking for the Compliance Data Section or by calling (317) 233-7745 ((888)233-7745 toll free in Indiana) during non-business hours. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Alternatively the permittee may submit a "Bypass/Overflow Report" (State Form 48373) or a "Noncompliance 24-Hour Notification Report" (State Form 52415), whichever is appropriate, to IDEM at (317) 232-8637 or wwreports@idem.in.gov. If a complete e-mail submittal is sent within 24 hours of the time that the permittee became aware of the occurrence, then the email report will satisfy both the oral and written reporting requirements.

4. Other Compliance/Noncompliance Reporting

Pursuant to 327 IAC 5-2-8(11)(D), the permittee shall report any instance of noncompliance not reported under the "Twenty-Four Hour Reporting Requirements" in Part II.C.3, or any compliance schedules at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in Part II.C.3;

The permittee shall also give advance notice to the Commissioner of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements; and

All reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

5. Other Information

Pursuant to 327 IAC 5-2-8(11)(E), where the permittee becomes aware of a failure to submit any relevant facts or submitted incorrect information in a permit application or in any report, the permittee shall promptly submit such facts or corrected information to the Commissioner.

6. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(15):

a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:

(1) For a corporation: by a responsible corporate officer. A "responsible corporate officer" means either of the following:

a. A president, secretary, treasurer, any vice president of the corporation in charge of a principal business function, or any other person who performs similar policymaking or decision making functions for the corporation; or

b. The manager of one (1) or more manufacturing, production, or operating facilities provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty to make major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(1) For a Federal, State, or local governmental body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.

(2) Under the proposed Federal E-Reporting Rule, a method will be developed for submittal of all affected reports and documents using electronic signatures that is compliant with the Cross-Media Electronic Reporting Regulation (CROMERR). Enrollment and use of NetDMR currently provides for CROMERR-compliant report submittal.

b. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or a position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The authorization is submitted to the Commissioner.

c. Electronic Signatures. If documents described in this section are submitted electronically by or on behalf of the NPDES-regulated facility, any person providing the electronic signature for such documents shall meet all relevant requirements of this section, and shall ensure that all of the relevant requirements of 40 CFR part 3 (including, in all cases, subpart D to part 3) (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

d. Certification. Any person signing a document identified under Part II.C.6. shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

8. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(15) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance, shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

9. Changes in Discharge of Toxic Substances

Pursuant to 327 IAC 5-2-9, the permittee shall notify the Commissioner as soon as it knows or has reason to know:

a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant that is not limited in the permit if that discharge will exceed the highest of the following notification levels.

(1) One hundred micrograms per liter (100 µg/l);

(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(4) A notification level established by the Commissioner on a case-by-case basis, either at the Commissioner's own initiative or upon a petition by the permittee. This notification level may exceed the level specified in subdivisions (1), (2), or (3) but may not exceed the level which can be achieved by the technology-based treatment requirements applicable to the permittee under the CWA (see 327 IAC 5-5-2).

b. That it has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant that was not reported in the permit application under 40 CFR 122.21(g)(9). However, this subsection b. does not apply to the permittee's use or manufacture of a toxic pollutant solely under research or laboratory conditions.

10. Future Electronic Reporting Requirements

IDEM is currently developing the technology and infrastructure necessary to allow compliance with the EPA Phase 2 e-reporting requirements per 40 CFR 127.16 and to allow electronic reporting of applications, notices, plans, reports, and other information not covered by the federal e-reporting regulations. IDEM will notify the permittee when IDEM's e-reporting system is ready for use for one or more applications, notices, plans, reports, or other information. This IDEM notice will identify the specific applications, notices, plans, reports, or other information that are to be submitted electronically and the permittee will be required to use the IDEM electronic reporting system to submit the identified application(s), notice(s), plan(s), report(s), or other information. See Part I.C.2. of this permit for the current electronic reporting requirements for the submittal of monthly monitoring reports such as the Discharge Monitoring Report (DMR) and the Monthly Monitoring Report (MMR).

Part III
Cooling Water Intake Structures

A. Best Technology Available (BTA) Determination

Section 316(b) of the Clean Water Act requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available (BTA) for minimizing adverse environmental impact.

The EPA promulgated a CWA section 316(b) regulation on August 15, 2014, which became effective on October 14, 2014. 79 Fed. Reg. 48300-439 (August 15, 2014). This regulation established application requirements and standards for cooling water intake structures. The regulation is applicable to point sources with a cumulative design intake flow (DIF) greater than 2 MGD where 25% or more of the water withdrawn (using the actual intake flow (AIF)) is used exclusively for cooling purposes. All existing facilities subject to these regulations must submit the information required by 40 CFR 122.21(r)(2)–(r)(8) and facilities with an actual intake flow of greater than 125 MGD must also submit the information required by 40 CFR 122.21(r)(9)-(r)(13). The regulation establishes best technology available standards to reduce impingement and entrainment of aquatic organisms at existing power generation and manufacturing facilities.

Based on available information, IDEM has made best technology available (BTA) impingement and entrainment determination for the permittee's intakes. These determinations will be reassessed at the next permit reissuance to ensure that the cooling water intake structures continue to meet the requirements of Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326).

1. Impingement Mortality BTA

a. Intake No. 1

IDEM has determined that compliance with the impingement mortality alternative under 40 CFR 125.94(c)(2) (operate a cooling water intake structure that has a maximum design through-screen intake velocity of 0.5 feet per second) is a viable impingement mortality BTA option for this intake.

The permittee is required to conduct a velocity monitoring study at this intake to compare to calculated velocities.

b. Intake No. 2

The permittee proposed to comply with one of three BTA alternatives; achieve a maximum through-screen actual intake velocity of 0.5 fps pursuant to 40 CFR 125.94(c)(3); achieve a maximum design through-screen design intake velocity of 0.5 fps pursuant to 40 CFR 125.94(c)(2) or through a third as yet unselected alternative that must be submitted to IDEM for review and approval.

The first, comply with the impingement mortality BTA alternative under 40 CFR 125.94(c)(3) (operate a cooling water intake structure that has a maximum through-screen actual intake velocity of 0.5 feet per second) as the impingement mortality BTA for this intake. To meet this alternative, the intake flow will need to be reduced and/or the number of screens increased to achieve a through-screen velocity of 0.5 fps or less. The 0.5 fps maximum velocity is a not-to-exceed requirement, except that IDEM can allow this velocity to be exceeded "for brief periods for the purpose of maintaining the cooling water intake system, such as backwashing the screen face." Ensuring compliance with this 0.5 fps alternative requires an accurate determination of the intake flow and by extension, the through screen actual intake velocity. This permit is proposing to require the use of an hourly average flow to determine compliance with this 0.5 fps maximum velocity. The permittee would calculate the velocity 24 times each day, using the hourly average flow for each hour, and report the highest calculated velocity on its monthly reports.

If the permittee determines that compliance with the above impingement mortality BTA is not feasible, the permittee proposed that they would comply with the impingement mortality BTA alternative under 40 CFR 125.94(c)(2) (operate a cooling water intake structure that has a maximum design through-screen intake velocity of 0.5 feet per second.) For this alternative, the design intake flow will need to be significantly reduced and the number of screens increased to achieve a design through screen intake velocity of less than 0.5 fps.

Pursuant to 327 IAC 5-2-12, the permit will provide a compliance schedule of up to a maximum of three years after the effective date of the permit to comply with an impingement BTA alternative.

Further, if during the compliance period the permittee determines that a different impingement mortality BTA is the one they want install, the permittee must obtain the approval of IDEM for the change and, if approved, the impingement mortality BTA alternative must be installed and operational no later than three years after the effective date of the permit.

In addition, the permittee is required to conduct a velocity monitoring study at this intake to compare to calculated velocities.

2. Entrainment Mortality BTA

After considering all the factors that must and may be considered by the federal rules, IDEM has determined that the existing facility for each intake and facility overall meets the best technology available (BTA) for entrainment mortality. This is primarily based on the following factors:

a. The species and small number of organisms expected to be entrained by the facility based on available data.
b. The costs associated with installing entrainment reduction technologies.
c. The flow reduction/water reuse optimization efforts already implemented at the facility.

The permittee is required to conduct a new entrainment study at both Intake No. 1 and No. 2 to verify the current levels of entrainment at the facility.

B. 316(b) Permit Requirements

The permittee must comply with the following cooling water intake structure requirements:

1. In accordance with 40 CFR 125.98(b)(1), nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act.

2. The permittee must at all times properly operate and maintain the cooling water intake structure and associated intake equipment.

3. The permittee must inform IDEM of any proposed changes to the cooling water intake structure or proposed changes to operations at the facility that affect the information taken into account in the current BTA evaluation.

4. Any discharge of intake screen backwash must meet the Minimum Narrative Limitations contained in Part I.B of the permit. There must be no discharge of debris from intake screen washing which will settle to form objectionable deposits which are in amounts sufficient to be unsightly or deleterious, or which will produce colors or odors constituting a nuisance.

5. Intake 1 Flow Monitoring: The permittee must measure or estimate the intake flow at Intake No. 1 at a minimum frequency of daily. These data must be reported on the DMRs and MMRs. Further, the permittee must submit an annual report containing this daily intake flow data. If the intake flow rate is estimated, the annual report must include the data and calculations used to estimate the intake flow.

6. Intake 2 Flow Monitoring:
   a. If a flow measurement device is required to be installed pursuant to the 316(b) compliance schedule in Part I.G., above, the following requirements are applicable:
      i. The permittee must install an intake flow measurement device that continuously monitors the intake flow at the No. 2 Intake.
      ii. After the intake flow measurement device is installed, the permittee must report the maximum hourly flow for each day on the MMR with the monthly results summarized on the DMRs that are submitted every month. The permittee must calculate the hourly average flow 24 times each day to

determine the maximum hourly average flow.

iii. Until the flow monitoring device is installed, the permittee may estimate the flow at this intake and must report the daily flow for each day on the MMR with the monthly results summarized on the DMRs that are submitted every month.

b. If a flow measurement device is not required to be installed the permittee may estimate the flow at this intake and must report the daily flow for each day on the MMR with the monthly results summarized on the DMRs that are submitted every month.

c. the permittee must submit an annual report of the actual intake flows and include in the report both the maximum hourly intake flow (if applicable) and the daily maximum intake flow for each day. For all estimated intake flows, the permittee must provide the data and calculations used to estimate each estimated intake flow in this annual report. As part of the annual report, the permittee shall also provide a spreadsheet containing the data and calculations.

7. At Intake No. 2, if the permittee selects the BTA alternative contained in 40 CFR 125.94(c)(3) and installs a cooling water intake structure that has a maximum through-screen actual intake velocity of 0.5 feet per second as the impingement mortality BTA at this intake pursuant to the 316(b) compliance schedule (Part I.G., above), then beginning on the date that the schedule of compliance for Intake 2 is completed, or 36 months after the effective date of the permit, whichever is earlier:
   a. The permittee must calculate the velocity at the screens at Intake 2 using water flow (maximum hourly average water flow), water depth (the minimum ambient Lake Michigan level or actual water level at the screens if a method of measuring the actual water depth is installed), and the screen open area.
   b. These daily calculations including the maximum hourly average intake flow must be reported on the MMR with the monthly results summarized on the DMRs that are submitted every month and included in the annual report required under Part III.B.6.c., above. As part of the annual report, the permittee shall also provide a spreadsheet containing the data and calculations.

8. Velocity Monitoring Requirements: The permittee is required to verify the actual through screen intake velocity at No.1 Intake and the No. 2 Intake through actual measurements. The velocity measurements must be conducted for a range of flows. At a minimum, the velocity study must measure through screen velocity at design flow as well as when additional pumps at the intake(s) are operating and allow for estimating through screen velocity when operating at maximum actual flows above the design intake flow.
   a. For the No. 1 Intake, a study plan for this monitoring must be submitted to IDEM within 6 months of the effective date of this permit for review and approval prior to conducting the required study. The permittee must submit a report to IDEM containing the results of these velocity measurements no later than 24 months from the effective date of this permit. The through-screen velocity monitoring must, at a minimum, be conducted at a point where intake velocities are the

greatest for each intake and the results must be compared to the velocities calculated by the permittee.

b. For the No. 2 Intake, a study plan for this monitoring must be submitted to IDEM within 24 months of the effective date of this permit for review and approval prior to conducting the required study. The study must be initiated after completion of the 316(b)-compliance schedule (Part I.G., above). The permittee must submit a report to IDEM containing the results of these velocity measurements no later than 48 months from the effective date of this permit. The through-screen velocity monitoring must, at a minimum, be conducted at a point where intake velocities are the greatest for each intake and the results must be compared to the velocities calculated by the permittee.

9. Pump Operation Requirements: At the No. 1 Intake and Pump Station, no more than two of the three pumps (Service Water Pumps No. 3, No, 4 and No.6) must operate at one time. The permittee must maintain pump operating records for all of the pumps at this intake (including date of operation and hours of operation on each day) and make these records available to IDEM upon request.

10. The permittee must either conduct visual inspections or employ remote monitoring devices during the period the cooling water intake structure is in operation as required by 40 CFR 125.96(e). The permittee must conduct such inspections at least weekly to ensure that any technologies operated to comply with 40 CFR 125.94 are maintained and operated to function as designed including those installed to protect Federally-listed threatened or endangered species or designated critical habitat. Alternative procedures can be approved if this requirement is not feasible (e.g., an offshore intake, velocity cap, or during periods of inclement weather).

11. Conduct two years of entrainment sampling at both Intake No. 1 and Intake No. 2. No later than 90 days after the effective date of the permit, the permittee must submit to IDEM for review and approval a study plan including a schedule for the conduct of two years of entrainment sampling at both Intake 1 and Intake 2, beginning on or before March 1 and lasting at a minimum through November 30 of each sampling year. The entrainment study plan must conform to the entrainment characterization study requirements specified in 40 CFR 122.21(r)(9). After approval by IDEM, not later than 60 days prior to March 1 of the first study year, the permittee must conduct the approved entrainment sampling study. The entrainment sampling must be completed, and results submitted to IDEM within 90 days of completion of the two-year study. IDEM will review these study results and determine if it is necessary for the permittee to submit updated 40 CFR 122.21(r)(10) through (r)(13) reports. If IDEM determines that updates to any or all of these reports are needed, IDEM will notify the permittee. The permittee must submit any such updated reports no later than 180 days after receiving IDEM's notification that the updates are needed.

12. In accordance with 40 CFR 125.97(c), by January 31 of each year, the permittee

must submit to the Industrial NPDES Permit Section IDEM-OWQ an annual certification statement for the preceding calendar year signed by the responsible corporate officer as defined in 40 CFR 122.22 (see 327 IAC 5-2-22) subject to the following:

a. If the information contained in the previous year's annual certification is still pertinent, you may simply state as such in a letter to IDEM and the letter, along with any applicable data submission requirements specified in this section must constitute the annual certification.
b. If you have substantially modified operation of any unit at your facility that impacts cooling water withdrawals or operation of your cooling water intake structures, you must provide a summary of those changes in the report. In addition, you must submit revisions to the information required at 40 CFR 122.21(r) in your next permit application.

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13. BTA determinations for entrainment mortality and impingement mortality at cooling water intake structures will be made in each permit reissuance in accordance with 40 CFR 125.90-98. The permittee must submit all the information required by the applicable provisions of 40 CFR 122.21(r)(2) through (r)(13) with the next renewal application. Since the permittee has submitted the studies required by 40 CFR 122.21(r), the permittee may, in subsequent renewal applications pursuant to 40 CFR 125.95(c), request to reduce the information required if conditions at the facility and in the waterbody remain substantially unchanged since the previous application so long as the relevant previously submitted information remains representative of the current source water, intake structure, cooling water system, and operating conditions. Any habitat designated as critical or species listed as threatened or endangered after issuance of the current permit whose range of habitat or designated critical habitat includes waters where a facility intake is located constitutes potential for a substantial change that must be addressed by the owner/operator in subsequent permit applications, unless the facility received an exemption pursuant to 16 U.S.C. 1536(o) or a permit pursuant to 16 U.S.C. 1539(a) or there is no reasonable expectation of take. The permittee must submit the request for reduced cooling water intake structure and waterbody application information at least **two years and six months** prior to the expiration of the NPDES permit. The request must identify each element in this subsection that it determines has not substantially changed since the previous permit application and the basis for the determination. IDEM has the discretion to accept or reject any part of the request.

14. The permittee must submit and maintain all the information required by the applicable provisions of 40 CFR 125.97.

15. The permittee must keep records of all submissions that are part of its permit application until the subsequent permit issued to document compliance with 40 CFR 125.95. If IDEM approves a request for reduced permit application studies under 40 CFR 125.95(a) or (c) or 40 CFR 125.98(g), the permittee must keep records of all

submissions that are part of the previous permit application until the subsequent permit is issued.

16. All required reports must be submitted to the IDEM, Office of Water Quality, NPDES Permits Branch, Industrial NPDES Permit Section at OWQWWPER@idem.in.gov and the Compliance Branch at wwReports@idem.in.gov.

Part IV
Streamlined Mercury Variance (SMV)

Introduction

The permittee submitted an application for a streamlined mercury variance (SMV) in March of 2022 in accordance with the provisions of 327 IAC 5-3.5. The SMV establishes a streamlined process for obtaining a variance from a water quality criterion used to establish a WQBEL for mercury in an NPDES permit. Based on a review of the SMV application, IDEM has determined the application to be complete as outlined in 327 IAC 5-3.5-4(e). Therefore, the SMV is being incorporated into the NPDES permit in accordance with 327 IAC 5-3.5-6.

Term of SMV

The SMV and the interim discharge limits included in Part I.A.2., Part I.A.3, Part I.A.5, and Part I.A.6, Discharge limitations Tables, will remain in effect until the NPDES permit expires under IC 13-14-8-9 (amended under SEA 620, May 2005). Pursuant to IC 13-14-8-9(e), when the NPDES permit is extended under IC 13-15-3-6 (administratively extended), the SMV will remain in effect as long as the NPDES permit requirements affected by the SMV are in effect.

Annual Reports

The annual report is a condition of the Pollutant Minimization Program Plan (PMPP) requirements of 327 IAC 5-3.5-9(a)(8). The annual report must describe the permittee's progress toward fulfilling each PMPP requirement, the results of all mercury monitoring within the previous year, and the steps taken to implement the planned activities outlined under the PMPP. The annual report may also include documentation of chemical and equipment replacements, staff education programs, and other initiatives regarding mercury awareness or reductions. The complete inventory and complete evaluation required by the PMPP may be submitted as part of the annual report.

The permittee will submit the annual reports to IDEM on the anniversary of the effective date of this NPDES permit renewal, as indicated on Page 1 of this permit. Annual Reports should be submitted to the Office of Water Quality, Industrial NPDES Permit Section at OWQWWPER@idem.in.gov and the Compliance Branch at wwReports@idem.in.gov.

SMV Renewal

As authorized under 327 IAC 5-3.5-7(a)(1), the permittee may apply for the renewal of an SMV at any time within 180 days prior to the expiration of the NPDES permit. In accordance with 327 IAC 5-3.5-7(c), an application for renewal of the SMV must contain the following:

- All information required for an initial SMV application under 327 IAC 5-3.5-4, including revisions to the PMPP, if applicable.
- A report on implementation of each provision of the PMPP.
- An analysis of the mercury concentrations determined through sampling at the facility's locations that have mercury monitoring requirements in the NPDES permit for the two (2) year period prior to the SMV renewal application.
- A proposed alternative mercury discharge limit, if appropriate, to be evaluated by the department according to 327 IAC 5-3.5-8(b) based on the most recent two (2) years of representative sampling information from the facility.

Renewal of the SMV is subject to a demonstration showing that PMPP implementation has achieved progress toward the goal of reducing mercury from the discharge.

Pollutant Minimization Program Plan (PMPP)

The PMPP is a requirement of the SMV application and is defined in 327 IAC 5-3.5-3(4) as the plan for development and implementation of Pollutant Minimization Program (PMP). The PMP is defined in 327 IAC 5-3.5-3(3) as the program developed by an SMV applicant to identify and minimize the discharge of mercury into the environment. PMPP requirements (including the enforceable parts of the PMPP) are outlined in 327 IAC 5-3.5-9. In accordance with 327 IAC 5-3.5-6, the permittee's PMPP is hereby incorporated within this permit below:

Cleveland-Cliffs
Indiana Harbor West
Pollutant Minimization Program Plan (PMPP)

Revised September 29, 2021

Planned Activity	Goal	Measure of Performance	Schedule for Action	Current Status
Complete Inventory/Identification	Update complete inventory/identification of chemicals, materials, equipment and storage areas containing mercury	Submittal of complete inventory/identification to IDEM	**March 1, 2018:** Review of MSDS and other documentation for existing chemicals, materials, equipment and storage areas. Update of inventory for all primary Operations. **April 1, 2018:** Update of inventory for all Finishing operations **May 1, 2018:** Update of inventory for all Utilities operations **June 1, 2018:** Update of inventory for all remaining operations.	Mercury inventory was completed. See "IH Mercury Inventory" attached.
Review Policies and Procedures for chemical, material, and equipment purchasing	Review MSDS and other documentation from vendors or manufacturers Minimize the purchase of chemicals, materials and equipment containing mercury	Ensure current policies and procedures are adequate to identify and minimize purchase of chemicals, materials and equipment containing mercury	Currently implemented	Our current policy is to minimize the purchase of mercury containing chemicals, materials, and equipment. See "ENV-P-020".
Employee Training	Education and increased awareness	Evaluation of current employee Environmental and Health and Safety program If necessary, revise current training program to Include relevant mercury identification, handling, recycling and disposal information	Complete evaluation by **March 1, 2018** Implement revised program by **April 1, 2018**	According to the "IH Employee Training Matrix", all new employees receive "General Environmental Training" which includes spill response. Also, ISO 14001 Labor/Management (EMST) receive training on plant-wide procedures- this would include ENV-P-020 (Mercury Procedure) and ENV-P-019 (Universal Waste Procedure)
Facility-wide Mercury Disposal and Recycling Program	Ensure materials, chemicals and equipment containing mercury are properly stored and recycled or disposed offsite	Track and document estimated amount of mercury disposed per applicable mercury disposal and recycling regulations	Currently implemented	Mercury containing equipment such as universal waste bulbs are continued to be recycled by Veolia as necessary. Tracking is done through Hazardous Waste manifests.

Cleveland-Cliffs
Indiana Harbor West
Pollutant Minimization Program Plan (PMPP)

Revised September 29, 2021

Planned Activity	Goal	Measure of Performance	Schedule for Action	Current Status
Spill Containment Procedures	Minimize possibility of accidental spills and releases	Adequate training of employees on good housekeeping practices that reduce the possibility of accidental spills and releases (see "Staff Training" Activity)	Currently implemented	According to the "IH Employee Training Matrix", all new employees receive "General Environmental Training" which includes spill response. Also, ISO 14001 Labor/Management (EMST) receive training on plant-wide procedures- this would include EMS-PM-4.4.7 (Spill Response Procedure).
Maintenance and Cleaning Practices	Ensure proper and safe handling of mercury-containing materials, chemicals and equipment during maintenance and cleaning activities	Ensure procedures to minimize the release of mercury from chemicals, materials and equipment containing mercury are implemented during maintenance and cleaning activities	Currently implemented	We have a procedure for mercury reduction and waste management. See "ENV-P-020".
Characterization of Sources to Outfalls	Evaluate levels of mercury preset in intake water to plant	Data collected as part of the mercury QAPP activities required by the NPDES permit demonstrate the source of mercury in discharges is mercury present in intake water from the Indiana Harbor Ship Canal.	Complete. Data collected in 2012 and 2014. The Final Plan for Compliance Implementation Report submitted to IDEM in March 2015 is included as Appendix A to the SMV application.	This was completed and submitted to IDEM in 2015.
	Evaluate levels of mercury preset in internal Outfalls	Conduct periodic monitoring of internal Outfalls for comparison to final Outfall data	Collect and analyze samples 2/year at Outfall 509. Outfalls 702 and 701 rarely discharge and will not be sampled. Collect samples concurrent to (same day as) collection of samples at Outfalls 009, 010 and 011. Data will be included in annual reports.	Not conducted. Outfall 009 and and 010 mercury results from August 2019 to October 2021 have been below SMV limits. Source characterization / monitoring at internal outfalls is not warranted.

Cleveland-Cliffs
Indiana Harbor West
Pollutant Minimization Program Plan (PMPP)

Revised September 29, 2021

Planned Activity	Goal	Measure of Performance	Schedule for Action	Current Status
Alternatives for Mercury Reduction	Evaluation of alternatives for mercury-bearing chemicals, materials and equipment	Investigate replacement and/or reduction options for in-service chemicals, materials and equipment containing mercury	See "Current Status"	As mercury containing equipment is being taken out of service, it is being replaced with non-mercury-containing alternatives.

National Pollutant Discharge Elimination System
Fact Sheet for
Cleveland-Cliffs Steel LLC – Indiana Harbor West
Draft: August 2023
Final: December 2023

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:	Cleveland-Cliffs Steel LLC – Indiana Harbor West 3210 Watling Street East Chicago, Indiana 46312
Existing Permit Information:	Permit Number: IN0000205 Expiration Date: August 31, 2022
Facility Contact:	Mariya (Trenkinshu) Conlon, Environmental Engineer (219) 399-5473, mariya.conlon@clevelandcliffs.com
Facility Location:	3001Dickey Road East Chicago, Indiana 46312 Lake County
Receiving Water(s):	Indiana Harbor Ship Canal to Lake Michigan Indiana Harbor Lake Michigan
GLI/Non-GLI:	GLI
Proposed Permit Action:	Renew
Date Application Received:	March 3, 2022
Source Category:	NPDES Major – Industrial
Permit Writer:	Matt Warrener (317) 233-0798 | mwarrene@idem.in.gov

Table of Contents

1.0 INTRODUCTION

The Indiana Department of Environmental Management (IDEM) received a National Pollutant Discharge Elimination System (NPDES) Permit application from Cleveland-Cliffs Steel LLC – Indiana Harbor West on March 3, 2022.

In accordance with 327 IAC 5-2-6(a), the current five-year permit was issued with an effective date of September 1, 2017. The permit was subsequently modified on December 13, 2018. A five-year permit is proposed in accordance with 327 IAC 5-2-6(a).

The Federal Water Pollution Control Act (more commonly known as the Clean Water Act), as amended, (Title 33 of the United States Code (U.S.C.) Section 1251 *et seq.*), requires an NPDES permit for the discharge of pollutants into surface waters. Furthermore, Indiana law 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 and implements these federal and state requirements.

In accordance with Title 40 of the Code of Federal Regulations (CFR) Sections 124.8 and 124.56, as well as Title 327 of the Indiana Administrative Code (IAC) Article 5-3-8, a Fact Sheet is required for certain NPDES permits. This document fulfills the requirements established in these 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, Indiana water quality standards-based wasteload allocations, and other information available to IDEM. Decisions to award variances to Water Quality Standards or promulgated effluent guidelines are justified in the Fact Sheet where necessary.

2.0 FACILITY DESCRIPTION

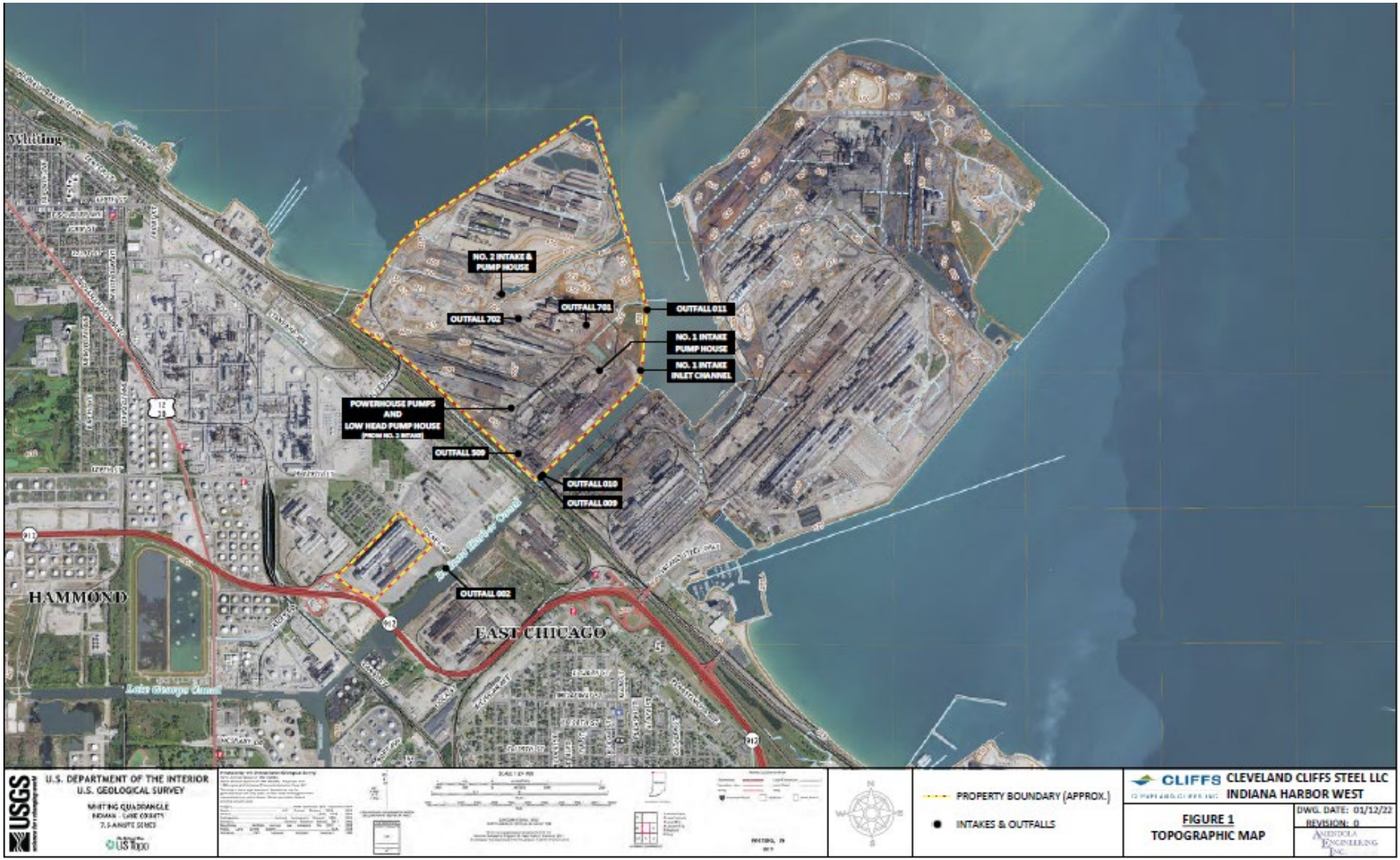
2.1 General

Cleveland-Cliffs Steel LLC – Indiana Harbor West is classified under Standard Industrial Classification (SIC) Code 3312 - Steel Works, Blast Furnaces, and Rolling Mills. The permitted facility is a steel mill that produces molten iron in blast furnaces, crude steel in basic oxygen furnaces, and cast steel slabs. The cast steel slabs are processed into strip steel at other Cleveland-Cliffs Steel LLC steel mills. Cleveland-Cliffs Steel LLC – Indiana Harbor West also produces hot-dipped galvanized steel strip.

The source water for the facility is Lake Michigan and Indiana Harbor. This facility also provides the water for the Cleveland-Cliffs Steel LLC – Central Waste Treatment Facility (IN0063711).

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

Figure 1: Facility Location



3210 Watling Street East Chicago, IN 46312 - Lake County

2.2 Outfall Locations

Table 1

Outfall	Latitude	Longitude	Waterbody	Average flow (MGD)	Operations/sources of wastewater	Source water
002	41° 39' 19"	- 87° 27' 37"	Indiana Harbor Ship Canal	12.5	Non-contact cooling water, stormwater, and groundwater	Lake Michigan
009	41° 39' 40"	- 87° 27' 10"	Indiana Harbor Ship Canal	36.0	Blast Furnace Recycle System WWTP discharge (Internal Outfall 509), non-contact cooling water, stormwater, and groundwater	Lake Michigan
509	41° 39' 60"	- 87° 26' 56"	Indiana Harbor Ship Canal via Outfall 009	0.427	Blast Furnace Recycle System Blowdown WWTP	Lake Michigan
010	41° 39' 40"	- 87° 27' 05"	Indiana Harbor Ship Canal	35.4	Non-contact cooling water, Boilerhouse and Ironside Energy, stormwater, and groundwater	Lake Michigan
011	41° 40' 20"	- 87° 26' 35"	Indiana Harbor Ship Canal	30.8	Discharge from Main Scale Pit/Terminal Lagoon Wastewater Treatment System (includes discharges from Internal Outfall 701 and 702), stormwater, and groundwater	Lake Michigan
701	41° 40' 37"	- 87° 27' 21"	Indiana Harbor Ship Canal via Outfall 011	0.022	Vacuum degasser wastewater	Lake Michigan
702	41° 40' 34"	- 87° 27' 34"	Indiana Harbor Ship Canal via Outfall 011	0	Continuous caster wastewater	Lake Michigan

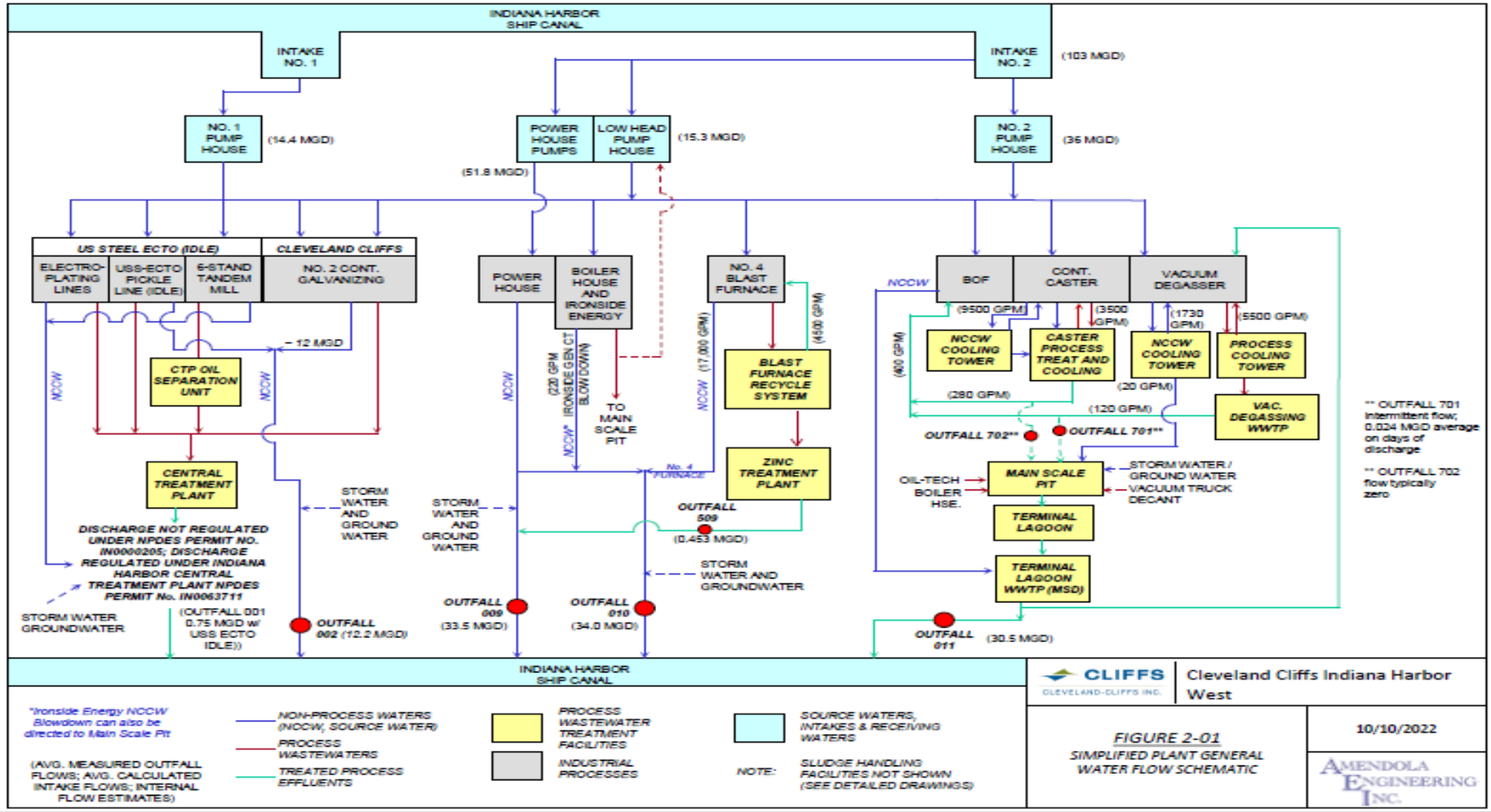
Note: Outfall 012 has been eliminated from the facility.

While the actual location of Outfall 002 has not changed, the coordinates have been updated from the last permit cycle utilizing GIS programs and a map provided by the permittee to more accurately represent the location of the outfall.

2.3 Outfall Descriptions and Wastewater Treatment

The facility has an average discharge of approximately 114.7 MGD. Line Diagrams have been included as Figure 2 through Figure 7. Updated line drawings with water balance diagrams (see 40 CFR 122.21(g)(2)) must be provided with the next permit renewal application. See Part I.I. of the Permit.

Figure 2: Facility Line Diagram



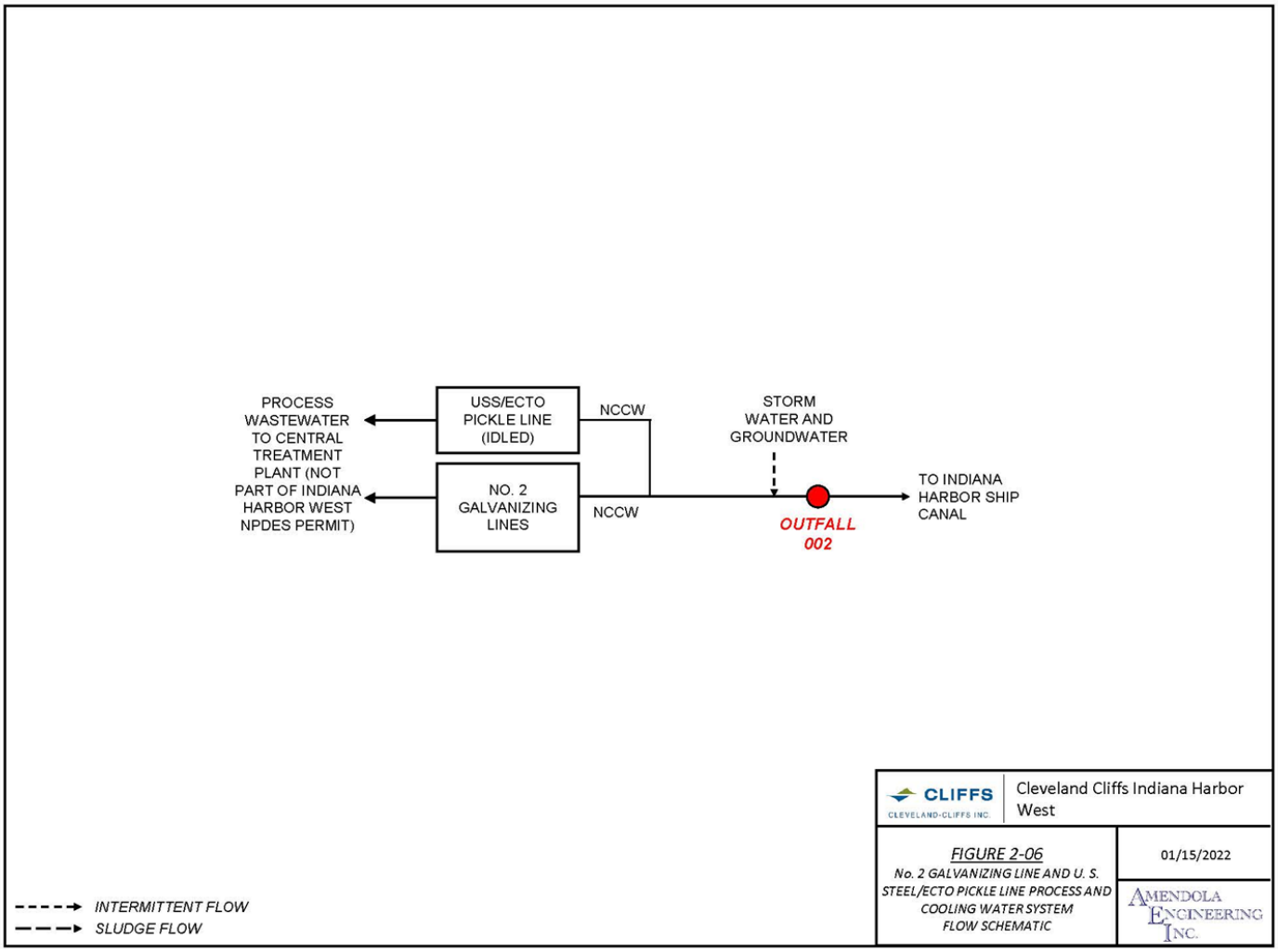
2.3.1 Narrative Descriptions

Outfall 002

The discharge from Outfall 002 consists of non-contact cooling water from the USS/ECTO Pickle Line (idled) and the Cleveland Cliffs No. 2 Galvanizing line, stormwater, and groundwater. Outfall 002 discharges to the Indiana Harbor Ship Canal. The non-contact cooling water is chlorinated on a continuous basis during a portion of each year for Zebra and Quagga Mussel control, then dechlorinated prior to discharge. A line diagram is provided as Figure 3.

For the purpose of determining the Water Quality-based Effluent Limitations (WQBELs), an estimated flow of 12.5 MGD was used which was based on the calculated long-term average flow between December 2017 through November 2019. This period represents production prior to the idling in November 2019 of the U.S. Steel ECTO operations.

Figure 3: Outfall 002 Line Diagram



Outfall 009A/009B

The discharge from Outfall 009 consists of treated blowdown from the Blast Furnace Recycle System Blowdown WWTP (Internal Outfall 509), non-contact cooling water from the Powerhouse area, stormwater, and groundwater. Outfall 009 discharges to the Indiana Harbor Ship Canal. The non-contact cooling water is chlorinated on a continuous basis during a portion of each year for Zebra and Quagga Mussel control, then dechlorinated prior to discharge. A line diagram is provided as Figure 4.

For the purpose of determining the Water Quality-based Effluent Limitations (WQBELs), an estimated flow of 36.0 MGD was used which was based on the calculated long-term average flow between January 2020 through December 2021. This period represents production prior to the idling of the No. 4 blast furnace on March 15, 2022.

Tiered limits are proposed at Outfall 009 for this permit renewal to reflect the operational status of the No. 4 blast furnace. Tiered TBELs are permittable pursuant to 40 CFR 122.45(b)(2)(ii)(A)(1) and can be based on increases/decreases of production or flow. For compliance monitoring purposes, IDEM is proposing to redesignate Outfall 009 into Outfalls 009A and 009B. The permittee will monitor and report under 009A when the No. 4 blast furnace is operating (Tier 1) and 009B when the No. 4 blast furnace is idled (Tier 2).

Internal Outfall 509

The discharge from Internal Outfall 509 comprises treated wastewater from the Blast Furnace Recycle System Blowdown WWTP (idled). Internal Outfall 509 discharges to the Indiana Harbor Ship Canal through Outfall 009. A schematic of the WWTP is provided as Figure 4.

The long-term average flow rate at this outfall is 0.427 mgd (January 2020 to December 2021). This period represents production prior to the idling of the No. 4 blast furnace on March 15, 2022.

Outfall 010A/010B

The discharge from Outfall 010 consists of non-contact cooling water from the No. 4 blast furnace, Boilerhouse and Ironside Energy, non-contact cooling water from the Powerhouse area, stormwater and groundwater. Outfall 010 discharges to the Indiana Harbor Ship Canal. The non-contact cooling water is chlorinated on a continuous basis during a portion of each year for Zebra and Quagga Mussel control, then dechlorinated prior to discharge. A line diagram is provided as Figure 5.

For the purpose of determining the Water Quality-based Effluent Limitations (WQBELs), an estimated flow of 35.4 MGD was used which was based on the calculated long-term average flow between January 2020 through December 2021. This period represents production prior to the idling of the No. 4 blast furnace on March 15, 2022.

Tiered limits are proposed at Outfall 010 for this permit renewal to reflect the operational status of the No. 4 blast furnace. Tiered TBELs are permittable pursuant to 40 CFR 122.45(b)(2)(ii)(A)(1) and can be based on increases/decreases of production or flow. For

compliance monitoring purposes, IDEM is proposing to redesignate Outfall 010 into Outfalls 010A and 010B. The permittee will monitor and report under 010A when the No. 4 blast furnace is operating (Tier 1) and 010B when the No. 4 blast furnace is idled (Tier 2).

Figure 4: Outfalls 009 and 509 Line Diagram

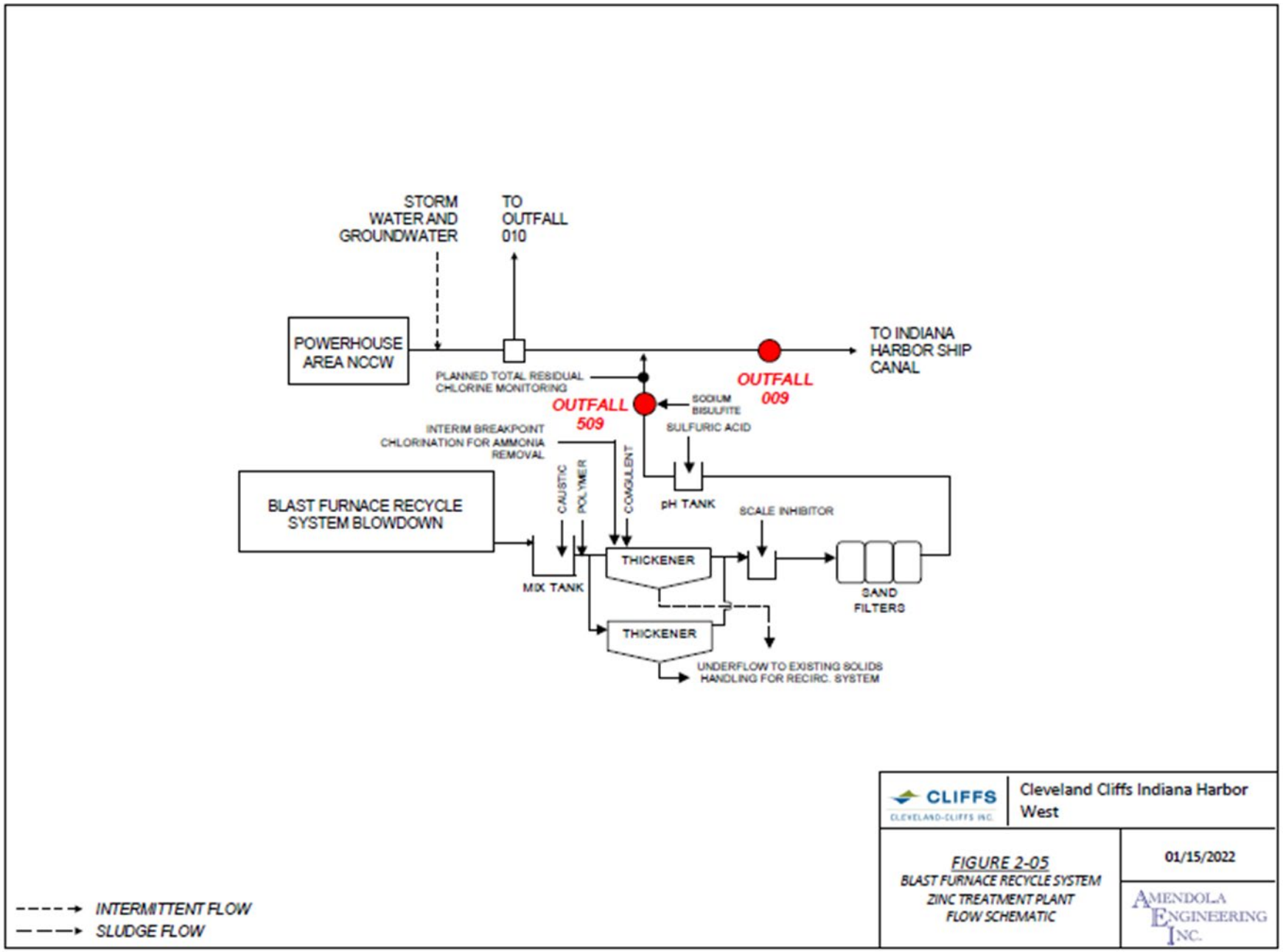
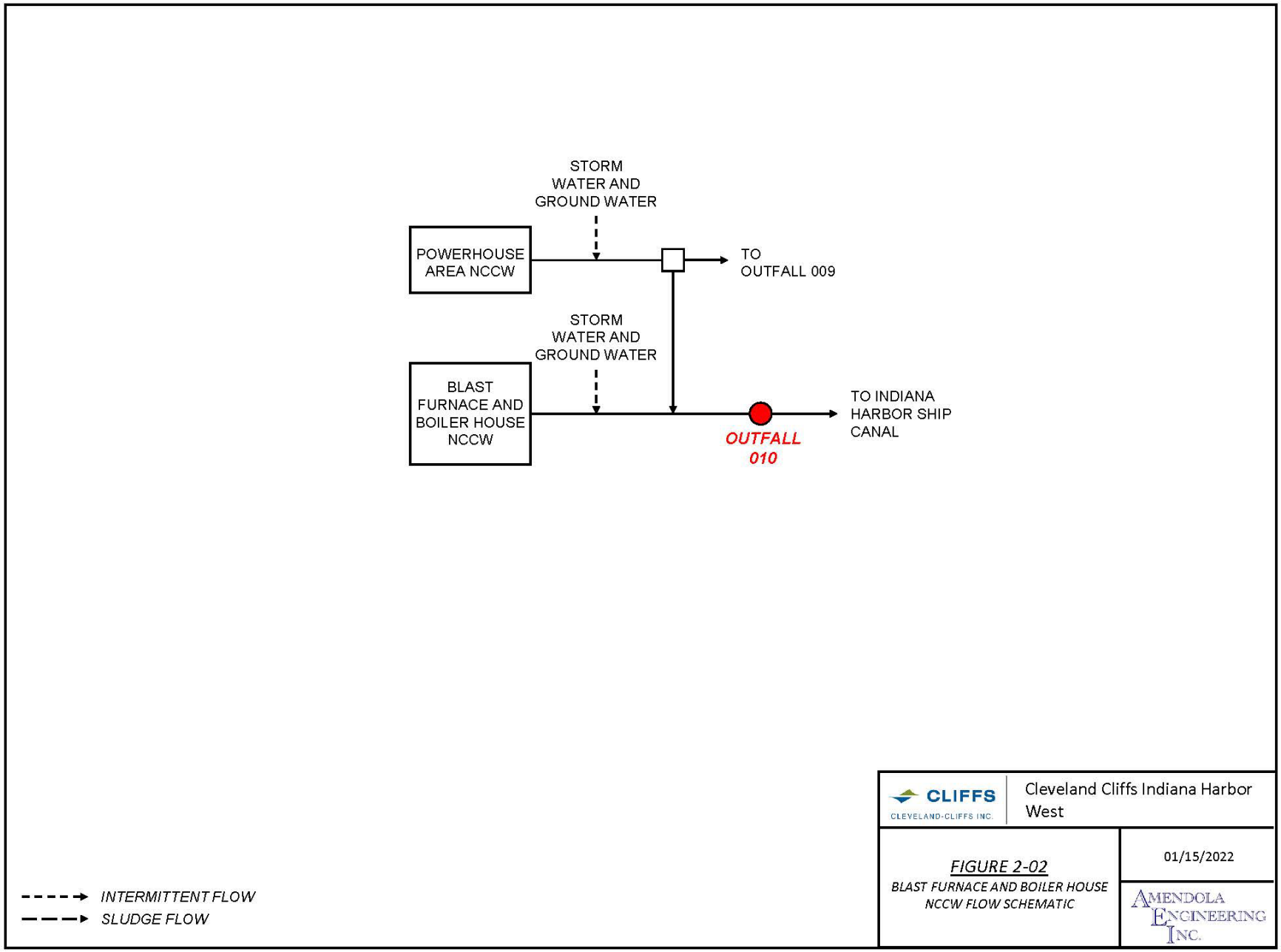


Figure 5: Outfall 010 Line Diagram



Outfall 011A/011B

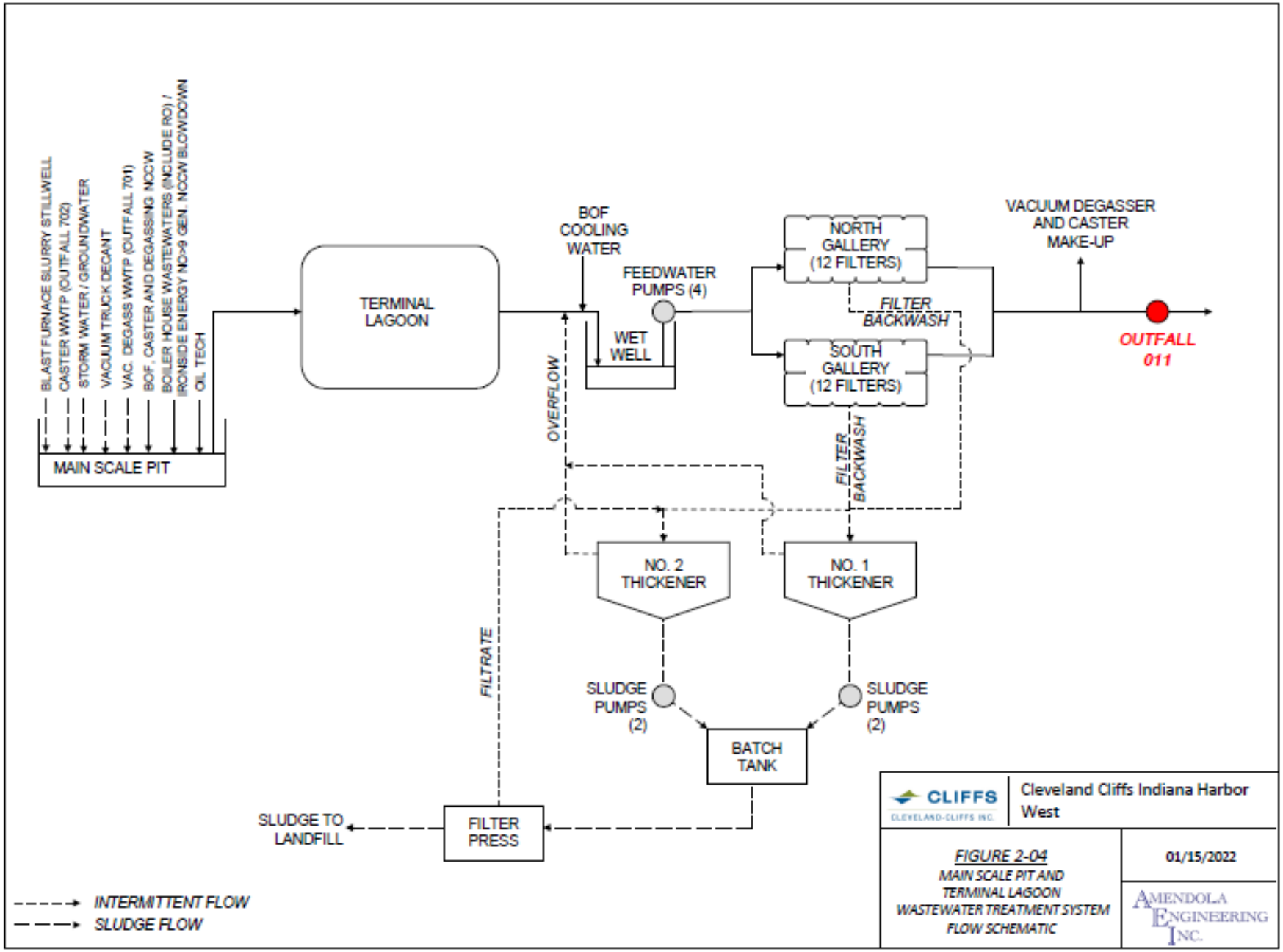
The discharge from Outfall 011 consists of the discharge from the Main Scale Pit / Terminal Lagoon Wastewater Treatment System. The non-contact cooling water from the No.9 Generator Cooling Tower is chlorinated on a continuous basis during a portion of each year for Zebra and Quagga Mussel control, then dechlorinated prior to discharge. A line diagram is provided as Figure 6. Outfall 011 discharges to the Indiana Harbor Ship Canal. The following operations are discharged to the Main Scale Pit / Terminal Lagoon Wastewater Treatment System:

• Vacuum Degasser WWTP (Outfall 701; intermittent discharge)
• Continuous Casting WWTP (Outfall 702; intermittent discharge)
• BOF, Continuous Caster and Vacuum Degasser non-contact cooling water
• Blast Furnace Slurry Still Well
• Boilerhouse Wastewater
• Oil Tech Wastewater
• Vacuum Truck Decant Water (intermittent)
• No. 9 Generator Cooling Tower Blowdown (NCCW) (Ironside Energy NCCW blowdown)
• Stormwater and groundwater

For the purpose of determining the Water Quality-based Effluent Limitations (WQBELs), an estimated flow of 30.8 MGD was used which was based on the calculated long-term average flow between January 2020 through December 2021.

Tiered limits are proposed at Outfall 011 for this permit renewal to reflect the operational status of the No. 4 blast furnace. Tiered TBELs are permittable pursuant to 40 CFR 122.45(b)(2)(ii)(A)(1) and can be based on increases/decreases of production or flow. For compliance monitoring purposes, IDEM is proposing to redesignate Outfall 011 into Outfalls 011A and 011B. The permittee will monitor and report under 011A when the No. 4 blast furnace is operating (Tier 1) and 011B when the No. 4 blast furnace is idled (Tier 2).

Figure 6: Outfall 011 Line Diagram



Internal Outfall 701

The discharge from Internal Outfall 701 consists of treated wastewater from the Vacuum Degasser WWTP. The discharge is wastewater flow not evaporated in the BOF hood sprays. Internal Outfall 701 discharged a total of 39 days from January 2017 to November 2021. Internal Outfall 701 discharges to the Indiana Harbor Ship Canal through Outfall 011. A line diagram of the wastewater treatment system is provided as Figure 7.

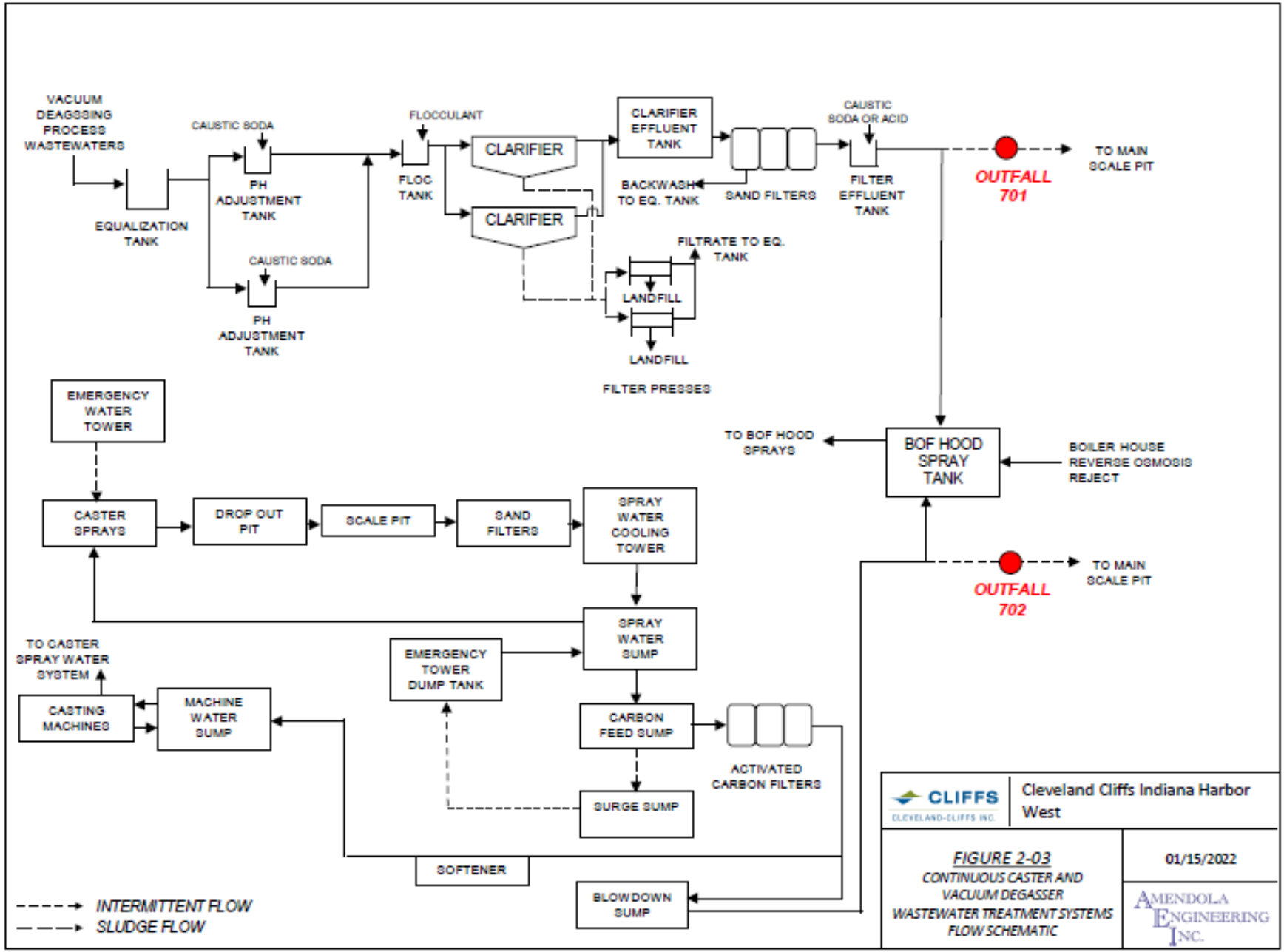
Long Term Average Flow Rate at this outfall is 0.022 mgd (January 2020 to December 2021).

Internal Outfall 702

The discharge from Internal Outfall 702 consists of treated wastewater from the Continuous Casting
WWTP. The discharge is wastewater flow not evaporated in the BOF hood sprays. There is typically no discharge from Outfall 702. Outfall 702 discharged a total of 3 days from January 2017 to November 2021. Outfall 701 discharges to the Indiana Harbor Ship Canal through Outfall 011. A line diagram of the wastewater treatment system is provided as Figure 7.

Long Term Average Flow Rate at this outfall is 0 mgd (January 2020 to December 2021).

Figure 7: Internal Outfalls 701 and 702 Water Balance Diagram



Outfall 012 (eliminated)

The discharge from Outfall 012 was previously comprised of effluent from the Hot Strip Mill Filter Plant (Internal Outfall 111), effluent from the Oily Waste Treatment Plant (Internal Outfall 211), non-contact cooling water, stormwater and groundwater. The facility has shut down operations at the Hot Strip Mill and No. 3 Cold Mill & Pickler. The effluent pipe for Outfall 012 has been sealed off; therefore, the outfall has been eliminated.

Wastewater Treatment Facility Classification

The permittee shall have 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. IDEM has given the permittee a Class D industrial wastewater treatment plant classification.

2.4 Changes in Operation

Changes to the facility since the current NPDES permit was issued as are follows:

1. The plant's No. 3 Intake was permanently closed in September 2018.

2. The plant's No. 3 blast furnace was permanently closed in November 2019.

3. The plant's No. 4 blast furnace was indefinitely idled March 15, 2022. Tiered limits have been applied at Outfall 009, Outfall 010 and Outfall 011.

4. The plant's No. 7 generator was damaged in December 2018. It has not operated since and is intended to operate as a back-up in the future because of the shut-down of the No. 3 blast furnace.

5. Outfall 012 has been eliminated following the shutdown of the Hot Strip Mill and No. 3 cold mill & pickler.

6. The permit was modified in 2018 to reflect the following changes: Removal of Internal Outfall 111, 211, and 411 due to the removal/idling of operations associated with these outfalls, recalculation of TBELs for 509, and notation of increased ironmaking & steelmaking production for Internal Outfall 509, 701, and 702.

7. The permit was modified in 2021 to reflect a permittee name change from ArcelorMittal USA LLC – Indiana Harbor West to Cleveland Cliffs Steel LLC – Indiana Harbor West.

2.5 Facility Stormwater

Site stormwater comingles with treated wastewater prior to discharge via Outfall 002, 009,010, and 011. Stormwater is discharged at each outfall without treatment. Stormwater requirements can be found in Section 5.7 of this Fact Sheet.

3.0 PERMIT HISTORY

3.1 Compliance History

3.1.1 Permit Limitation Violations

A review of this facility's discharge monitoring data between February 2017 and February 2023 was conducted for compliance verification.

Table 2

Monitoring Period Date	Outfall	Parameter	Limit Type	Mass or Concentration
February 2017	009	Ammonia	Monthly Average	Mass
January 2018	010	Ammonia	Daily Max	Mass
January 2019	009	Ammonia	Monthly Average	Mass
February 2019	009	Ammonia	Monthly Average	Mass
July 2022	701	Zinc	Daily Max	Mass

3.1.2 Inspection/Incident Summary

Table 3

Date	Type of Inspection/Incident	Results
May 14, 2018	Compliance Evaluation	Potential problems discovered/observed
November 14, 2019	Compliance Evaluation	Violations Observed - Enforcement Ref.
December 19, 2019	Reconnaissance	Violations were observed
January 27, 2020	Reconnaissance	Satisfactory
December 30, 2020	Reconnaissance	Violations were observed
April 8, 2021	Reconnaissance	Violations were observed
August 13, 2021	Compliance Evaluation	Violations were observed
July 1, 2022	Reconnaissance	Violations were observed
September 19, 2022	Compliance Evaluation	Potential problems discovered/observed
February 3, 2023	Reconnaissance	Satisfactory
March 22, 2023	Reconnaissance	Potential problems discovered/observed
June 16, 2023	Reconnaissance	Satisfactory
September 18, 2023	Reconnaissance	Satisfactory
October 26, 2023	Reconnaissance	Satisfactory

3.1.3 Enforcement

Agreed Order (Case #2020-27619-W) was adopted on November 22, 2021. During investigations on October 21-23, 2019 and December 21, 2020 conducted by a representative of IDEM, violations were found. Some of these violations were covered under enforcement discretion letters previously issued by IDEM In 2015 and 2019. Please reference the following

IDEM website for more information on the Agreed Order and the violations: https://www.in.gov/idem/resources/lake-michigan-sites-of-interest/cleveland-cliffs-indiana-harbor-long-carbon/

IDEM issued a Case Close-Out Letter on October 17, 2023 stating that the permittee has complied with the terms of the Agreed Order; therefore, the Agreed Order is now closed.

4.0 LOCATION OF DISCHARGE/RECEIVING WATER USE DESIGNATION

The Indiana Harbor Canal, the Indiana Harbor and the channel for the Cleveland-Cliffs West No. 2 water intake are designated for full-body contact recreation and shall be capable of supporting a well-balanced, warm water aquatic community. Cleveland-Cliffs West water intake No. 1 is in the Indiana Harbor, so the Indiana Harbor is designated as an industrial water supply. The Indiana portion of the open waters of Lake Michigan is designated for full-body contact recreation; shall be capable of supporting a well-balanced, warm water aquatic community; is designated as salmonid waters and shall be capable of supporting a salmonid fishery; is designated as a public water supply; and, is designated as an industrial water supply. The Indiana portion of the open waters of Lake Michigan is also classified as an outstanding state resource water. These waterbodies are identified as waters of the state within the Great Lakes system. As such, they are subject to the water quality standards and implementation procedures specific to Great Lakes system dischargers as found in 2-1.5, 5-1.5, and 5-2, and the 2006 revised GLI MOA with U.S. EPA. In addition, these waterbodies are subject to the statewide antidegradation policy and implementation procedures as found in 2-1.3.

Section 303(d) of the Clean Water Act requires states to identify waters, through their Section 305(b) water quality assessments, that do not or are not expected to meet applicable water quality standards with federal technology-based standards alone. States are also required to develop a priority ranking for these waters which takes into account the severity of the pollution and the designated uses of the waters. Once this listing and ranking of impaired waters is completed, the states are required to develop Total Maximum Daily Loads (TMDLs) for these waters in order to achieve compliance with the water quality standards. Indiana's 2022 303(d) List of Impaired Waters was developed in accordance with Indiana's Water Quality Assessment and 303(d) Listing Methodology for Waterbody Impairments and Total Maximum Daily Load Development for the 2022 Cycle. The 2022 303(d) List of Impaired Waters includes the following impairments for waters to which the permittee discharges:

Table 4

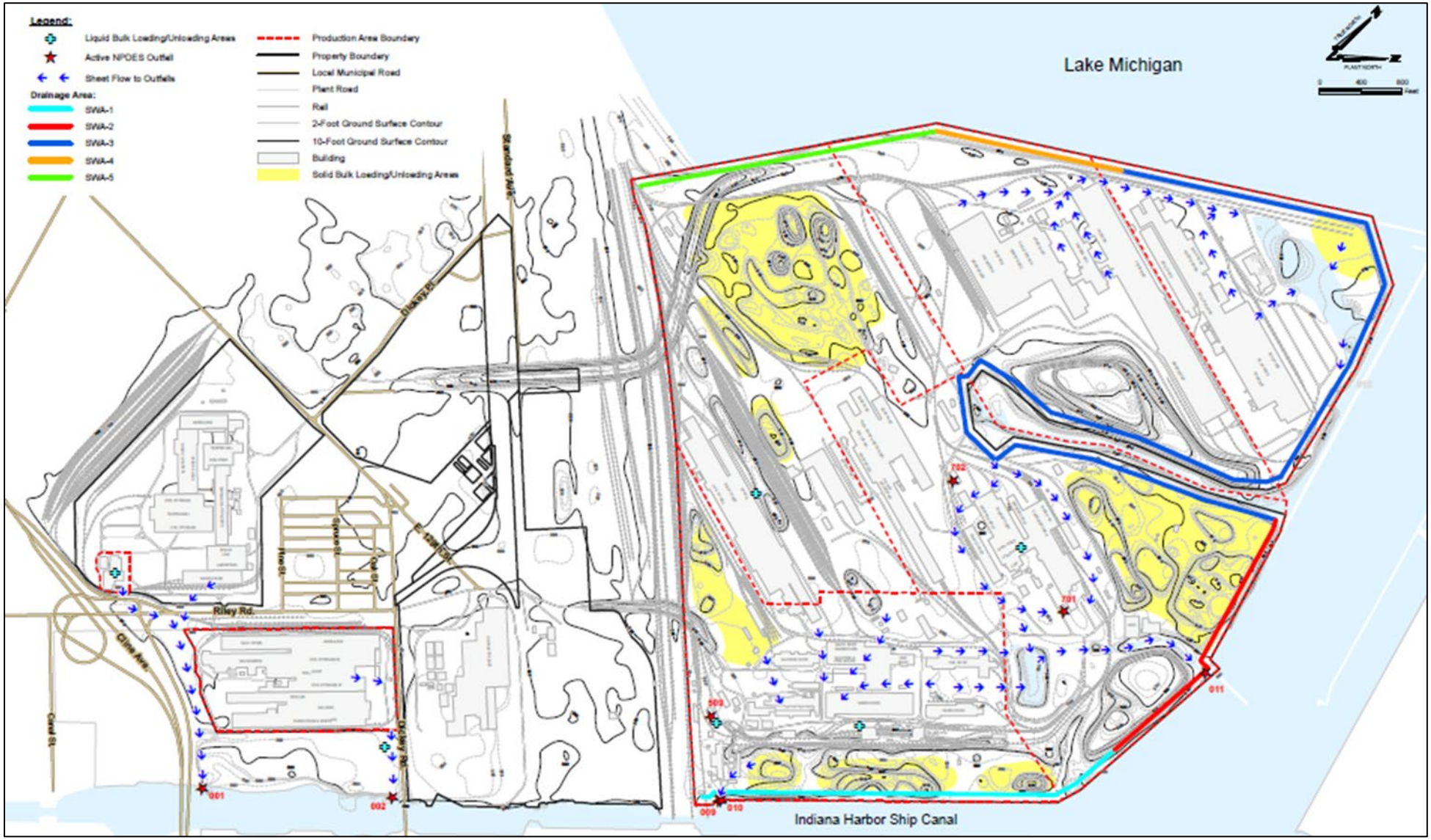
Assessment Unit	Waterbody	Impairments	Cleveland-Cliffs West Outfalls
INC0163_T1001	Indiana Harbor Canal	Biological Integrity, Oil and Grease, *E. coli* and PCBs in Fish Tissue	002, 009 and 010
INC0163G_G1078	Lake Michigan Shoreline (includes Indiana Harbor)	Free Cyanide, *E. coli,* Mercury in Fish Tissue and PCBs in Fish Tissue	011

INM00G1000_00	Lake Michigan (beyond the shoreline)	Mercury in Fish Tissue and PCBs in Fish Tissue	None

4.1 Total Maximum Daily Loads (TMDLs)

Section 303(d) of the Clean Water Act requires states to identify waters, through their Section 305(b) water quality assessments, that do not or are not expected to meet applicable water quality standards with federal technology-based standards alone. States are also required to develop a priority ranking for these waters which takes into account the severity of the pollution and the designated uses of the waters. Once this listing and ranking of impaired waters is completed, the states are required to develop Total Maximum Daily Loads (TMDLs) for these waters in order to achieve compliance with the water quality standards. Indiana's 2022 303(d) List of Impaired Waters was developed in accordance with Indiana's Water Quality Assessment and 303(d) Listing Methodology for Waterbody Impairments and Total Maximum Daily Load Development for the 2022 Cycle. A TMDL is not currently underway or planned for the Indiana Harbor. A Site Map has been included as Figure 8.

Figure 8: Site Map



5.0 PERMIT LIMITATIONS

5.1 Technology-Based Effluent Limits (TBEL)

EPA develops effluent limitations guidelines (ELGs) for industrial and commercial activities as required by the Clean Water Act (CWA). ELGs are technology-based effluent limits (TBELs). TBELs established pursuant to sections 301(b), 304, and 306 of the CWA represent the minimum level of treatment for industrial point sources that must be included in an NPDES permit (327 IAC 5-5-2(a)). The federal effluent guidelines and standards are located at 40 CFR 403 through 471, inclusive, and are incorporated into Indiana law at 327 IAC 5-2-1.5. In Indiana, NPDES permits are required to ensure compliance with these federal ELGs under 327 IAC 5-2-10(a)(1), 327 IAC 5-2-10(a)(2), and 327 IAC 5-5-2.

In the absence of ELGs for a particular process or parameter, TBELs can also be established on a case-by-case basis for a particular process or parameter using best professional judgment (BPJ) in accordance with 327 IAC 5-5-2 and 5-2-10 (see also 40 CFR 122.44 and 125.3, and Section 402(a)(1) of the CWA).

Iron and Steel Effluent Limitations Guidelines (Internal Outfalls 509, 701 and 703):

The applicable technology-based standards for the Cleveland-Cliffs Indiana Harbor West facility are contained in 40 CFR 420 – Iron and Steel Manufacturing Point Source Category. The EPA established mass-based limitations expressed in terms of allowable pollutant discharge per unit of production or some other measure of production (i.e., production normalized). Table 5 below provides a description of applicable subpart(s), process(es), and average daily production as included in the permit application.

Table 5

Outfall	Operation	Subcategory	Applicable ELG	Production Rate (tons/day)
509	No. 4 blast furnace	Ironmaking	420.30	7,000
701	Vacuum Degassing WWTP	Vacuum Degassing	420.54	6,050
702	Continuous Casting WWTP	Continuous Casting	420.64	9,855

The following is the basis for including TBELs at the respective outfalls:

Outfall 002
Outfall 002 consists of non-contact cooling water from the USS ECTO Pickle Line (idled) and the No.2 galvanizing line, stormwater and groundwater. No categorical limits apply at Outfall 002.

Outfall 009
Outfall 009 contains treated blowdown from the Blast Furnace Recycle System Blowdown WWTP (internal Outfall 509), non-contact cooling water from the Powerhouse area, stormwater and groundwater. Technology-based categorical limits apply at Internal Outfall 509. The No. 4 blast furnace associated with discharges from Internal Outfall 509 has been indefinitely idled and is not expected to discharge in the near future. Therefore, tiered limitation tables have been provided to properly limit the discharge when the No. 4 blast furnace is either idled or in operation. IDEM is also requiring the permittee to provide notice to IDEM's Office of Water Quality with the anticipated date in which No. 4 blast furnace will resume operations prior to any start-up.

Internal Outfall 509
Internal Outfall 509 contains treated wastewater from the Blast Furnace Recycle System Blowdown WWTP. Technology-based categorical limits found in 40 CFR 420.30 apply to this discharge.

TBELs have been retained at Internal Outfall 509; new TBEL limits have been calculated using current production levels reported in the permit renewal application. The No. 4 blast furnace associated with discharges from Internal Outfall 509 has been indefinitely idled and is not expected to discharge in the near future. If the permittee intends to resume discharges

associated with the No. 4 blast furnace, this Office must be notified prior to resuming operations. Summary tables for the applicable TBEL calculations are provided below.

Outfall 010
Outfall 010 consists of non-contact cooling water from the Powerhouse area, stormwater, and groundwater. Outfall 009 has the ability to overflow into Outfall 010. 301(g) variance categorical limits for ammonia and phenols apply at Outfall 010 when the Blast Furnace Recycle System is in operation.

Outfall 011
Outfall 011 consists of non-contact cooling water from the Powerhouse area, treated wastewaters from Internal Outfalls 701 and 702, stormwater, and groundwater. Technology-based categorical limits apply at Internal Outfall 701 and Internal Outfall 702.

Internal Outfall 701
Internal Outfall 701 consists of treated wastewater from the Vacuum Degasser WWTP. Technology-based categorical limits found in 40 CFR 420.50 apply to this discharge.

The facility usually directs the treated effluent from the Vacuum Degasser WWTP to the basic oxygen furnace (BOF) to be 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. Summary tables for the applicable TBEL calculations are provided below.

Internal Outfall 702
Internal Outfall 702 consists of treated wastewater from the Continuous Casting WWTP. Technology-based categorical limits found in 40 CFR 420.60 apply to this discharge. 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 usually directs the treated effluent from the Continuous Casting WWTP to the BOF to be 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. Summary tables for the applicable TBEL calculations are provided below.

5.2 Water Quality-Based Effluent Limits (WQBEL)

The water quality-based effluent limitations (WQBELs) included in the 2017 permit and documented in the Fact Sheet were developed as part of a wasteload allocation analysis for the Indiana Harbor Canal presented in the report "Supplemental Information for the Wasteload Allocation Analysis for the ArcelorMittal Indiana Harbor 2017 Permits" dated June 23, 2017. The wasteload allocation included a multi-discharger model that was limited to the Indiana Harbor Canal/Lake George Canal/Indiana Harbor subwatershed. Pollutants selected for the multi-discharger model were based on water quality concerns and the application of technology-based effluent limitations (TBELs) at multiple outfalls. For Cleveland-Cliffs (Indiana Harbor West), hereinafter Cleveland-Cliffs West, WQBELs for ammonia (as N) at Outfalls 009, 010 and 011, for lead and zinc at Outfalls 009 and 011 and for total residual chlorine at Outfalls 002, 009, 010 and 011 were developed as part of the multi-discharger model. The 2017 wasteload allocation (WLA) also included WQBELs for specific pollutants calculated on an individual outfall basis.

The 2017 WLA was developed using Indiana water quality regulations for discharges to waters within the Great Lakes system that include water quality criteria and methodologies for developing water quality criteria (327 IAC 2-1.5), procedures for calculating WLAs (5-2-11.4), making reasonable potential to exceed determinations (5-2-11.5) and developing WQBELs (5-2-11.6). These regulations are applicable to individual pollutants and to whole effluent toxicity (WET). These regulations are still applicable and were used in the current WLA analysis for the Indiana Harbor Canal presented in the report "Supplemental Information for the Wasteload Allocation Analysis for the Cleveland-Cliffs Indiana Harbor 2023 Permits" dated May 22, 2023. The application of WET requirements to Cleveland-Cliffs is included in a later section.

The current subwatershed model for the Indiana Harbor Canal/Lake George Canal/Indiana Harbor included the Cleveland-Cliffs West facility which has three active outfalls to the Indiana Harbor Canal, one active outfall to the Indiana Harbor, and water intake No. 1 in the Indiana Harbor near the mouth of the Indiana Harbor Canal. The other major dischargers included in the subwatershed model are as follows in relation to the Cleveland-Cliffs West facility: Cleveland-Cliffs (Indiana Harbor Central Treatment Plant) (IN0063711), hereinafter Cleveland-Cliffs CTP, has one active outfall upstream to the Indiana Harbor Canal; and, Cleveland-Cliffs (Indiana Harbor East) (IN0000094), hereinafter Cleveland-Cliffs East, has three active outfalls to the Indiana Harbor. The discharges from these two facilities were taken into consideration in determining the need for and establishing WQBELs for the discharges from the Cleveland-Cliffs West outfalls.

A review of the 2022 303(d) list shows that there is only one pollutant on the list that has the potential to impact wasteload allocation analyses conducted for the renewal of NPDES permits for dischargers in the Indiana Harbor Canal/Lake George Canal/Indiana Harbor subwatershed. The Indiana Harbor was first listed for free cyanide on the 2010 303(d) list. The listing was based on free cyanide data collected during the years 2000 and 2001 at IDEM fixed station IHC-0 in the Indiana Harbor. This station is located just upstream of Cleveland-Cliffs West Outfall 011 and, due to the potential for reverse flows in the Indiana Harbor, could be impacted by the outfall. It is also located downstream of Cleveland-Cliffs East Outfalls 011, 014 and 018. The aquatic life criteria for cyanide were changed from total cyanide to free cyanide in the 1997

Great Lakes rulemaking. It is IDEM current practice to monitor for total cyanide at fixed stations and analyze samples for free cyanide only when total cyanide data show a reportable concentration (> 5 ug/l). After 2001, data collected at fixed station IHC-0 no longer showed any reportable values for total cyanide so free cyanide data have not been collected. Cleveland-Cliffs West has also installed additional treatment and redirected cyanide containing process wastewater away from Outfall 011.

The Indiana Harbor Canal has not been included on the 303(d) list for free cyanide due to the two IDEM fixed stations in the Indiana Harbor Canal (located upstream of fixed station IHC-0 at Columbus Avenue (IHC-3S) and Dickey Road (IHC-2)) not showing impairment for free cyanide. Only one value (6 ug/l in October 2022) for total cyanide above 5 ug/l has been reported at IHC-3S since February 2007 and at IHC-2 since January 2005. Prior to the 2011 permit renewal, total cyanide had been reported at many of the Cleveland-Cliffs outfalls due to technology-based limits for this parameter, but little data for free cyanide was available. Therefore, in the 2011 permit renewal, monitoring was required for free cyanide at all Cleveland-Cliffs outfalls for use in conducting a multi-discharger WLA and assessment of reasonable potential at the next permit renewal. The analysis is documented in the 2017 report cited above and resulted in limits for free cyanide at Cleveland-Cliffs CTP Outfall 001 and monitoring at Cleveland-Cliffs East Outfalls 014 and 018.

A TMDL is not currently planned for the subwatershed, and, based on current IDEM monitoring data, may not be required. Therefore, as was done in the 2017 WLA, the procedures for calculating WLAs under 5-2-11.4 were used to develop preliminary WLAs and WLAs in the absence of a TMDL. Wasteload allocations in the absence of TMDLs are developed to establish water quality-based effluent limitations under 5-2-11.6 and preliminary wasteload allocations are developed to make reasonable potential determinations under 5-2-11.5. The reasonable potential procedures under 5-2-11.5 include provisions for making reasonable potential determinations using best professional judgment (5-2-11.5(a)) and using a statistical procedure (5-2-11.5(b)). The statistical procedure is a screening process in which a projected effluent quality (PEQ) based on effluent data is calculated and compared to a preliminary effluent limitation (PEL) based on the preliminary wasteload allocation. Both the best professional judgment and statistical procedures were used to establish the need for WQBELs to protect the designated uses of the Indiana Harbor Canal, Indiana Harbor, and Lake Michigan.

To develop WLAs and conduct reasonable potential to exceed analyses, IDEM utilized the following effluent data collected and submitted by Cleveland-Cliffs for the West facility: data collected during the period January 2019 through February 2022 in accordance with the current permit and reported on monthly monitoring reports (MMRs); data for mercury collected during the term of the current permit; and, data for ammonia (as N), lead and zinc collected for the 2022 permit renewal application. To develop WLAs, IDEM utilized the following sources of water quality data for the Indiana Harbor Canal and Indiana Harbor: IDEM fixed water quality monitoring station IHC-3S at Columbus Drive (Indiana Harbor Canal upstream of Lake George Canal and all Cleveland-Cliffs outfalls); IDEM fixed station IHC-2 at Dickey Road (Indiana Harbor Canal); and, IDEM fixed station IHC-0 at the mouth of the Indiana Harbor. To develop WLAs, IDEM utilized the following sources of data for Lake Michigan: IDEM fixed station LM-H at the public water supply intake for the City of Hammond and IDEM fixed station LM-DSP at Dunes State Park. After a review of effluent and in-stream data, it was decided to conduct a

multi-discharger WLA for ammonia (as N), lead, zinc and total residual chlorine. Other pollutants of concern, including mercury, were considered on an outfall-by-outfall basis.

In the 2017 multi-discharger model, the Indiana Harbor Canal was divided into sixteen complete mix segments and the Indiana Harbor into five complete mix segments. The Lake George Canal was incorporated as an input to the Indiana Harbor Canal. The intrusion of lake water was accounted for in the model by adding a portion of the total lake intrusion flow to the surface layer of each of nine affected segments in the Indiana Harbor and Indiana Harbor Canal. A total lake intrusion flow of 138 cfs was used based on a measurement made by the USGS in October 2002 during a normal lake level condition. The procedures in 5-2-11.4 require the more stringent of the FAV or the acute WLA calculated using up to a one-to-one dilution to be applied to individual outfalls. They also limit the dilution available for each outfall (the mixing zone) to twenty-five percent (25%) of the stream design flow. Because of the potential for overlapping mixing zones within a segment, the combined discharges in a segment were also limited collectively to twenty-five percent (25%) of the stream design flow. This was done in accordance with 5-2-11.4(b)(3)(D) which requires the combined effect of overlapping mixing zones to be evaluated to ensure that applicable criteria and values are met in the area where the mixing zones overlap.

Based on the reasonable potential statistical procedure at 5-2-11.5(b)(1)(iii) and (iv), the procedures under 5-2-11.4(c) are used as the basis for determining preliminary WLAs and the preliminary WLAs are then used to develop monthly and daily PELs in accordance with the procedure for converting WLAs into WQBELs under 5-2-11.6. Three critical inputs to the procedure under 5-2-11.4(c) include the background concentration, the effluent flow and the stream flow. The background concentration is determined under 5-2-11.4(a)(8). Under this rule, background concentrations can be determined using actual in-stream data or in-stream concentrations estimated using actual or projected pollutant loading data. In the multi-discharger WLA, in-stream data were used to establish the background concentration for the first segment of the model and then either actual or projected pollutant loading data were used.

The flow assigned to Cleveland-Cliffs Central Outfall 001 and Cleveland-Cliffs West Outfall 002 was the long-term average flow calculated using data from the period December 2017 through November 2019. This period represents production prior to the idling in November 2019 of the U.S. Steel ECTO operations. The flow assigned to Cleveland-Cliffs West Outfalls 009, 010 and 011 was the long-term average flow calculated using data from the period January 2020 through December 2021. This period represents production prior to the idling in April 2022 of the No. 4 blast furnace. The flow assigned to Cleveland-Cliffs East Outfalls 011, 014 and 018 was the long-term average flow calculated using data also from the period January 2020 through December 2021 to be consistent with the period used for the Cleveland-Cliffs West outfalls.

The stream design flow used to develop wasteload allocations is determined under 5-2-11.4(b)(3). For the pollutants considered in this analysis, the aquatic life criteria are limiting and the stream design flow for chronic aquatic life criteria is the Q7,10. As was done in the 2017 WLA, the Q7,10 was used as the stream design flow for the first segment of the multi-discharger model and then the long-term average flow of each discharger was added to become the stream design flow for downstream dischargers. The lake intrusion flow was added to the stream design flow at the end of each applicable segment. The Q7,10 was calculated using data from USGS gauging station 04092750 which is located in the Indiana Harbor Canal at Canal Street.

The data used in the calculation consisted of continuous daily mean flow data approved by the USGS for the period 10-1-1994 through 3-31-2012. The Q7,10 based on the climatic year (April 1 through March 31) is 358 cfs.

At each applicable outfall, PELs were calculated for each pollutant of concern using an outfall specific spreadsheet that calculates PELs using the procedures under 5-2-11.4(c) to calculate WLAs and the procedures under 5-2-11.6 to convert WLAs into PELs. The spreadsheet considers all water quality criteria (acute and chronic aquatic life, human health and wildlife) and associated stream design flows and mixing zones. The stream design flow for each water quality criterion was set equal to the same value in the outfall specific spreadsheet. This value was the Q7,10 flow plus the accumulation of long-term average effluent flow and any lake intrusion flow, minus any intake flow. For mercury, which is a bioaccumulative chemical of concern (BCC), a mixing zone was not allowed in the development of PELs for any outfall in accordance with 5-2-11.4(b)(1). For those pollutants included in a multi-discharger WLA, the multi-discharger model was used to ensure that the most stringent water quality criterion is met at the edge of the mixing zone for each segment. This was the 4-day average chronic criterion. The multi-discharger model was also used to ensure that Lake Michigan criteria are met at the end of the last segment in the Indiana Harbor. The preliminary WLA was included as an input in the multi-discharger model and PELs were calculated from the preliminary WLA.

In the multi-discharger model, preliminary WLAs for each outfall were established, if possible, so that the monthly and daily PEQs did not exceed the PELs calculated from the preliminary WLAs. If TBELs were included for the parameter at a final outfall or an internal outfall, then the preliminary WLA was increased to the extent possible to allow the mass-based PELs to exceed the TBELs. The preliminary WLAs were adjusted as necessary so that the calculated PELs did not exceed the PELs calculated using the outfall specific spreadsheets and so that the water quality criterion was not exceeded at the edge of the mixing zone for each segment as determined using the multi-discharger model. For some outfalls, the discharge of one or more pollutants for which a multi-discharger WLA was conducted was not considered significant, so a preliminary WLA was established based on the reported effluent concentration, or if sufficient data were available, reported effluent loading data, but PELs were not calculated as allowed under 5-2-11.5(b)(1).

After assigning a preliminary WLA to each outfall in a segment and entering the WLA into the multi-discharger model, the model calculates the PELs for each outfall, the concentration at the edge of the mixing zone for the segment and the concentration at the end of each segment after complete mixing. The concentration after complete mixing then becomes the background concentration for the next segment. To calculate PELs using the outfall specific spreadsheets, the background concentration for each outfall was calculated assuming complete mixing between outfalls. This was done by entering the WLAs for each outfall into a separate spreadsheet that calculated the background concentration upstream of each outfall. By conducting a multi-discharger WLA in this manner, the background concentration for each outfall was based on the accumulated WLAs for the prior outfalls. Since the WLAs were based in some cases on projected effluent quality, the background concentrations were based on projected loading data. This provided a conservative means of determining the cumulative impact of the outfalls. For those pollutants not included in a multi-discharger WLA, the background concentration for each outfall was based on in-stream data.

The results of the reasonable potential statistical procedure are included in Tables 2 through 4. The results show that the discharge from Cleveland-Cliffs West Outfall 009 has a reasonable potential to exceed a water quality criterion for ammonia (as N) and zinc.

In addition to establishing WQBELs based on the reasonable potential statistical procedure, IDEM is also required to establish WQBELs under 5-2-11.5(a) “If the commissioner determines that a pollutant or pollutant parameter (either conventional, nonconventional, a toxic substance, or whole effluent toxicity (WET)) is or may be discharged into the Great Lakes system at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable narrative criterion or numeric water quality criterion or value under 327 IAC 2-1.5”. Chlorine is added to the intake water for zebra and quagga mussel control at concentrations exceeding water quality criteria. Outfalls 002, 009, 010 and 011 receive noncontact cooling water. Therefore, chlorine may be discharged from these outfalls at a level that will cause an excursion above the numeric water quality criterion for total residual chlorine under 2-1.5 and WQBELs for total residual chlorine are required at Outfalls 002, 009, 010 and 011. In addition, bromine-based water treatment additives may be used at plant processes contributing to Outfall 011, so WQBELs for bromine are required at this outfall.

For each pollutant receiving TBELs at an internal outfall, and for which water quality criteria or values exist or can be developed, concentration and corresponding mass-based WQBELs were calculated at the final outfall. The WQBELs were set equal to the applicable PELs from the multi-discharger model or the outfall specific spreadsheet. This was done for Cleveland-Cliffs West Outfall 009 (lead and zinc at Internal Outfall 509 and a 301(g) variance for ammonia (as N) at the final outfall), Cleveland-Cliffs West Outfall 010 (301(g) variance for ammonia (as N)), and Cleveland-Cliffs West Outfall 011 (lead and zinc at Internal Outfalls 701 and 702 and a 301(g) variance for ammonia (as N) at the final outfall). The mass-based WQBELs at the final outfall were compared to the mass-based TBELs. Since the facility is authorized to discharge up to the mass-based TBELs, if the mass-based TBELs exceed the mass-based WQBELs at the final outfall, the pollutant may be discharged at a level that will cause an excursion above a numeric water quality criterion or value under 2-1.5 and WQBELs are required for the pollutant at the final outfall. This was not the case for any pollutant at Outfalls 009, 010 and 011.

Once a determination is made using the reasonable potential provisions under 5-2-11.5 that WQBELs must be included in the permit, the WQBELs are calculated in accordance with 5-2-11.5(d). Under this provision, in the absence of an EPA-approved TMDL, WLAs are calculated for the protection of acute and chronic aquatic life, wildlife, and human health in accordance with the WLA provisions under 5-2-11.4. The WLAs are then converted into WQBELs in accordance with the WQBEL provisions under 5-2-11.6. The WQBELs are included in Table 5 and were set equal to the PELs calculated for each pollutant.

5.3 Effluent Limitations and Monitoring Requirements by Outfall

Under 327 IAC 5-2-10(a) (see also 40 CFR 122.44), NPDES permit requirements are technology-based effluent limitations and standards (including technology-based effluent limitations (TBELs) based on federal effluent limitations guidelines or developed on a case-by-case basis using best professional judgment (BPJ), where applicable), water quality standards-based, or based on other more stringent requirements. The decision to limit or monitor the parameters contained in this permit is based on information contained in the permittee’s NPDES

application and other available information relating to the facility and the receiving waterbody as well as the applicable federal effluent limitations guidelines. In addition, when renewing a permit, the existing permit limits, the antibacksliding requirements under 327 IAC 5-2-10(a)(11), and the antidegradation requirements under 327 IAC 2-1.3 must be considered.

5.3.1 All External Outfalls (002, 009, 010, 011)

Narrative Water Quality Based Limits

The narrative water quality criteria contained under 327 IAC 2-1.5-8(b)(1) and (2) have been included in this permit to ensure that these minimum water quality conditions are met.

Flow

The permittee's flow is to be monitored in accordance with 327 IAC 5-2-13(a)(2). Monitoring is to be conducted 1 X weekly and should be reported as a 24-Hr. Total.

5.3.2 Outfall 002

pH

Limitations for pH in the proposed permit are based on the criteria established in 327 IAC 2-1.5-8(c)(2) and 40 CFR 420.07. Monitoring is to be conducted 1 X weekly by grab sampling.

Total Suspended Solids (TSS)

TSS is a regulated conventional pollutant and is monitored in the NPDES permit to ensure adequate wastewater treatment is provided and the narrative water quality criteria will be protected. TSS is a parameter used to protect the existing and designated uses by preventing the discharge from having putrescent, or otherwise objectionable deposits, unsightly or deleterious deposits, color or other conditions in such a degree as to create a nuisance. Monitoring is to be conducted 1 X weekly by 24-hr. composite sampling.

Oil and Grease (O & G)

O & G must be monitored for compliance with narrative water quality criteria in 327 IAC 2-1.5-8(b)(1)(C) which prohibits oil or other substances in amounts sufficient to produce color, visible sheen, odor, or other conditions in such a degree to create a nuisance. Monitoring is to be conducted 1 X weekly by grab sampling.

Total Residual Chlorine (TRC)

As a means of controlling Zebra and Quagga Mussel colonization within the facility, the permittee chlorinates intake water using bleach (sodium hypochlorite) on a continuous basis during a portion of each year.

Additionally, the facility uses chlorinated water treatment additives which may be present in the discharge from Outfall 002 year-round, therefore, the discharge shall have limitations and monitoring requirements for TRC. Wastewater shall be dechlorinated prior to discharge from Outfall 002. Monitoring is to be conducted 5 X weekly by grab sampling.

The TRC effluent limits in the permit were calculated in the WLA conducted on May 22, 2023 (Appendix B, Table 5). The limits are 1.7 lbs/day (0.016 mg/l) for monthly average and 3.9 lbs/day (0.037 mg/l) for daily maximum.

The daily maximum WQBEL for TRC is greater than the limit of detection (LOD) but less than the limit of quantitation (LOQ). Compliance with the daily maximum concentration limits 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 6.3 lbs/day. This is calculated by multiplying the LOQ by the discharge flow in MGD and by a conversion factor of 8.345.

Mercury

Mercury limitations were included in a previous permit because it was identified in quantities that showed a Reasonable Potential to Exceed (RPE) Indiana's Water Quality Criteria. A schedule of compliance was granted during the previous permit cycle and the permittee was required to submit a Quality Assurance Project Plan (QAPP) to identify sources of mercury in the discharge along with a Final Plan for Compliance (FPC) to meet the mercury limits. The FPC dated March 1, 2015 provides intake and effluent data for mercury during dry and wet weather. The FPC identifies the most likely source of mercury in the discharge as being mercury present in intake water withdrawn from Indiana Harbor Ship Canal and Lake Michigan.

For this permit renewal, the reasonable potential analysis for mercury for Outfall 002 was done in accordance with the provision for discharges of once-through noncontact cooling water in 327 IAC 5-2-11.5(g). This provision may be used if the intake and outfall points for the noncontact cooling water are located on the same body of water. The cooling water intake source for Outfall 002 is primarily Lake Michigan with a minor portion from the Indiana Harbor Canal. In accordance with 327 IAC 5-2-11.5(b)(4)(B)(iv), an intake pollutant shall be considered to be from the same body of water as the discharge if the intake point is located on Lake Michigan and the outfall point is located on a tributary of Lake Michigan and the following conditions are met:

(A) The representative background concentration of the pollutant in the receiving water, as determined under 327 IAC 5-2-11.4(a)(8) (excluding any amount of the pollutant in the facility's discharge) is similar to or greater than that in the intake water.

(B) Any difference in a water quality characteristic (such as temperature, pH, and hardness) between the intake and receiving waters does not result in an adverse impact on the receiving water.

The FPC included mercury data for the Indiana Harbor Canal and Lake Michigan. A review of the data showed that the concentration of mercury in the Indiana Harbor Canal is greater than the concentration in Lake Michigan. Any differences in a water quality characteristic are not significant enough to cause adverse impacts. Therefore, the same body of water provision is applicable.

In accordance with 5-2-11.5(g)(6), if a wastestream consisting solely of noncontact cooling water combines with one or more wastestreams not consisting solely of noncontact cooling water, this provision may still be applied to the wastestream consisting solely of noncontact cooling water if, for the wastestreams that do not consist solely of noncontact cooling water, the following requirements are imposed:

(A) For each wastestream composed entirely of stormwater, permit conditions that the commissioner determines to be necessary to protect the water quality of the receiving waterbody shall be imposed. The requirements imposed shall be as if the stormwater wastestream discharged directly into the receiving waterbody and shall be consistent with requirements imposed on other similar stormwater discharges to the waterbody.

(B) For each wastestream not composed entirely of stormwater, each wastestream shall be evaluated to determine if there is reasonable potential using the procedures in 5-2-11.5. For purposes of determining reasonable potential and developing WQBELs for these wastestreams, the WLAs shall be determined as if these wastestreams discharged directly into the receiving waterbody without combining with the wastestreams consisting solely of noncontact cooling water.

The stormwater discharges to Outfall 002 will receive non-numeric limits consistent with stormwater discharges to the other Cleveland Cliffs outfalls. The groundwater and miscellaneous non-process wastewaters are not considered significant discharges to Outfall 002 as it pertains to mercury. Therefore, based on the provision in 5-2-11.5(g), there is not a reasonable potential to exceed a water quality criterion for mercury.

Monitoring is to be conducted 6 X annually by grab sampling.

Temperature
Intake
Outfall

Based on source and nature of the discharge, temperature monitoring requirements will be retained from the previous permit. On days when temperature is sampled at the outfall, temperature shall also be sampled at the intake supplying the most significant source of water to the outfall. 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. Monitoring is to be conducted 2 X weekly by grab sampling.

5.3.3 Outfall 009A/B

Tiered limits are proposed at Outfall 009 for this permit renewal to reflect the operational status of the No. 4 blast furnace. Tiered TBELs are permittable pursuant to 40 CFR 122.45(b)(2)(ii)(A)(1) and can be based on increases/decreases of production or flow. For compliance monitoring purposes, IDEM is proposing to redesignate Outfall 009 into Outfalls 009A and 009B. The permittee will monitor and report under 009A when the No. 4 blast furnace is operating (Tier 1) and 009B when the No. 4 blast furnace is idled (Tier 2).

pH

Limitations for pH in the proposed permit are based on the criteria established in 327 IAC 2-1.5-8(c)(2) and 40 CFR 420.07. Monitoring is to be conducted 1 X weekly by grab sampling.

Total Residual Chlorine (TRC)

As a means of controlling Zebra and Quagga Mussel colonization within the facility, the permittee chlorinates intake water on a continuous basis during a portion of each year. Additionally, the facility uses chlorinated water treatment additives which may be present in the discharge from Outfall 009 year-round, therefore, the discharge shall have limitations and monitoring requirements for TRC. Wastewater shall be dechlorinated prior to discharge from Outfall 009. Monitoring is to be conducted 5 X weekly by grab sampling.

The TRC effluent limits in the permit were calculated in WLAs conducted on May 22, 2023 (Appendix B, Table 5). The limits are 4.2 lbs/day (0.014 mg/l) for monthly average and 9.6 lbs/day (0.032) mg/l) for the daily maximum. The daily maximum WQBEL for TRC is greater than the limit of detection (LOD) but less than the limit of quantitation (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 18.0 lbs/day. This is calculated by multiplying the LOQ by the discharge flow in MGD and by a conversion factor of 8.345.

Mercury

Mercury limitations were included in the previous permit because it was identified in quantities that showed a Reasonable Potential to Exceed (RPE) Indiana's Water Quality Criteria. WQBELs for mercury were calculated in the WLA report and identified the monthly average as 0.00039 lbs/day (1.3 ng/l) and the daily maximum as 0.00096 lbs/day (3.2 ng/l). A schedule of compliance and then a streamlined mercury variance was granted during the previous permit cycle. The streamlined mercury variance became effective September 1, 2016. The permittee applied to renew the streamlined mercury variance in January of 2022. See Section 6.5 for information on the streamlined mercury variance. Monitoring is to be conducted 6 X annually by grab sampling.

Temperature
Intake
Outfall

Based on source and nature of the discharge, temperature monitoring requirements will be retained from the previous permit. On days when temperature is sampled at the outfall, temperature shall also be sampled at the intake supplying the most significant source of water to the outfall. 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. Monitoring is to be conducted 2 X weekly by grab sampling.

5.3.4 Outfall 009A (No. 4 Blast Furnace Active)

Ammonia, as N and Phenols (4AAP)

Internal Outfall 509 discharges to Outfall 009A and consists of discharge from the Blast Furnace Recycle System Blowdown WWTP which is subject to BAT limitations found in 40 CFR 420.33. 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). Please refer to Section 6.3 of this Fact Sheet for additional information.

The 301(g) net mass limitations for ammonia are more stringent than the otherwise applicable gross WQBELs, considering intake ammonia concentrations, and were retained in this permit. However, a WLA analysis conducted on May 22, 2023 showed RPE for ammonia; therefore, concentration WQBELs for Ammonia are also incorporated at Outfall 009A.

Monitoring is to be conducted 1 X weekly. Ammonia will be collected by 24-hr. composite sampling. Phenols will be collected by grab sampling.

Zinc

Zinc is identified in the federally promulgated guidelines (40 CFR 420.32(a) and 40 CFR 420.33(a)) for this facility. TBELs for zinc are included at Internal Outfall 509. A WLA analysis conducted on May 22, 2023 showed RPE for zinc; therefore, concentration and mass WQBELs for zinc are incorporated at Outfall 009A.

Monitoring is to be conducted 1 X weekly. Zinc will be collected by 24-hr. composite sampling.

Total Suspended Solids (TSS), Oil and Grease (O & G), and Lead

The above-mentioned parameters are identified in the federally promulgated guidelines (40 CFR 420.32(a) and 40 CFR 420.33(a)) for this facility. TBELs will be limited at Internal Outfall 509. However, reporting requirements will be included for the above-mentioned parameters at Outfall 009A. Monitoring is to be conducted 1 X weekly. TSS and Lead will be collected by 24-Hr. composite sampling. O & G will be collected by grab sampling.

5.3.5 Outfall 009B (No. 4 Blast Furnace Idled)

Total Suspended Solids (TSS), and Oil and Grease (O & G)

The above-mentioned parameters are to be monitored and reported in order to protect the narrative water quality criteria in 327 IAC 2-1.5-8(b)(1)(C) and ensure adequate wastewater treatment is provided. TSS and O & G are parameters used to protect the existing and designated uses by preventing the discharge from having putrescent or otherwise objectionable deposits, unsightly or deleterious deposits, color, visible sheen, odor, or other conditions in such a degree as to crease a nuisance.

Reporting requirements will be included for the above-mentioned parameters at Outfall 009B. Monitoring is to be conducted 1 X weekly. TSS will be collected by 24-Hr. composite sampling. O & G will be collected by grab sampling.

5.3.6 Internal Outfall 509

Flow

The effluent flow is to be monitored in accordance with 327 IAC 5-2-13(a)(2). Monitoring is to be conducted 1 X weekly and should be reported as a 24-Hr. Total.

Total Suspended Solids (TSS), Lead, Zinc, and Total Cyanide

Internal Outfall 509 consists of discharge from the Blast Furnace Recycle System Blowdown WWTP (40 CFR 420.30) prior to discharging via Outfall 009.

As noted above, the No. 4 blast furnace has been indefinitely idled. As such, future discharges from Internal Outfall 509 are not anticipated. However, the categorical limits associated with this discharge have been carried forward because the blast furnace and associated equipment are still in place.

If the permittee intends to resume discharges associated with the No. 4 blast furnace, this Office must be notified prior to resuming operations. The permittee must continue to report Internal Outfall 509 on DMRs/MMRs and indicate “No Discharge” when there is no discharge from Internal Outfall 509.

Monitoring is to be conducted 1 X weekly by 24-Hr. composite sampling.

Total Suspended Solids					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.32(a) (BPT)	7,000	0.0260	364	0.0782	1,100
420.33(a) (BAT)	7,000	-----	-----	-----	-----
Total TSS Limitation		364 [1]		1,100	

[1] Below is an example TSS calculation for the Ironmaking Subcategory:

TSS Average Monthly Limit = 7,000 $\frac{tons}{day}$ x 2,000 $\frac{lbs}{ton}$ x 0.0260 $\frac{lbs}{1{,}000\ lbs}$ = 364 $\frac{lbs}{day}$

Lead					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.32(a) (BPT)	7,000	-----	**-----**	-----	**-----**
420.33(a) (BAT)	7,000	0.0000876	1.23	0.000263	3.68
Lead Limitation		1.23		3.68	

Zinc					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.32(a) (BPT)	7,000	-----	**-----**	-----	**-----**
420.33(a) (BAT)	7,000	0.000131	1.83	0.000394	5.52
Zinc Limitation		1.83		5.52	

Total Cyanide					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.32(a) (BPT)	7,000	0.00782	110	0.0234	328
420.33(a) (BAT)	7,000	0.000876	12.3	0.00175	24.5
Total Cyanide Limitation		12.3		24.5	

Ammonia, as N and Phenols (4AAP)

Section 301(g) of the Clean Water Act provides for 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). Please refer to Section 6.3 of this Fact Sheet for additional information.

Monitoring is to be conducted 1 X weekly. Ammonia will be collected by 24-hr. composite sampling. Phenols will be collected by grab sampling.

5.3.7 Outfall 010A/B

Tiered limits are proposed at Outfall 010 for this permit renewal to reflect the operational status of the No. 4 blast furnace. Tiered TBELs are permittable pursuant to 40 CFR 122.45(b)(2)(ii)(A)(1) and can be based on increases/decreases of production or flow. For compliance monitoring purposes, IDEM is proposing to redesignate Outfall 010 into Outfalls 010A and 010B. The permittee will monitor and report under 010A when the No. 4 blast furnace is operating (Tier 1) and 010B when the No. 4 blast furnace is idled (Tier 2).

pH

Limitations for pH in the proposed permit are based on the criteria established in 327 IAC 2-1.5-8(c)(2) and 40 CFR 420.07. Monitoring is to be conducted 1 X weekly by grab sampling.

Total Residual Chlorine (TRC)

As a means of controlling Zebra and Quagga Mussel colonization within the facility, the permittee chlorinates intake water on a continuous basis during a portion of each year. Additionally, the facility uses chlorinated water treatment additives which may be present in the discharge from Outfall 010 year-round, therefore, the discharge shall have limitations and monitoring requirements for TRC. Wastewater shall be dechlorinated prior to discharge from Outfall 010. Monitoring is to be conducted 5 X weekly by grab sampling.

The TRC effluent limits in the permit were calculated in WLAs conducted on May 22, 2023 (Appendix B, Table 5). The limits are 4.1 lbs/day (0.014 mg/l) for monthly average and 9.5 lbs/day (0.032 mg/l) for the daily maximum. 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 lbs/day. This is calculated by multiplying the LOQ by the discharge flow in MGD and by a conversion factor of 8.345.

Mercury

Mercury limitations were included in the previous permit because it was identified in quantities that showed a Reasonable Potential to Exceed (RPE) Indiana's Water Quality Criteria. WQBELs for mercury were calculated in the WLA report and identified the monthly average as 0.00038 lbs/day (1.3 ng/l) and the daily maximum as 0.00095 lbs/day (3.2 ng/l). A schedule of compliance and then a streamlined mercury variance was granted during the previous permit cycle. The streamlined mercury variance became effective September 1, 2016.The permittee applied to renew the streamlined mercury variance in January of 2022. See Section 6.5 for information on the streamlined mercury variance. Monitoring is to be conducted 6 X Annually by grab sampling.

Temperature
Intake
Outfall

Based on source and nature of the discharge, temperature monitoring requirements will be retained from the previous permit. On days when temperature is sampled at the outfall, temperature shall also be sampled at the intake supplying the most significant source of water to the outfall. 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. Monitoring is to be conducted 2 X weekly by grab sampling.

5.3.8 Outfall 010A (No. 4 Blast Furnace Active)

Total Suspended Solids (TSS), Oil & Grease (O & G), Lead, and Zinc

The above-mentioned parameters are identified in the federally promulgated guidelines for this facility at Outfall 009 (40 CFR 420.32(a) and 40 CFR 420.33(a)). 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. O & G must be monitored for compliance with narrative water quality criteria in 327 IAC 2-1.5-8(b)(1)(C) which prohibits oil or other substances in amounts sufficient to produce color, visible sheen, odor, or other conditions in such a degree to create a nuisance.

Monitoring is to be conducted 1 X weekly. TSS, Lead, and Zinc will be collected by 24-Hr. Composite sampling. O & G will be collected by grab sampling.

Ammonia, as N and Phenols (4AAP)

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). Please refer to Section 6.3 of this Fact Sheet for additional information.

Monitoring is to be conducted 1 X weekly. Ammonia will be collected by 24-hr. composite sampling. Phenols will be collected by grab sampling.

5.3.9 Outfall 010B (No. 4 Blast Furnace Idled)

Total Suspended Solids (TSS), Oil & Grease (O & G)

Reporting requirements will be included for the above-mentioned parameters at Outfall 010B. Monitoring is to be conducted 1 X weekly. TSS will be collected by 24-Hr. composite sampling. O & G will be collected by grab sampling.

5.3.10 Outfall 011A/B

Tiered limits are proposed at Outfall 011 for this permit renewal to reflect the operational status of the No. 4 blast furnace. Tiered TBELs are permittable pursuant to 40 CFR 122.45(b)(2)(ii)(A)(1) and can be based on increases/decreases of production or flow. For compliance monitoring purposes, IDEM is proposing to redesignate Outfall 011 into Outfalls 011A and 011B. The permittee will monitor and report under 011A when the No. 4 blast furnace is operating (Tier 1) and 011B when the No. 4 blast furnace is idled (Tier 2).

pH

Limitations for pH in the proposed permit are based on the criteria established in 327 IAC 2-1.5-8(c)(2) and 40 CFR 420.07. Monitoring is to be conducted 1 X weekly by grab sampling.

Total Suspended Solids (TSS), Oil & Grease (O & G), Lead, and Zinc

The above-mentioned parameters are identified in the federally promulgated guidelines for this facility (40 CFR 420.54 and 40 CFR 420.64). The WQBELs for the above-mentioned parameters are less stringent than the TBELs. TBELs will be applied at Internal Outfalls 701 and 702. However, reporting requirements will be included for the above-mentioned parameters at Outfall 011. O & G must be monitored for compliance with narrative water quality criteria in 327 IAC 2-1.5-8(b)(1)(C) which prohibits oil or other substances in amounts sufficient to produce color, visible sheen, odor, or other conditions in such a degree to create a nuisance.

Monitoring is to be conducted 1 X weekly by 24-Hr. composite sampling.

Total Residual Oxidants (TRO – Bromine + TRC)

Monitoring requirements for Total Residual Oxidants (TRO) (bromine + chlorine) are proposed based on the potential for both bleach (sodium hypochlorite) and Stabrex ST70 (bromine) to be present in the discharge. Sodium hypochlorite is a chlorine-based water treatment additive used as a biocide, and Stabrex ST70 is a bromine-based water treatment additive used as a biocide. Indiana derived water quality criteria for bromine in

2023, which is applicable to state waters within the Great Lakes System. The derived criteria have been used to calculate water quality-based effluent limits for bromine for this permit renewal.

The TRC limit was calculated in the Wasteload Allocation (WLA) conducted on May 22, 2023 and is 3.6 lbs/day (0.014 mg/l) for monthly average and 8.2 lbs/day (0.032 mg/l) for the daily maximum. The bromine limit was calculated in the WLA and is 0.19 lbs/day (0.74 ug/L) monthly average and 0.44 lbs/day (1.7 ug/L) daily maximum. See Appendix B, Table 5. Total residual chlorine and bromine are both measured using the same laboratory method and the method used can't distinguish between chlorine and bromine. Since the limits for bromine are more stringent than the limits for total residual chlorine, the bromine limits are included as the water quality-based limit for total residual oxidants (bromine and chorine).

The water quality-based limits for total residual oxidants (bromine and chlorine) are less than both the level of detection (LOD) and level of quantitation (LOQ) using the most sensitive approved analytical methods. Therefore, compliance with the daily maximum limit for total residual oxidants will be demonstrated if the observed effluent concentration is less than the LOQ (0.06 mg/l). Compliance with the daily maximum mass limit will be demonstrated if the calculated mass value is less than 15.4 lbs/day. This is calculated by multiplying the LOQ by the discharge flow in MGD and by a conversion factor of 8.345.

Monitoring is to be conducted 5 X weekly by grab sampling.

Mercury

Mercury limitations were included in the previous permit because it was identified in quantities that showed a Reasonable Potential to Exceed (RPE) Indiana's Water Quality Criteria. A separate analysis conducted on May 22, 2023 as part of this permit renewal demonstrated no RPE for Mercury. Therefore, WQBELs for mercury and the associated streamlined mercury variance have been removed at this outfall. Reporting requirements for Mercury have been retained to provide current data for future RPE analyses. Monitoring is to be conducted 6 X annually by grab sampling.

Temperature
Intake
Outfall

Based on source and nature of the discharge, temperature monitoring requirements will be retained from the previous permit. On days when temperature is sampled at the outfall, temperature shall also be sampled at the intake supplying the most significant source of water to the outfall. 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. Monitoring is to be conducted 2 X weekly by grab sampling.

Wastewater Transported from Other Outfalls

During the previous permit appeal negotiation, IDEM issued an enforcement discretion letter addressing two scenarios where wastewater from Internal Outfalls 509, 701 and 702 may be transported to the Terminal Lagoon, Filter Plant, or Outfall 011A/B for discharge via Outfall 011A/B. Those requirements have been included directly in the permit for this cycle. No variation in these requirements has been justified.

Internal Outfall 509

During Internal Outfall 509 treatment system maintenance periods, non-contact cooling water and process wastewaters from the blast furnace process wastewater treatment and recycle system may be transported to the sewers leading to the Terminal Lagoon, Filter Plant, or Outfall 011 on an intermittent basis and subject to the following requirements:

a. Such events shall not exceed ten (10) events per year,
b. The maximum volume or process wastewater transported shall not exceed 25,000 gallons per event,
c. For each event, the permittee shall report the following as an attachment to the respective MMR:
    i. Volume of wastewater transported.
    ii. Quality of wastewater transported, both loading and concentration. Wastewater samples shall be collected using the grab sample method and analyzed for TSS, ammonia (as N), total cyanide, phenols (4AAP), lead, zinc, oil & grease, TRC, and 2,3,7,8-TCDF.
    iii. Dates and time periods during which transport occurred.
    iv. Location where the transported water was deposited (i.e. Terminal Lagoon, Filter Plant, or Outfall 011).

Internal Outfall 701 and 702

During Internal Outfall 701 and Internal Outfall 702 treatment system maintenance periods, process wastewater from the No. 3 Steel Producing LMF and Caster Systems may be transported to the Terminal Lagoon Filter Plant and Outfall 011 on an intermittent basis and subject to the following requirements:

a. Such events shall not exceed ten (10) events per year,
b. The maximum volume or process wastewater transported shall not exceed 25,000 gallons per event,
c. For each event, the permittee shall report the following as an attachment to the respective MMR:
    i. Volume of wastewater transported.
    ii. Quality of wastewater transported, both loading and concentration. Wastewater samples shall be collected using the grab sample method and analyzed for all parameters monitored at Internal Outfall 701 and Internal Outfall 702.
    iii. Dates and time periods during which transport occurred.

iv. Location where the transported water was deposited (i.e. Terminal Lagoon, Filter Plant, or Outfall 011).

5.3.11 Outfall 011A (No. 4 Blast Furnace Active)

Ammonia, as N and Phenols (4AAP)

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). Please refer to Section 6.3 of this Fact Sheet for additional information.

Monitoring is to be conducted 1 X weekly. Ammonia will be collected by 24-hr. composite sampling. Phenols will be collected by grab sampling.

5.3.12 Internal Outfall 701

Flow

The effluent flow is to be monitored in accordance with 327 IAC 5-2-13(a)(2). Monitoring is to be conducted 2 X weekly and should be reported as a 24-Hr. Total.

Total Suspended Solids (TSS), Lead, and Zinc

Internal Outfall 701 consists of discharge from the Vacuum Degassing WWTP (40 CFR 420.54). As indicated in the previous permit, New Source Performance Standards (NSPS) are included for the vacuum degassing.

The facility usually directs the treated effluent from the Vacuum Degassing WWTP to the basic oxygen furnace (BOF) to be evaporated. The permittee will need to indicate “no discharge” on the DMR/MMR for times when there is no discharge from Internal Outfall 701.

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 are included at Internal Outfall 701.

In the renewal application, the permittee requested that the sample type for Internal Outfall 701 be changed from 24-Hr. composite to grab because discharges from this outfall are intermittent and do not typically last for 24 hours. However, 24-Hr. composite sampling has been retained in the permit in order to capture potential variations in pollutant concentration which may occur. Monitoring is to be conducted 2 X weekly by 24-Hr. composite sampling.

Total Suspended Solids					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.54 (NSPS)	6,050	0.00261	31.6	0.00730	88.3
Total TSS Limitation		31.6		88.3	

Lead					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.54 (NSPS)	6,050	0.0000313	0.379	0.0000939	1.14
Total Lead Limitation		0.379		1.14	

Zinc					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.54 (NSPS)	6,050	0.0000469	0.568	0.000141	1.71
Total Zinc Limitation		0.568		1.71	

5.3.13 Internal Outfall 702

Flow

The effluent flow is to be monitored in accordance with 327 IAC 5-2-13(a)(2). Monitoring is to be conducted 2 X weekly and should be reported as a 24-Hr. Total.

Total Suspended Solids (TSS), Oil & Grease (O&G), Lead, and Zinc

Internal Outfall 702 consists of discharge from the Continuous Casting WWTP (40 CFR 420.64). 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 usually directs the treated effluent from the Continuous Casting WWTP to the BOF to be evaporated. The permittee will need to indicate “No Discharge” on the DMR/MMR for times when there is no discharge from Internal Outfall 702.

In the renewal application, the permittee requested that the sample type for Internal Outfall 702 be changed from 24-Hr. composite to grab because discharges from this outfall are intermittent and do not typically last for 24 hours. The sample type has been changed to grab. Monitoring is to be conducted 2 X weekly by grab sampling.

Total Suspended Solids					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.64 (NSPS)	9,855	0.00261	51.4	0.00730	144
Total TSS Limitation		51.4		144	

O&G					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.64 (NSPS)	9,855	0.00104	20.5	0.00313	61.7
Total O&G Limitation		20.5		61.7	

Lead					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.64 (NSPS)	9,855	0.0000313	0.617	0.0000939	1.85
Total Lead Limitation		0.617		1.85	

Zinc					
40 CFR	Production (tons/day)	Monthly Average		Daily Maximum	
		Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)	Categorical Limitation (lbs/1000 lbs)	Subtotal (lbs/day)
420.64 (NSPS)	9,855	0.0000469	0.924	0.000141	2.78
Total Zinc Limitation		0.924		2.78	

5.4 Whole Effluent Toxicity (WET) Testing

The 1997 Indiana Great Lakes regulations included narrative criteria with numeric interpretations for acute (2-1.5-8(b)(1)(E)(ii)) and chronic (2-1.5-8(b)(2)(A)(iv)) whole effluent

toxicity (WET) and a procedure for conducting reasonable potential for WET (5-2-11.5(c)(1)). U.S. EPA did not approve the reasonable potential procedure for WET, so Indiana is now required by 40 CFR Part 132.6(c) to use the reasonable potential procedure in Paragraphs C.1 and D of Procedure 6 in Appendix F of 40 CFR Part 132. IDEM used this procedure in conducting the reasonable potential analysis for WET except that the equation was rearranged so that it is similar to the equation that IDEM uses for other pollutants and pollutant parameters.

The renewal permit effective September 1, 2017 for Cleveland-Cliffs West required annual chronic toxicity testing at Outfalls 009 and 011 for *Ceriodaphnia d*ubia. Data collected from September 2019 through October 2022 were used in the analysis. The results of the reasonable potential analysis are shown in Appendix B, Table 6. The results show that the discharges from Outfalls 009 and 011 do not have a reasonable potential to exceed the numeric interpretation of the narrative criterion for acute or chronic WET.

The permittee will be required to conduct chronic whole effluent toxicity testing of its effluent discharge from Outfalls 009 and 011 using *Ceriodaphnia dubia.* Acute toxicity is to be derived from chronic toxicity tests and toxicity is to be reported in terms of acute and chronic toxic units and compared to calculated TRE triggers. The TRE triggers are set equal to the acute and chronic WLAs for WET in accordance with 327 IAC 5-2-11.6(d). If either an acute or chronic TRE trigger is exceeded, another chronic WET test must be conducted within two weeks. If the results of any two consecutive tests exceed the applicable TRE trigger, Cleveland-Cliffs must conduct a TRE. The TRE triggers are shown in Table 5.

5.5 Antibacksliding

The concentration and mass limitations in the permit for TRC are less stringent than the comparable limitations in the previous permit (mass loading at Outfall 002, concentration at Outfall 009, and concentration at Outfall 010). These limitations were calculated in the WLA conducted on May 22, 2023. Under 327 IAC 5-2-10(a)(11)(A), these less stringent limitations do not violate the antibacksliding requirements because they were established on the basis of Section 301(b)(1)(C) of the CWA using Indiana water quality standards, the Indiana Harbor Ship Canal and Indiana Harbor are in attainment for TRC (i.e., are high quality waters for TRC) and the less stringent limitations comply with Section 303(d)(4)(B) of the CWA because they are consistent with the Indiana antidegradation policy in 327 IAC 2-1.3 (see Section 5.6 Antidegradation).

5.6 Antidegradation

Indiana's Antidegradation Standards and Implementation procedures are outlined in 327 IAC 2-1.3. The antidegradation standards established by 327 IAC 2-1.3-3 apply to all surface waters of the state. 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 regulated pollutant that is not a BCC unless information is submitted to the commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality, or an antidegradation demonstration submitted and approved in accordance 327 IAC 2-1.3-5 and 2-1.3-6.

This permit includes new or increased loadings of TRC at Outfall 002, TRC, zinc, and ammonia

at Outfall 009, TRC at Outfall 010, and Total Residual Oxidants (TRO) at Outfall 011. There is not a new or increased loading of these regulated pollutants and antidegradation is satisfied under 327 IAC 2-1.3-1(b). The increased loading for TRC at Outfall 002 is a de minimis increase and does not result in a significant lowering of water quality as defined in 327 IAC 2-1.3-2(50).

The new loadings for TRC (Outfall 002, Outfall 009, Outfall 010) and zinc and ammonia (Outfall 009) are the result of an RPE analysis. The new loadings for TRO (bromine + chlorine) (Outfall 011) are the result of the application of water quality criteria that were recently developed. In accordance with 327 IAC 2-1.3-1(b), these new loadings are not subject to the Antidegradation Implementation Procedures in 327 IAC 2-1.3-5 and 2-1.3-6 as the new loadings are not the result of a deliberate activity taken by the permittee. Therefore, antidegradation is satisfied.

5.7 Stormwater

Under 327 IAC 5-4-6(d), if an individual permit is required under 327 IAC 5-4-6(a) for discharges consisting entirely of stormwater, or if an individual permit is required under 327 IAC 5-2-2 that includes discharge of commingled stormwater associated with industrial activity, IDEM may consider the following in determining the requirements to be contained in the permit:

> (1) The provisions in the following: (A) 327 IAC 15-5, 327 IAC 15-6, and 327 IAC 15-13, as appropriate to the type of stormwater discharge, (B) NPDES Pesticide General Permit for Point Source Discharges to Waters of the State from the Application of Pesticides, Permit Number ING870000, effective October 31, 2016, available at: https://www.in.gov/idem/cleanwater/resources/permits-on-notice/#pesticide or from the IDEM Office of Water Quality, Permits Branch, 100 North Senate Avenue, Indianapolis, IN 46204-2251, and (C) 327 IAC 5-2 [Basic NPDES Requirements], 327 IAC 5-5 [NPDES Criteria and Standards for Technology-based Treatment Requirements], and 327 IAC 5-9 [Best Management Practices; Establishment].
> (2) "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits", EPA 833-D-96-001, September 1, 1996, available from U.S. EPA, National Service Center for Environmental Publications at https://www.epa.gov/nscep or from IDEM.
> (3) The nature of the discharges and activities occurring at the site or facility.
> (4) Other information relevant to the potential impact on water quality.

In accordance with 327 IAC 15-2-2(a), the commissioner may regulate stormwater discharges associated with industrial activity, as defined in 40 CFR 122.26(b)(14), consistent with the EPA 2008 NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, as modified, effective May 27, 2009, under an NPDES general permit. Therefore, using Best Professional Judgment to develop case-by-case technology-based limits as authorized by 327 IAC 5-2-10, 327 IAC 5-5, and 327 IAC 5-9 (see also 40 CFR 122.44, 125.3, and Section 402(a)(1) of the Clean Water Act (CWA)), IDEM has developed stormwater requirements for individual permits that are consistent with the EPA 2008 NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity. The 2008 Multi-Sector General Permit and Fact Sheet is available from: https://www.epa.gov/npdes/previous-versions-epas-msgp-documents.

According to 40 CFR 122.26(b)(14) and 327 IAC 15-6-2 facilities classified under Standard Industrial Classification (SIC) Code 3312, are considered to be engaging in "industrial activity" for purposes of 40 CFR 122.26(b). Therefore, the permittee is required to have all stormwater discharges associated with industrial activity permitted. Treatment for stormwater 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 the best practicable technology (BPT) or BAT/BCT for stormwater associated with industrial activity.

Stormwater associated with industrial activity must also be assessed to ensure compliance with all water quality standards. Effective implementation of the non-numeric technology-based requirements should, in most cases, control discharges as necessary to meet applicable water quality standards. Violation of any of these effluent limitations constitutes a violation of the permit.

Additionally, IDEM has determined that with the appropriate implementation of the required control measures and Best Management Practices (BMPs) found in Part I.D. of the permit, the discharge of stormwater associated with industrial activity from this facility will meet applicable water quality standards and will not cause a significant lowering of water quality. Therefore, the stormwater discharge is in compliance with the antidegradation standards found in 327 IAC 2-1.3-3, and pursuant to 327 IAC 2-1.3-4(a)(5), an antidegradation demonstration is not required.

The technology-based effluent limits (TBELs) 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 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 stormwater discharges, (3) minimize the potential for leaks, spills and other releases that may be exposed to stormwater 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 stormwater runoff, to minimize pollutants in the permitted facility 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 stormwater, 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 the facility to select control measures (including BMPs) 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 technology-based requirements should ensure compliance with applicable water quality standards. 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 and IDEM may impose additional water quality-based limitations.

"Terms and Conditions" to Provide Information in a Stormwater Pollution Prevention Plan (SWPPP)

Distinct from the effluent limitation provisions in the permit, the permit requires the discharger to prepare a SWPPP for the permitted 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 when necessary, to reflect any changes in control measures that were found to be necessary to meet the effluent limitations in the 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 up-to-date is no different than other information collection conditions, as authorized by 327 IAC 5-1-3 (see also CWA section 402(a)(2)).

It should be noted that EPA has developed a guidance document, "Developing your Stormwater Pollution Prevention Plan – A guide for Industrial Operators (EPA 833-B09-002), February 2009, 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 make it immediately available, at the time of an onsite inspection or upon request, to IDEM. When submitting the SWPPP to IDEM, if any information in the SWPPP is considered to be confidential, that information shall be submitted in accordance with 327 IAC 12.1. Interested persons can request a copy of the SWPPP through IDEM. Any information that is confidential pursuant to Indiana law will not be released to the public.

5.8 Water Treatment Additives (WTA)

In the event that changes are to be made in the use of water treatment additives that could significantly change the nature of, or increase the discharge concentration of any of the additives contributing to an outfall governed under the permit, the permittee must apply for and obtain approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) available at: https://www.in.gov/idem/forms/idem-agency-forms/ and submitting any needed supplemental information. In the review and approval process, IDEM determines, based on the information submitted with the application, whether the use of any new or changed water treatment additives/chemicals or dosage rates could potentially cause the discharge from any permitted outfall to cause chronic or acute toxicity in the receiving water.

The authority for this requirement can be found under one or more of the following: 327 IAC 5-2-8(11)(B), which generally requires advance notice of any planned changes in the permitted facility, any activity, or other circumstances that the permittee has reason to believe may result in noncompliance with permit requirements; 327 IAC 5-2-8(11)(F)(ii), which generally requires notice as soon as possible of any planned physical alterations or additions to the permitted facility if the alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharged; and 327 IAC 5-2-9(2) which generally requires notice as soon as the discharger knows or has reason to know that the discharger has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant that was not reported in the permit application.

The following is a list of water treatment additives currently approved for use at the facility:

PLANT SYSTEM	Chemical Product	Additive Concentration in System	Feed Rate	Purpose	Duration of use (hrs/day; days/year)	System blowdown flow rate if known (mgd)	Calculated Concentraiton at Outfall (mg/L)	Notes
OUTFALL 011								
MSD	71301	0.5 ppm	5 gpd	Flocculant	continuous	30.5	0	Product removed across MSD Treatment
	7290E	0.5 ppm	5 gpd	RESIN RINSE Cleaner for filter backwash	continuous	NA	0	Product removed across MSD Treatment
	8187	1 ppm	10 gpd	Nalcolyte Coagulant	continuous	30.5	0	Product removed across MSD Treatment
	DT-9470	0.5 ppm	5 gpd	Coagulant	continuous	30.5	0	Product removed across MSD Treatment
Boiler House (boiler feed water)	22300	4-6 ppm	10 gpd	Nextguard	continuous	NA	0.361	Outfall conc. calculated from usage and outfall flow
	Nalco 1720	1-2 ppm	3-4 gpd	Oxygen Scavanger	continuous	NA	0.168	Outfall conc. calculated from usage and outfall flow
	Tri-ACT 1800	3-4 ppm	5 gpd	Inhibitor	continuous	NA	0.163	Outfall conc. calculated from usage and outfall flow
	2581	10-15 ppm	15 gpd	Alkalinity	continuous	NA	0.583	Outfall conc. calculated from usage and outfall flow
	750	0.5 ppm	3 gpd	Boiler AntiFoam	continuous	NA	0.103	Outfall conc. calculated from usage and outfall flow
3 SP Degassing	7766 plus	0.5 ppm	3 gpd	Flocculant	continuous	0.024	0	Product removed across treatment
	1392	0.5 ppm	3 gpd	Scale Inhibitor	continuous	NA	0.126	Outfall conc. from usage and outfall flow
	8187	1 ppm	6 gpd	Coagulant	continuous	0.024	0	Product removed across treatment
3SP Caster	3DT199	1-4 ppm active	3 gpd	Corrosion Inhibitor	continuous	NA	0.113	Outfall conc. calculated from usage and outfall flow
(products would be discharged via 702; which is typically zero discharge (evaporated at BOF)) Concentrations would typically be zero at Outfall 011 (zero 702 discharge)	1393	1-4 ppm active	4 gpd	Scale Inhibitor	continuous	NA	0.173	Outfall conc. calculated from usage and outfall flow
	3DT185	1-4 ppm active	3 gpd	Corrosion Inhibitor	continuous	NA	0.154	Outfall conc. calculated from usage and outfall flow
	Trac109	80-200 ppm	10 gpd	Corrosion Inhibitor	continuous	NA	0.131	Outfall conc. calculated from usage and outfall flow
	7308	As needed during backwash	2-3 gpd	Surfactant	continuous	NA	0.098	Outfall conc. calculated from usage and outfall flow
	3DT120	2-5 ppm active	15 gpd	Polymer/Dispersant	continuous	NA	0.560	Outfall conc. calculated from usage and outfall flow
	8103P	3-5 ppm	10 gpd	Filter Aid	continuous	NA	0	Product removed across treatment
	7320	Not Active	NA	Biocide	continuous	NA	0	not active
	Stabrex ST70	Free chlorine residual 0.1 -0.5 ppm	3-5 gpd	Biocide	continuous	NA	NA	Total residual chlorine limit at Outfall 011
	Bleach	Free chlorine residual 0.1 -0.5 ppm		Biocide	continuous	NA	NA	Total residual chlorine limit at Outfall 011
3 SP LMF	3DT487	0.5 ppm	3 gpd	Corrosion Inhibitor	continuous	NA	0.119	Outfall conc. calculated from usage and outfall flow
	LCS-20	80-200 ppm	20 gpd	Corrosion Inhibitor	continuous	NA	0.794	Outfall conc. calculated from usage and outfall flow
	Stabrex ST70	Free chlorine residual 0.1 -0.3 ppm	1-2 gpd	Biocide	continuous	NA	NA	Total residual chlorine limit at Outfall 011
OUTFALL 009								
Blast Furnace Blowdown Treatment	7766 plus	0.5 ppm	3 gpd	Flocculant	continuous	0.453	0	Product removed across treatment
	1392	1 ppm	6-8 gpd	Scale Inhibitor	continuous	0.453	0.315	Outfall conc. calculated from usage and outfall flow
	7468	0.5 ppm	3 gpd	AntiFoam	continuous	0.453	0.107	Outfall conc. calculated from usage and outfall flow
	8187	1 ppm	6-8 gpd	Coagulation	continuous	0.453	0	Product removed across treatment
	Sodium hypochlorite			ammonia removal	as need for NH3 removal	0.453	NA	Total residual chlorine limit at Outfall 009
	Caustic			pH Adjustment	continuous	0.453	NA	pH limits at Outfall 009
	Sulfuric Acid			pH Adjustment	continuous	0.453	NA	pH limits at Outfall 009
Blast Furnace Recycle	7766	0.5 ppm	6 gpd	Flocculant	continuous	0.453	0	Product removed across treatment
	1392	1 ppm	12 gpd	Scale inhibitor	continuous	0.453	0.118	Outfall conc. calculated from usage and outfall flow
	8187	5 ppm	40 gpd	ACH Coagulant	continuous	0.453	0	Product removed across treatment
Iron Side Cooling tower	1393	0.5 ppm	5 gpd	Scale Inhibitor	continuous	NA	0.197	Outfall conc. calculated from usage and outfall flow
POWER HOUSE	3DT195	0.5 ppm	5 gpd	Corrosion inhibitor	continuous	NA	0.186	Outfall conc. calculated from usage and outfall flow
	Bleach	Free chlorine residual 0.1 -0.5 ppm		Biocide	continuous	NA	NA	Total residual chlorine limit at Outfall 009
OUTFALL 010								
Blast Furnace H4	1393	1-2 ppm	5 gpd	Scale Inhibitor	continuous	NA	0.194	Outfall conc. calculated from usage and outfall flow
ZEBRA MUSSEL CONTROL								
Outfall 010	PC-7408 (Y302611)	1-2 ppm	100 gpd	Dechlorination Chemical - Sodium Bisulfite 40%	when needed	NA	NA	Total residual chlorine limit at Outfall 010
Outfall 009	PC-7408 (Y302611)	1-2 ppm	100gpd	Dechlorination Chemical - Sodium Bisulfite 40%	when needed	NA	NA	Total residual chlorine limit at Outfall 009
Outfall 002	PC-7408 (Y302611)	1-2 ppn	50 gpd	Dechlorination Chemical - Sodium Bisulfite 40%	when needed	NA	NA	Total residual chlorine limit at Outfall 002
No. 1 Pump House	Bleach	Free chlorine residual 0.1 -0.5 ppm	100 gpd	Biocide/Zebra Mussels	when needed	NA	NA	Total residual chlorine limit at Outfall 012
No. 2 Pump House	Bleach	Free chlorine residual 0.1 -0.5 ppm	300 gpd	Biocide/Zebra Mussels	when needed	NA	NA	Total residual chlorine limit at Outfall 012

6.0 PERMIT DRAFT DISCUSSION

6.1 Discharge Limitations, Monitoring Conditions and Rationale

The proposed final effluent limitations are based on the more stringent of the Indiana water quality-based effluent limitations (WQBELs), technology-based effluent limitations (TBELs), or approved total maximum daily loads (TMDLs) and NPDES regulations as appropriate for each regulated outfall. Section 5.3 of this document explains the rationale for the effluent limitations at each Outfall.

Analytical and sampling methods used shall conform to the version of 40 CFR 136 as referenced in 327 IAC 5-2-13(d)(1) and 327 IAC 5-2-1.5.

The monitoring frequencies proposed in the table below are comparable to the monitoring frequencies included in permits regulating similar types of discharges. The monitoring frequencies shown here are reflective of those found in previous permits and evaluation of historical compliance data. Nothing has changed to warrant modifying the monitoring conditions.

Outfall 002:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Weekly	24-Hr. Total
TSS	Report Report	Report Report	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report Report	Report Report	mg/l lbs/day	1 X Weekly	Grab
TRC	0.016 1.7	0.037 3.9	mg/l lbs/day	5 X Weekly	Grab
Mercury	Report Report	Report Report	ng/l lbs/day	6 X Annually	Grab
Temperature Intake Outfall	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

Outfall 009A (No. 4 blast furnace operating):

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Weekly	24-Hr. Total
TSS	Report Report	Report Report	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report Report	Report Report	mg/l lbs/day	1 X Weekly	Grab
TRC	0.014 4.2	0.032 9.6	mg/l lbs/day	5 X Weekly	Grab
Ammonia, as N (Net)	Report 425	Report 1000	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Ammonia, as N (Gross)	2.4 Report	4.8 Report	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Phenols (4AAP)	Report Report	Report 11	mg/l lbs/day	1 X Weekly	Grab
Zinc	170 51	330 99	ug/l lbs/day	1 X Weekly	24-Hr. Comp.
Lead	Report Report	Report Report	ug/l lbs/day	1 X Weekly	24-Hr. Comp.
Mercury WQBEL Interim (SMV)	1.3 0.00039 1.8	3.2 0.00096 Report	ng/l lbs/day ng/l	6 X Annually	Grab
Temperature Intake Outfall	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab
Whole Effluent Toxicity Testing	See Part I.F of the Permit				

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

Outfall 009B (No. 4 blast furnace idled):

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Weekly	24-Hr. Total
TSS	Report Report	Report Report	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report Report	Report Report	mg/l lbs/day	1 X Weekly	Grab
TRC	0.014 4.2	0.032 9.6	mg/l lbs/day	5 X Weekly	Grab
Mercury WQBEL Interim (SMV)	1.3 0.00039 1.8	3.2 0.00096 Report	ng/l lbs/day ng/l	6 X Annually	Grab
Temperature Intake Outfall	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab
Whole Effluent Toxicity Testing	See Part I.F of the Permit				

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

Internal Outfall 509:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Weekly	24-Hr. Total
TSS	Report 364	Report 1,100	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Total Cyanide	Report 12.3	Report 24.5	mg/l lbs/day	1 X Weekly	Grab
Ammonia, as N	Report Report	Report Report	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Phenols (4AAP)	Report Report	Report Report	mg/l lbs/day	1 X Weekly	Grab
Zinc	Report 1.83	Report 5.52	ug/l lbs/day	1 X Weekly	24-Hr. Comp.
Lead	Report 1.23	Report 3.68	ug/l lbs/day	1 X Weekly	24-Hr. Comp.

Outfall 010A (No. 4 blast furnace operating):

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Weekly	24-Hr. Total
TSS	Report Report	Report Report	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report Report	Report Report	mg/l lbs/day	1 X Weekly	Grab
TRC	0.014 4.1	0.032 9.5	mg/l lbs/day	5 X Weekly	Grab
Ammonia, as N	Report 100	Report 300	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Phenols (4AAP)	Report Report	Report 5	mg/l lbs/day	1 X Weekly	Grab
Zinc	Report Report	Report Report	ug/l lbs/day	1 X Weekly	24-Hr. Comp.
Lead	Report Report	Report Report	ug/l lbs/day	1 X Weekly	24-Hr. Comp.
Mercury WQBEL Interim (SMV)	 1.3 0.00038 1.5	 3.2 0.00095 Report	 ng/l lbs/day ng/l	6 X Annually	Grab
Temperature Intake Outfall	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

Outfall 010B (No. 4 blast furnace idled)

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Weekly	24-Hr. Total
TSS	Report Report	Report Report	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report Report	Report Report	mg/l lbs/day	1 X Weekly	Grab
TRC	0.014 4.1	0.032 9.5	mg/l lbs/day	5 X Weekly	Grab
Mercury WQBEL Interim (SMV)	 1.3 0.00038 1.5	 3.2 0.00095 Report	 ng/l lbs/day ng/l	6 X Annually	Grab
Mercury	1.3 0.00038	3.2 0.00095	ng/l lbs/day	6 X Annually	Grab
Temperature Intake Outfall	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

Outfall 011A (No. 4 blast furnace operating):

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Weekly	24-Hr. Total
TSS	Report Report	Report Report	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report Report	Report Report	mg/l lbs/day	1 X Weekly	Grab
Ammonia, as N	Report 75	Report 150	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Phenols (4AAP)	Report Report	Report 5	mg/l lbs/day	1 X Weekly	Grab
Zinc	Report Report	Report Report	ug/l lbs/day	1 X Weekly	24-Hr. Comp.
Lead	Report Report	Report Report	ug/l lbs/day	1 X Weekly	24-Hr. Comp.
Mercury	Report Report	Report Report	ng/l lbs/day	6 X Annually	Grab
Total Residual Oxidants (Bromine + TRC)	0.74 0.19	1.7 0.44	ug/l lbs/day	5 X Weekly	Grab
Temperature Intake Outfall	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab
Whole Effluent Toxicity Testing	See Part I.F of the Permit				

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

Outfall 011B (No. 4 blast furnace idled):

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	1 X Weekly	24-Hr. Total
TSS	Report Report	Report Report	mg/l lbs/day	1 X Weekly	24-Hr. Comp.
Oil and Grease	Report Report	Report Report	mg/l lbs/day	1 X Weekly	Grab
Zinc	Report Report	Report Report	ug/l lbs/day	1 X Weekly	24-Hr. Comp.
Lead	Report Report	Report Report	ug/l lbs/day	1 X Weekly	24-Hr. Comp.
Mercury	Report Report	Report Report	ng/l lbs/day	6 X Annually	Grab
Total Residual Oxidants (Bromine + TRC)	0.74 0.19	1.7 0.44 [6]	ug/l lbs/day	5 X Weekly	Grab
Temperature Intake Outfall	 Report Report	 Report Report	 °F °F	 2 X Weekly 2 X Weekly	 Grab Grab
Whole Effluent Toxicity Testing	See Part I.F of the Permit				

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

Internal Outfall 701:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	2 X Weekly	24-Hr. Total
TSS	Report 31.6	Report 88.3	mg/l lbs/day	2 X Weekly	24-Hr. Comp.
Zinc	Report 0.568	Report 1.71	ug/l lbs/day	2 X Weekly	24-Hr. Comp.
Lead	Report 0.379	Report 1.14	ug/l lbs/day	2 X Weekly	24-Hr. Comp.

Internal Outfall 702:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	2 X Weekly	24-Hr. Total
TSS	Report 51.4	Report 144	mg/l lbs/day	2 X Weekly	Grab
Oil and Grease	Report 20.5	Report 61.7	mg/l lbs/day	2 X Weekly	Grab
Zinc	Report 0.924	Report 2.78	ug/l lbs/day	2 X Weekly	Grab
Lead	Report 0.617	Report 1.85	ug/l lbs/day	2 X Weekly	Grab

Outfall 000 New outfall created to report cooling water intake data.

Parameter	Monthly Average	Daily Maximum	Instantaneous Maximum	Units	Measurement Frequency
Intake No. 1					
Intake Flow	-----	Report	Report	MGD	Daily
Intake No. 2					
Intake Flow	-----	Report	Report	MGD	Daily
Interim					
Velocity	-----	-----	-----	Feet/second	Daily
Water Depth, Screens	-----	-----	-----	Feet	Daily
Open Area, Screens	-----	-----	-----	Square feet	Daily
Final					
Intake Flow	-----	Report	Report	MGD	Daily
Velocity	-----	-----	0.5	Feet/second	Daily
Water Depth, Screens	-----	Report	-----	Feet	Daily
Open Area, Screens	-----	Report	-----	Square feet	Daily

6.2 Schedule of Compliance

In accordance with 327 IAC 5-2-12 and 327 IAC 5-2-12.1 (see also 40 CFR 122.47(a)), a schedule of compliance is allowed in an NPDES permit when requested and justified by the permittee, but only when appropriate and when the schedule of compliance requires achievement of compliance “as soon as possible” and meets other specified conditions. Before a schedule of compliance can be included in a permit, the permittee must submit a request for the schedule to IDEM and demonstrate that they meet the requirements for such a schedule pursuant to 327 IAC 5-2-12 and 327 IAC 5-2-12.1.

The draft permit contains new water quality-based effluent limits at Outfall 011 for Total Residual Oxidants (bromine + chrorine). The permittee has not requested a schedule of compliance for new water quality-based effluent limits.

The permittee requested a compliance schedule for the impingement mortality BTA requirements at Intake No. 2. The permittee originally proposed a 48-month compliance schedule; however, a 36-month compliance schedule is proposed by IDEM in accordance with 327 IAC 5-2-12. See Section 6.4.6 and Section 6.4.8.b. of this Fact Sheet for more details.

6.3 301(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 nonpoint 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).

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. Internal 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.

During the previous permit renewal, IDEM 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 assigned 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.

Cleveland-Cliffs Steel LLC - Indiana Harbor West has requested, with this renewal application, 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, to be continued in the renewed permit.

The facility is required to submit an updated 301(g) variance request no later than with the renewal application for the next permit cycle if the facility intends to continue the variance.

6.4 Clean Water Act Section 316(b) Cooling Water Intake Structure(s) (CWIS)

6.4.1 Introduction

Section 316(b) of the Clean Water Act requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available (BTA) for minimizing adverse environmental impact.

The EPA promulgated a CWA section 316(b) regulation on August 15, 2014, which became effective on October 14, 2014. 79 Fed. Reg. 48300-439 (August 15, 2014). This regulation established application requirements and standards for cooling water intake structures. The regulation is applicable to point sources with a cumulative design intake flow (DIF) greater than 2 MGD where 25% or more of the water withdrawn (using the actual intake flow (AIF)) is used exclusively for cooling purposes. All existing facilities subject to these regulations must submit the information required by 40 CFR 122.21(r)(2)–(r)(8) and facilities with an actual intake flow of greater than 125 MGD must also submit the information required by 40 CFR 122.21(r)(9)-(r)(13). The regulation establishes best technology available standards to reduce impingement and entrainment of aquatic organisms at existing power generation and manufacturing facilities.

Impingement is the process by which fish and other aquatic organisms are trapped and often killed or injured when they are pulled against the cooling water intake structures (CWIS's) outer structure or screens as water is withdrawn from a waterbody. Entrainment is the process by which fish larvae and eggs and other aquatic organisms in the intake flow enter and pass through a CWIS and into a cooling water system, including a condenser or heat exchanger, which often results in the injury or the death of the organisms (see definitions at 40 CFR 125.92(h) and (n)).

In addition to the federal requirements, under 327 IAC 2-1.5-8(c)(4)(D)(vi), water intakes on Lake Michigan must be designed and located to minimize entrainment and damage to desirable organisms. Requirements may vary depending upon local conditions, but, in general, intakes must:

(1) have minimum water velocity; and
(2) not be located in spawning or nursery areas of important fishes.
Water velocity at screens and other exclusion devices must be at a minimum.

Indiana Harbor West operates two cooling water intake structures: No. 1 Intake and No. 2 Intake. The source water body for the No. 1 Intake is the Indiana Harbor influenced by the Indiana Harbor Ship Canal. The source water body for the No. 2 Intake is Lake Michigan. See Figure R2-1: Indiana Harbor West Source Water Body shown below. More detailed information on these intakes is provided in Section 6.4.2, below.

The design intake flows (DIF) for each intake are provided in the table below. Based on the DIF for each intake, the DIF for the facility is estimated at 240 MGD.

Intake	Design Intake Flow (mgd)
No. 1 Pump House Intake	27.4
No. 2 Pump House Intake	212.5
Total for Indiana Harbor West:	240

The actual intake flow (AIF), as defined under 40 CFR 125.92(a), is the average volume of water withdrawn on an annual basis by the cooling water intake structures over the past five years.

The “actual intake flow” provided by the permittee in its 316(b) application (and supplemental information submitted on October 31, 2021) was based on known discharge flow rates and estimates of evaporation across the facility for the period from January 2017 through December 2021 and was calculated to be 131 MGD as summarized in the table below. Approximately 97% of the actual intake flow is currently used for cooling water.

Year	Estimated Average Withdrawal (mgd)
2017	150
2018	150
2019	114
2020	120
2021	121
Average	131

The permittee does report its intake flow data to the Indiana Department of Natural Resources (IDNR) under the Significant Water Withdrawal Facility program. Based on the data that the permittee submitted to IDNR, its AIF over this period was 132 MGD.

Therefore, since the facility has a DIF greater than 2 MGD, and because the percentage of flow used at the facility exclusively for cooling is greater than 25%, the facility is required to meet the BTA standards for impingement and entrainment mortality, including any measures to protect Federally-listed threatened and endangered species and designated critical habitat established under 40 CFR 125.94(g).

As an existing facility with a DIF greater than 2 MGD and because the AIF is greater than 125 MGD, the permittee was required to submit the application information required by 40 CFR 122.21(r)(2) through (r)(13). The permittee submitted information required by 40 CFR 122.21(r)(2) through (r)(8) as Appendix A Cooling Water Intake Structure Information with the renewal application but did not include the information required by 40 CFR 122.21(r)(9) through (r)(13). Therefore, the permittee did not submit a complete application as required by the federal rules. The permittee subsequently submitted information meant to comply with 40 CFR 122.21(r)(10) on June 30, 2022, 40 CFR 122.21(r)(11) on August 31, 2022 and 40 CFR 122.21(r)(12) on October 31, 2022. On February 28, 2023 the permittee submitted the application information required by 40 CFR 122.21(r)(2) through (r)(13) as a revised Appendix A Cooling Water Intake Structure Information, February 2023 Update.

The regulation also established requirements that build on existing CWA requirements to coordinate with the U.S. Fish and Wildlife Service prior to issuing NPDES permits. Pursuant to 40 CFR 125.98(h), upon receipt of an NPDES permit 316(b) application for an existing facility subject to the rule, the Director (IDEM) must forward a copy of the permit application to the appropriate Field Office of the U.S. Fish and Wildlife Service for a 60-day review. A copy of this permit application was sent to the Bloomington Field Office of the U.S. Fish and Wildlife Service March 21, 2022. Mr. Dan Sparks of that office responded by email on May 25, 2022 and stated that “[t]here are no federal aquatic endangered species in Lake Michigan so I do not have any comments on this facility.”

Much of the factual and narrative information, including Tables and Figures presented below, was taken, sometimes directly, from the February 2023 update of Appendix A - Cooling Water Intake Structure Information, submitted with the permit renewal application as well as supplemental information provided by the permittee after the submittal of the application

See below aerial photo and diagrams.

Figure 2.01 Simplified Water Flow Schematic from supplemental Information submitted on October 25, 2022

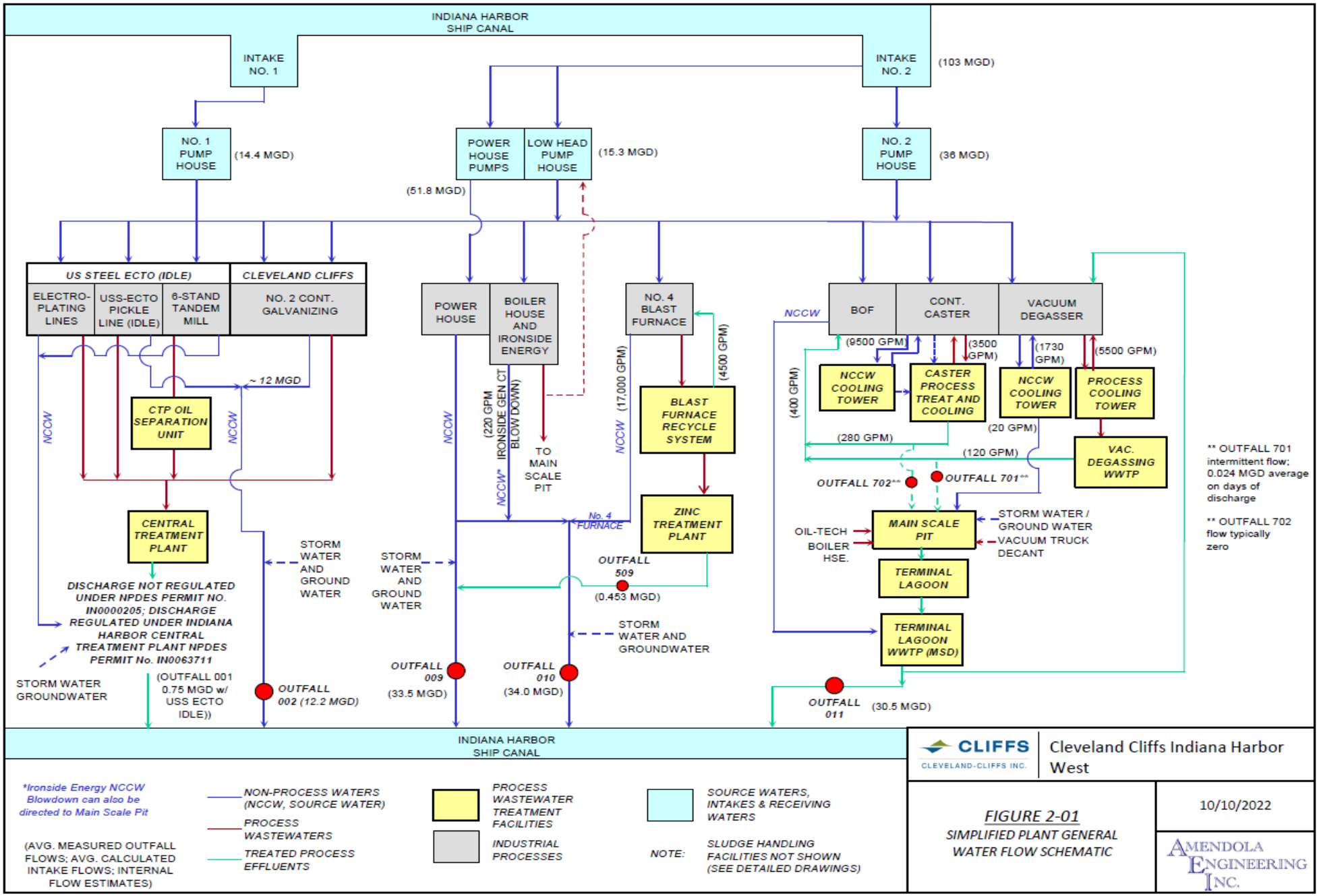


Figure R2-1 from 316(b) application


FIGURE R2-1
SOURCE WATER SCALED DRAWING AND INTAKE LOCATIONS
LAKE MICHIGAN
LAKE MICHIGAN
1,000 FT
RIP-RAP
BREAKWALL
CLEVELAND-CLIFFS INDIANA
HARBOR WEST
NO. 2 INTAKE CHANNEL
INDIANA
HARBOR
NO. 2 INTAKE SCREEN HOUSE
NO. 2 PUMP HOUSE
INDIANA
HARBOR
NO. 1 INTAKE PUMP
HOUSE
NO. 1 INTAKE CHANNEL
POWER HOUSE PUMPS AND
LOW HEAD PUMP
INDIANA HARBOR SHIP CANAL

6.4.2 Facility and Cooling Water Intake Structure (CWIS) Description

A. Detailed Description

Indiana Harbor West operates two cooling water intake structures (No. 1 Intake and No. 2 Intake) as described below. The No. 3 Intake was permanently closed in September 2018.

1. No. 1 Intake

An open surface intake channel from Indiana Harbor leads to the No. 1 Intake Pump Station. See Figure R2-1, above. The channel is approximately 1,100 ft long and approximately 8 to 10 feet wide. The sides are constructed of sheet piling. A forebay structure is located at the end of the channel and prior to the No. 1 Intake Pump Station. The forebay is approximately 27 feet long and 34 feet wide. Water enters the forebay through two openings, each 8 feet wide. Water passing through the forebay flows through a bar rack approximately 20 feet wide equipped with ¼" bars spaced 2" apart. Following the bar rack, water flows through a rectangular tunnel approximately 17 ft wide by 60 feet long to screens at the No. 1 Intake Pump Station. The No. 1 Intake Pump Station is equipped with eight screen bays. Three of the bays are equipped with screens through which water passes to the pump station operating pump (Screen No. 2, 3, and 4). The other five screen bays are currently closed such that water does not pass through those bays.

- The screen in Screen Bay No. 2 is a traveling screen 8 feet wide with 3/8" square openings, and 0.125" inch screen wire width. However, this screen is not rotated.
- Screen Bays No. 3 and 4 are each equipped with a static screen. The static screens are 8 feet wide and have diamond openings, ¼" high by 7/8" long and 1/8" screen wire width.

The latitude and longitude of the No. 1 Intake are provided below.

Location	**Latitude** (deg, min, sec)	**Longitude** (deg, min, sec)
Intake Channel at Indiana Harbor	41° 40' 06.00"	-87° 26' 34.27"
No. 1 Intake Pump Station	41° 40' 04.33"	-87° 26' 45.39"

Water is generally withdrawn from the No. 1 Intake on a 24 hour per day / 7 days per week basis. The two static screens are cleaned manually as needed. When cleaning of the static screens are necessary, the screens are removed from the respective screen bays and cleaned.
The following pumps are located at the No. 1 Pump Station.

Pump	**Pump Design Flow**
No. 3 Service Water Pump	15,000 GPM @ 135 ft TDH
No. 4 Service Water Pump	19,000 GPM @ 187 ft TDH
No. 6 Service Water Pump	19,000 GPM @ 187 ft TDH

With the production and ancillary operations that exist at Indiana Harbor West, the No. 4 and No. 6 Service Water Pumps are the operating pumps and the No. 3 Service Water pump serves as a backup pump. The design intake flow for the No. 1 Intake is therefore 38,000 GPM (54.7 MGD).

Under normal operating conditions, the No. 6 Service Water Pump is estimated to provide approximately 10,000 gpm (14.4 MGD) when considering the pressure within the service water system, the known water uses for this intake pump and measured outfall flow rates.

Based on estimated intake flow data submitted June 2, 2023, the estimated daily intake flow at this intake averaged 14.22 MGD for the period from January 2018 through December 2022 and the maximum estimated daily intake flow during this period was 20.50 MGD.

The No. 1 Pump Station is generally operated 24 hours per day, 7 days per week, 365 days per year, with no major seasonal variations.

2. No. 2 Intake

An open surface intake channel leads to the No. 2 Intake Screen House. The channel is depicted on Figure R2-1 above. The intake channel is approximately 6,500 ft long from Lake Michigan to the No. 2 Intake. The channel varies in width from approximately 300 ft at the beginning of the channel to 65 ft throughout most of its length and approximately 340 ft at the end of the channel. At the end of the channel, water passes below a plant roadway through a rectangular culvert. The culvert is 15 ft high by 25 ft wide and approximately 80 ft long. From the culvert, water enters a forebay approximately 54.5 feet wide by 30 feet long. Water passes through a bar rack, approximately 30 feet wide with eighty (80) 4" openings and ¼" bars. From the bar racks, water flows to the No. 2 Intake Screen House.

The screen house is equipped with 5 screen bays. Three of the bays are currently equipped with screens, and the other two bays are closed such that water does not pass through those bays. The screens in the open bays are traveling screens, 8 feet wide, with 3/8" square opening and 1/8" inch screen wire width. Two of the three screens are rotated and third is not rotated (not operating/static). The screens are rotated and cleaned as needed to support operations. Debris from the screens is disposed of off-site. Water depth at the screens at low Lake Michigan water level is calculated as 24.8 feet.

From the screen house, water flows to a cylindrical vertical shaft which leads to a tunnel approximately 200' feet below grade that leads to the IH West Power House pumps and Low Head Pump. The tunnel is approximately 3,400 feet long and elliptical (15 ft wide and 14 ft to top of the arch).

Water that does not enter the vertical shaft and tunnel flows to the No. 2 Pump House.

Water is generally withdrawn from the No. 2 Intake by the No. 2 Pump House, Power House pumps and Low Head Pump on a 24 hour per day / 7 days per week basis.

The latitude and longitude of the No. 2 Intake and related components are provided below.

Location	Latitude (deg, min, sec)	Longitude (deg, min, sec)
Intake Channel at Indiana Harbor / Lake Michigan	41° 40' 38.49"	-87° 26' 41.11"
No. 2 Intake Screen House	41° 40' 23.64"	-87° 27' 19.96"
Vertical Shaft (beginning of tunnel)	41° 40' 23.36"	-87° 27' 20.16"
No. 2 Pump House	41° 40' 22.70"	-87° 27' 20.33"
Power House and Low Head Pump	41° 39' 53.11"	-87° 27' 04.43"

The following pumps are located at the No. 2 Pump House, the Power House and the Low Head Pump Station:

No.2 Pump House

Pump	Pump Design Flow
No. 2 Service Water Pump	15,000 GPM @ 135 ft TDH
No. 3 Service Water Pump	25,000 GPM @ 135 ft TDH
No. 5 Service Water Pump	25,000 GPM @ System Head

With the production and ancillary operations that exist at Indiana Harbor West, two of three pumps are operated with one inline spare. The design intake flow for the No. 2 Pump House is therefore 50,000 gpm or 72 MGD (sum of two largest two pumps, No. 3 plus No. 5).

The current typical operating mode is to operate the No. 2 and No. 5 Service Water Pumps. The No. 1 Intake Pump Station, the No. 2 Intake Pump Station and the Low Head Pump provide water to the Indiana Harbor West service water system.

Under normal operating conditions, the No. 2 Service Water Pump is estimated to provide approximately 5,000 GPM (7.2 MGD) and the No. 5 Service Water Pump is estimated to provide 20,000 gpm (28.8 MGD) when considering the pressure within the service water system, the known water uses for these intake pump and measured outfall flow rates.

Based on estimated intake flow data submitted June 2, 2023, the estimated daily intake flow at this Pump House averaged 31.9 MGD for the period from January 2018 through December 2022 and the maximum estimated daily intake flow during this period was 106.43 MGD.

Power House

The following pumps are located at the Power House which receives intake water via the tunnel described above.

Operation	Pump Design Flow
No. 6 Turboblower	2 Pumps @ 16,850 gpm each
No. 7 Generator	2 Pumps @ 13,300 gpm each
No. 5 Turboblower	2 Pumps @ 10,500 gpm each
No. 7 Turboblower	2 Pumps @ 10,500 gpm each
No. 8 Generator	2 Pumps @ 13,300 gpm each

With the production and ancillary operations that exist at Indiana Harbor West, the following pumps are operated as noted below:

- No. 6 Turboblower Pumps (associated with blast furnace production, not currently operating because No. 4 Blast Furnace is indefinitely idle, but would likely operate when No. 4 Blast Furnace operates)
- No. 7 Turboblower Pumps (associated with blast furnace production, could operate when No. 4 Blast Furnace operates; can currently operate to circulate water through power house supply tunnel)
- No. 8 Generator Pumps (currently operated when No. 8 Generator is operated).

When operating, the discharge from the No. 6 Turboblower pumps is recycled to the intake tunnel. The No. 7 Turboblower and No. 8 Generator pumps discharge directly to IH West Outfalls 009 and 010. The No. 7 Generator and associated pumps serve as a spare for the No. 8 Generator and pumps. The No. 5 Turboblower and pumps were associated with the No. 3 Blast Furnace which has been permanently shut down, and now can serve as back up for blast furnace production if No. 6 and No 7 Turboblowers were to become unavailable. Accordingly, the design intake flow for the Power House is 47,600 gpm (2 x 10,500 gpm No. 7 Turboblower + 2 x 13,300 No. 8 Generator; No. 6 Turboblower pumps discharge is recycled = 47,600 gpm or 68.54 mgd).

Based on the measured flow rates at Outfalls 009 and 010 and the known contributions to these outfalls, the typical total discharge from the Power House is approximately 36,000 gpm (51.84 MGD).

Based on estimated intake flow data submitted June 2, 2023, the estimated daily intake flow at the Power House averaged 54.08 MGD for the period from January 2018 through December 2022 and the maximum estimated daily intake flow during this period was 90.55 MGD.

Low Head Pump House

Pump	**Pump Design Flow**
Low Head Pump	50,000 gpm Steam Turbine Pump

The design flow for the Low Head Pump House is 50,000 gpm or 72 mgd. The Low Head Pump is typically operated 24 hrs/day, 7 days/week, 365 days/year as necessary to support plant operations.

The No. 1 Intake Pump Station, the No. 2 Intake Pump Station and the Low Head Pump provide water to the Indiana Harbor West service water system. The Low Head Pump primarily supplies water to the Indiana Harbor West operations tributary to Outfalls 001 and 002. Based on the measured flow rates from Outfalls 001 and 002 and reduced steam turbine speed, the actual discharge from the pump is estimated to be substantially lower than 50,000 gpm. The typical discharge from the pump under typical operating conditions is estimated as 10,500 gpm (15.12 MGD).

Based on estimated intake flow data submitted June 2, 2023, the estimated daily intake flow at this Pump House averaged 16.34 MGD for the period from January 2018 through December 2022 and the maximum estimated intake flow during this period was 31.39 MGD.

Design and Typical Intake Flows Summary – No. 2 Intake

From the information provided above, the estimated total design intake flows and typical intake flows for the No. 2 Intake are summarized in the Table below.

Indiana Harbor West No. 2 Intake Design Intake Flow and Typical Intake Flow		
Location	**Design Intake Flow (gpm)**	**Typical Intake Flow (gpm)**
No. 2 Pump House	50,000	25,000
Power House Pumps	47,600	36,000
Low Head Pump	50,000	10,600
Total, gpm	147,600	71,600

Total, mgd	212.5	103.1

Based on estimated intake flow data submitted June 2, 2023, the estimated daily intake flow at this intake averaged 102.3 MGD for the period from January 2018 through December 2022 and the maximum estimated daily intake flow during this period was 151.20 MGD (the maximum estimated daily flow at this intake in 2022 was 147.71 mgd).

3. Facility Operation and Water Reuse/Reduction

Indiana Harbor West is equipped with multiple contact and non-contact cooling water systems and process water systems as summarized in Attachment R5-A below. All of these systems are supplied with water from the Indiana Harbor West No. 1 and No. 2 Intakes. The great majority of the water supplied by the No. 1 and No. 2 Intakes is used for non-contact cooling and contact cooling applications. Contact cooling water is process water for purposes of the NPDES permit program. Relatively low volumes of intake water are used for process operations that are not considered contact cooling applications: Power Station boiler feed water and process water used at the No. 2 Galvanizing Line.

Indiana Harbor West steel manufacturing and utility operations occur throughout the year. Process operating rates are market-driven and are tied to overall economic activity in the United States, particular in those sectors that consume flat-rolled carbon steels (i.e., automotive, appliances, construction). Consequently, the water systems at Indiana Harbor West are operated more or less continuously. No major seasonal variations occur.

Attachment R5-A, below, provides for summaries of the proportions of design intake flow (DIF) used for contact cooling, non-contact cooling, and process uses. The values that are included on Attachment R5-A as “Actual Intake Flows,” are not actual intake flows as that term is defined in the 316(b) regulations and are generally lower then estimated intake flows the permittee has provided to IDEM.

At an intake flow of 116 mgd approximately 52% of the DIF is used. The calculated intake flow of approximately 116 mgd was for the period 2019 to October 2021 provided with the March 2022 NPDES permit application and represented calculated intake flows reflecting permanent changes at the facility: shut down of the No. 3 Intake; shut down of No. 3 Blast Furnace; No.7 Generator damage and status as a back-up to No. 8 Generator. In March 2022, the No. 4 Blast Furnace was idled and according to the permittee, from April 2022 to February 2023, the estimated actual average intake flow has been approximately 87 mgd. The flow of 87 mgd equates to 36% of the DIF. Based on the permittee’s estimated actual intake flow data from 2019 through 2022, the average intake flow for this 4-year period was 113 MGD; 114 MGD in 2019, 120 MGD in 2020, 121 MGD in 2021 and 95 MGD in 2022.

Some cooling water is reused as process water at Indiana Harbor West; the No. 6 Turboblower non-contact cooling water is returned to the No. 2 Intake tunnel. A relatively small portion of this water is reused as “process water” when pumped by the Low Head Pump to service the process water needs of the No. 2 Galvanizing Line. Grey water is not used for cooling at Indiana Harbor West. Estimated non-contact and contact cooling water flow reductions are set out in Attachment R5-A, below. Intake flow reduction attributable to the current recycle systems was calculated by the permittee as 120 mgd. According to the permittee, this represents a 51% withdrawal reduction versus once-through cooling water flow needed for the existing Indiana Harbor West operations.

Permanent changes to the Indiana Harbor West facility have been made in recent years that have reduced water withdrawals on a plant wide basis:

- The plant's No. 3 Intake was permanently closed in September 2018.
- The plant's No. 3 Blast Furnace was permanently closed in November 2019.
- The plant's No. 4 Blast Furnace was indefinitely idled in March 2022.
- The plant's No. 7 Generator was damaged in December 2018 and has not operated since and will only operate as back-up in the future because of the shut-down of the No. 3 Blast Furnace.

In addition to the closures noted above, the Hot Strip Mill was shut down in 2016. The permittee has estimated that these changes have resulted in cooling water withdrawal reductions of approximately 78 mgd.

However, based on the estimated intake flow data that the permittee has provided, the intake flow was 150 MGD in both 2017 and 2018, 114 MGD is 2019, 120 MGD in 2020 and 121 MGD in 2021. The reduction in intake flow between 2017 and current operations appears to be approximately 30 MGD. This would not include the reductions due to the closure of the Hot Strip Mill in 2016 or the idling of the No. 4 Blast Furnace in March 2022 (Since the idling of the No. 4 Blast Furnace is not permanent, IDEM can't base its BTA decision on any flow reductions due its being idled). Based on intake flow data that the permittee has reported in the Indiana Department of Natural Resources as part of the Significant Water Withdrawal program, the reported annual average water withdrawals at the facility were as follows:

Year	Annual Average Intake Flow (MGD)
2016	160
2017	170
2018	134
2019	143 (permittee updated to 114)
2020	129 (permittee updated to 120)
2021	121

On June 2, 2023 the permittee submitted estimated intake flow data for 2022, based on this data the average intake flow in 2022 was 95 MGD.

The permittee has stated that changes (some permanent, and some are not yet permanent) at Indiana Harbor West over the past 10 years have resulted in the additional cooling water withdrawal reductions of approximately 78 mgd, for a total reduction in cooling water withdrawal of 198 mgd when considering the existing cooling recycle systems and the changes to the facility (120 mgd + 78 mgd). The reduction of 198 mgd represents a 64% cooling water withdrawal reduction versus once-through cooling water flow needed for the existing Indiana Harbor West operations.

Attachment R5-A
40 CFR §122.21(r)(5) - Cooling Water System Data
§122.21(r)(5)(i) - Proportions of Contact Cooling, NCCW and Process Water Use from CWIS and Water Withdrawal Reductions Achieved

	Actual Intake Flow (mgd)	Proportion of Water Use (%)	Proportion of DIF
Contact Cooling:	3.2	2.8%	1.3%
Non-Contact Cooling:	110.1	94.5%	45.9%
Process Water:	3.16	2.7%	1.3%
Total Water:	117	100%	48.6%

Design Intake Flow	mgd
No. 2 Intake Design Intake Flow	**212.5**
No. 1 Intake Design Flow	**27.4**
Total	**239.9**

	Contact Cooling Water Flow Rates, mgd				
[1] Contact Cooling Water Flow (mgd)	Recycle Rate	Evaporation	Blowdown	Make-up	Basis
Blast Furnace Recycle System Cooling	6.48	0.162	0.453	0.615	4500 gpm recycle; 25 deg F delta T; Outfall 509 avg flow blowdown
Blast Furnace Slag Quench	NA	0.109	0	0.109	11.3 gal/ton hot metal at 2017 NPDES permit blast furnace production rate of 9,655 tons/day
BOF Hood Sprays	1.152	1.152	0	1.152	800 gpm evaporated at hood sprays
No. 3 SP LMF Contact Cooling Tower	7.83	0.164	0.024	0.188	5440 gpm recycle; 21 deg F delta T; avg 701 flow blowdown
No. 3 SP Casting Spray Water CT plus steel contact	5.04	1.078	0	1.078	3500 gpm 17.5 deg F delta T; 702 flow blowdown (zero typically)
BOF Slag Quench	NA	0.090	0	0.090	11.3 gal/ton hot metal at 8,000 tons/day production
Total				3.23	

	Non Contact Cooling Water Flow Rates, mgd					
[2] NCCW Flow	Recycle Rate	Evaporation	Blowdown	Make-up		Basis
No. 9 Generator Cooling Tower	36.0	0.612	0.408	1.02	2.5	25000 gpm recycle; 17 deg F delta T; 2.5 cycles of concentration
No. 3 SP Machine Water Cooling Tower	13.68	0.342	0.228	0.57	2.5	9500 gpm recycle 17.5 deg F delta T; 2.5 cycles of concentration
No. 3 SP LMF NCCW Cooling Tower	2.50	0.062	0.041	0.10	2.5	1730 gpm recycle 25 deg F delta T; 2.5 cycles of concentration
Other Steelmaking NCCW (Outfall 011 less other flows)	NA	NA	29.2	29.2		Total Outfall 011 flow - other outfall contributions, see footnote (A)
Power House, No. 3 Blast Furnace (009 + 010 - 509)	NA	NA	67.0	67.0		Outfall 009 + 010 flows - Outfall 509 flow
No. 2 Galvanizing Line NCCW (Outfall 002)	NA	NA	12.2	12.2		Outfall 002 Flow Rate
Total				110.1		

	Non Contact Cooling Water Flow Rates, mgd				
[3] Process Water Uses	Recycle Rate	Evaporation	Blowdown	Make-up	Basis
Steam Production and associated RO reject	NA	1.79	0.698	2.49	Avg. steam production + 25% boiler feed water RO reject + 0.25 estimate other boiler house residuals
No. 2 Galvanizing Process Water	NA	NA	0.67	0.67	Average Outfall 101 flow rate with USS ECTO Idle
Total				3.16	

Footnote (A) Outfall 011 Contributions	mgd	Basis
Boiler House Discharge	0.445	25% of steam production (RO reject)
Outfall 701	0.024	Average flow when discharging
Outfall 702	0	rare dishcarge, almost always zero
Caster Machine NCCW blowdown	0.228	2.5 cycles and calculated evap
Degass NCCW blowdown	0.041	2.5 cycles and calculated evap
No. 9 Gen CT blowdown	0.408	2.5 cycles and calculated evap
Other misc. flows	0.100	estimate
BOF / Steelmaking NCCW	29.3	Total 011 flow - other contributions
Total	30.5	

B. Area of Influence, Velocity of Intake Flows Through Traveling Screens and Impingement BTA

The Area of Influence (AOI) is that portion of water subject to the forces of the intake structure such that a particle within the area is likely to be pulled into the intake structure. The extent of the AOI is generally interpreted as an area delineated by the 0.5 fps velocity contour extending out from the CWIS.

Impingement studies have shown that organisms can usually swim away from intake screens at velocities less than 0.5 fps. While low intake velocities will reduce levels of impingement, they do not generally affect entrainment rates of smaller non-motile organisms such as eggs and larvae.

Under the regulations, there are two BTA standards for impingement mortality that use the velocity of 0.5 fps. The through-screen design intake velocity and the through-screen actual intake velocity.

The through-screen design intake velocity is the maximum design intake velocity as water passes through the structural components of a screen measured perpendicular to the screen mesh. The maximum velocity must be achieved under all conditions, including during minimum ambient source water surface elevations (based on best professional judgement (BPJ) using hydrological data) and during periods of maximum head loss across the screens or other devices during normal operation of the intake structure.

The through screen actual intake velocity is the maximum through-screen intake velocity at actual flows as water passes through the structural components of a screen measured perpendicular to the screen mesh. The maximum velocity must be achieved under all conditions, including during minimum ambient source water surface elevations (based on best professional judgment using hydrological data) and during periods of maximum head loss across the screens or other devices during normal operation of the intake structure.

In addition to intake velocities less than 0.5 fps, permittees can meet impingement BTA through other alternatives including installation of traveling screens with a fish friendly return (§125.94(c)(5)) and/or by significantly reducing intake flow volumes by operating a closed cycle recirculating system as defined at 40 CFR §125.92.

A summary description of each intake including intake flows and velocity through the traveling screens at each intake are summarized below.

Calculations of through-screen intake velocities at the No. 1 and No. 2 Intakes were included in Attachments R6 A-1 (No. 1 Intake) and R6 A-2 and R6 A-3 (No. 2 Intake) of Appendix A of the permittee's March 2022 renewal application. The permittee revised these calculations in its revised Appendix A Cooling Water Intake Structure Information, February 2023 Update. In addition, the permittee provided spreadsheets with revised velocity calculations in an e-mail dated February 8, 2023. Additional revised spreadsheets for the No. 1 Intake were submitted on July 7, 2023 and July 12, 2023.

Intake Velocity No. 1 Intake:

With the production and ancillary operations that exist at Indiana Harbor West, the permittee has specified that No. 6 Service Water Pump (19,000 gpm) No. 4 Service Water Pump (19,000 gpm) are the operating pumps and the No. 3 (15,000 gpm) serve as an installed spare. The design intake flow for the No. 1 Intake is therefore 38,000 GPM (54.7 MGD).

Based on estimated intake flow data submitted June 2, 2023, the estimated daily intake flow at this intake averaged 14.22 MGD for the period from January 2018 through December 2022 and the maximum estimated intake flow during this period was 20.50 MGD.

Three screens are currently in place. One screen is a traveling screen that is not rotated. The other two screens are static screens. Based on information submitted by the permittee on July 12, 2023, the calculated open screen area at low water level is 196 sq ft.

The through screen design intake velocity was calculated using the design intake flow of 54.7 mgd, the low water level of 15.2 feet and the total open area of 196 square feet. The maximum through screen actual intake velocity was calculated using the estimated maximum intake flow of 20.5 mgd.

Number of Screens in Service:	No. 1 Intake Through-screen design intake velocity, ft/s	No. 1 Intake Through-screen maximum actual intake velocity, ft/s
Three screens	0.43 fps	0.16 fps

Based on the above, the facility can meet the impingement BTA standard of a through screen design intake velocity under 0.5 fps as long as no more than two of the three pumps at this intake are operated at one time. If more than two pumps are operated concurrently, the through-screen would exceed the 0.5 fps requirement. To assure compliance with this alternative for impingement BTA, the proposed permit will prohibit the use of more than two of these pumps at a time and will require recordkeeping and reporting to document that this requirement is met.

Intake Velocity No. 2 Intake:

The design intake flow for the No. 2 Intake is 212.5 mgd. Based on estimated intake flow data submitted June 2, 2023, the estimated daily intake flow at this intake averaged 102.3 MGD for the period from January 2018 through December 2022 and the maximum estimated daily intake flow during this period was 151.20 MGD (the estimated maximum daily flow in 2022 was 147.7 mgd on June 15, 2022).

The screen house is equipped with five screen bays, three of which are currently open and equipped with screens. Provided below is a summary of calculated through screen velocities at the design intake flow with three and five intake screens in operation.

The through screen design intake velocity is calculated using the design intake flow of 212.5 mgd, the low water level of 24.8 feet and the total open area of 250.9 square feet. The

maximum through screen actual intake velocity is calculated using the estimated maximum intake flow of 151.20 mgd.

Number of Screens in Service	No. 2 Intake Through-screen design intake velocity, ft/s	No. 2 Intake Maximum through-screen actual intake velocity, ft/s
Three screens (250.9 sq. ft)	1.31 fps	0.93 fps

The permittee has proposed installing an additional two screens at this intake to reduce the through screen velocity. With the additional two screens, the calculated through screen design intake velocity would be as follows:

Number of Screens in Service	No. 2 Intake Through-screen design intake velocity, ft/s	No. 2 Intake Maximum through-screen actual intake velocity, ft/s
Five screens (418.2 sq. ft)	0.79 fps	0.56 fps

The permittee also calculated the instantaneous maximum intake flow that they would need to achieve to achieve a maximum through screen actual intake velocity of 0.5 fps. These are as follows:

Flow	**Flow Value gpm (mgd)**	**Through Screen Velocity**	
		3 Screens	**5 Screens**
Back-calculated Maximum Flow #1	93,056 gpm (134 mgd)	NA	0.50 fps
Back Calculated Maximum Flow #2	55,556 gpm (80 mgd)	0.49 fps	NA

Initially, the permittee proposed to comply with impingement BTA by operating a cooling water intake structure so that the maximum through-screen actual velocity is 0.5 ft/sec. Based on the above, the intake flow will need to be reduced and/or the number of screens increased to achieve a through screen actual velocity of under 0.5 fps. The permittee requested a compliance schedule to meet the 0.5 fps through screen velocity requirement through any combination of screen modifications and/or flow reductions.

The 0.5 fps maximum velocity is a not-to-exceed requirement. Assuring compliance with this 0.5 fps alternative requires an accurate determination of the intake flow and by extension, the through screen actual intake velocity.

At IH West, the intake flow is currently determined through a series of calculations with numerous assumptions. IDEM does not believe that the current methodology of calculating actual intake flow at Intake # 2 is sufficiently accurate to determine compliance with the through-screen velocity impingement mortality BTA requirements. Therefore, the permittee must install intake flow metering to assess compliance with this alternative.

Since the 0.5 fps maximum through screen velocity is a not-to exceed requirement (except that IDEM can allow this velocity to be exceeded “for brief periods for the purpose of maintaining the cooling water intake system, such as backwashing the screen face”), a maximum intake flow must be used to calculate the maximum through-screen actual intake velocity pursuant to 40 CFR 125.94(c)(3); not an annual or even daily average intake flow. For example, using the values provided by the permittee, if the permittee only has three screens, the intake flows will need to be reduced so this maximum intake flow does not exceed 55,556 gpm. If the permittee adds two screens, this maximum intake flow must not exceed 93,056 gpm. This permit is proposing to require the use of a maximum hourly average flow to determine compliance with this 0.5 fps maximum velocity. The permittee would calculate the hourly average flow 24 times each day and use the maximum hourly average flow each day to calculate and report the maximum velocity for its monthly reports.

Since submittal of the 316(b) application, the permittee has indicated that preliminary investigations indicate that it will be difficult to install continuous flow measurement at this intake; therefore, if the permittee determines that it is not feasible to install continuous flow measurement at this intake, they would either make the necessary changes at their facility to comply with the impingement mortality BTA under 40 CFR 125.94(c)(2), and operate a cooling water intake structure that has a maximum design through screen intake velocity of 0.5 fps or propose an alternate impingement mortality BTA for IDEM review and approval.

A compliance schedule has been proposed in the permit allowing the permittee up to three years to install an impingement mortality BTA alternative.

6.4.3 Source Water Biological Characterization

Indiana Harbor West operates two intakes (No. 1 Intake and No. 2 Intake). The source water body for the No. 1 Intake is Indiana Harbor influenced by the Indiana Harbor Ship Canal. The source water body for the No. 2 Intake is Lake Michigan. A scaled drawing of the source water body in the vicinity of the facility is provided as Figure R2-1, above. For both intakes, a surface channel leads from source water to intake pumping stations.

The area of Lake Michigan within the border of Indiana takes up approximately 1% of the lake, the smallest area of all bordering states. Although primarily characterized as highly developed and industrialized, the Indiana shoreline includes the Dunes National Lakeshore and the Indiana Dunes State Park. The portion of Lake Michigan in Indiana provides nursery habitat for many species and migration routes for a variety of migratory fishes. (Goodyear *et al*. 1982).

According to the IDNR Division of Fish and Wildlife publication, the Indiana portion of Lake Michigan offers recreational opportunities for anglers. Creel surveys conducted by IDNR have determined that the premier recreational fish species were Coho Salmon, Chinook Salmon, Lake Trout, Yellow Perch, Smallmouth Bass, and Steelhead Trout. These populations are maintained through stocking efforts by state natural resources agencies in Indiana and the other states bordering Lake Michigan. Additional sport species in the Lake and adjoining tributaries also include (in addition to the species listed above): Brown Trout, catfish, Freshwater Drum, Lake Whitefish, Walleye and various sunfish species.

Although the recreational fishery is still very active, the commercial fishery has diminished significantly since the 1990s. The primary commercial species in the area was Yellow Perch. Commercial harvest of Yellow Perch peaked at 1,595,000 pounds in 1992. However, the population drastically declined and a ban on commercial fishing of Yellow Perch was issued in December 1996. Studies in the Indiana waters of Lake Michigan have shown that the intense harvest of large Yellow Perch during the 1980s and 1990s reduced recruitment by lowering the quality and quantity of Yellow Perch eggs spawned by the population (Lauer *et al.* 2005). Two good year-classes (2003 and 2005) supported the fishery throughout the 2000s, but those fish have reached the end of their lifespan. A period of inconsistent recruitment lasted 10 years, until 2015. The 2015 year-class was the biggest ever recorded, and the 2016 year-class was also better than many in recent history. These two year-classes have started to provide much improved recreational perch fishing in more recent years. The most recent USGS Lake Michigan bottom trawling efforts in 2020 found the first age-0 Yellow Perch caught since 2016 (Tingley, et al 2021). Commercial fishing for Yellow Perch remains closed in all Great Lakes states (with minor exceptions). The 2020 USGS study also found low recruitment levels for all major prey fish, including Alewife, Bloater, Rainbow Smelt, Deepwater Sculpin, Slimy Sculpin, Round Goby, and Ninespine Stickleback, indicating that prey fish densities continue to remain well below historical values (Tingley, *et al.* 2021).

Lake Michigan historically has experienced wide fluctuations in populations of fish predators and prey, due largely to fishing exploitation, changes in habitat quality, and invasive species. Notably, Lake Trout populations collapsed during the 1950s partly from overfishing and predation by invasive sea lamprey, and subsequently (without a top predator) invasive Alewife populations greatly expanded. Sea Lamprey control efforts were implemented in the late 1960s and, combined with abundant Alewife forage, created opportunity to successfully stock top predators. Fisheries managers began stocking Lake Trout along with Chinook Salmon, Coho Salmon, Rainbow Trout and Brown Trout to utilize available forage and create diverse fishing opportunities. These stocking efforts continue today, and several past stocking level adjustments have been implemented to help sustain a balanced and diverse fishery.

Lake Michigan has over 1,600 miles of shoreline, spanning the full lengths of Wisconsin and Michigan. While Indiana has only 45 miles of Lake Michigan coastline, the state has stocked nearly 600,000 trout and salmon into the lake in 2021, according to Indiana DNR (IDNR). Among the fish stocked were 90,280 Brown Trout fingerlings, 77,166 Coho Salmon yearlings, 225,776 Skamania steelhead yearlings, and 195,915 Chinook Salmon fingerlings. Indiana's spring stockings into Lake Michigan's public waters and tributaries included: East Chicago Marina, East Branch Little Calumet River, Salt Creek, Trail Creek, and the St. Joseph River.

6.4.4 Impingement and Entrainment– Aquatic Life Studies

The #2 Pump House was the sampling location for the two-year impingement and entrainment studies that were conducted at the facility from June 2013 through May 2015, as outlined in the Sampling Plan submitted to the IDEM in November 2012. Similar studies were also performed at the adjacent Cleveland-Cliffs Indiana Harbor East facility (IHE)—NPDES Permit No. IN0000094 (TetraTech 2016b). See Figure 2-1, above and below aerial image.

During the months of January 2014 to March 2014 and December 2014 to March 2015 the non-contact cooling water to wash the screens was shut off to prevent icing. Only water quality data

at the intake structure was obtained during the winter months. Twice-monthly sampling occurred during the 4-month spawning season (May – August). There were a total of 26 sampling events over the 24-month period. Each 24-hour impingement event consisted of two 12-hour (day/night) samples at the screened intakes (IHW #2 Pump House). To the extent practicable, sampling was scheduled for the same day each month, beginning at 0700 hours and ending at 0700 hours on the second day.

The impingement and entrainment study results were submitted to IDEM in 2016. The results of these studies, as well as fisheries information from other publicly available documents, form the primary basis of the information provided by the permittee.

There are several studies which have characterized the fish assemblages in the nearshore area of southern Lake Michigan, including those by other nearby facilities with cooling water intake structures in southern Lake Michigan. Overall, studies consistently show that Yellow Perch, Round Goby, Alewife, Gizzard Shad, and Spottail Shiner are the most prevalent species and most likely to be impacted by impingement and entrainment at Indiana Harbor West.

A study conducted by Ball State University sampled the Indiana waters of Lake Michigan using a trawl and gill-nets from 2000-2006 (Lauer and Doll 2007; Dynamics and Models of the Yellow Perch in Indiana Waters of Lake Michigan and Near-Shore Fish Community Characteristics; Final Report for 2000-2006; Submitted to Indiana DNR). Spottail shiners were the most abundant species in trawling surveys making up 45% of the total catch and yellow perch were the second most abundant and made up 24% of the catch. Alewife (19%) and round goby (11%) were also common. Fifteen other species made up <1% of the total catch and did not include any threatened or endangered species. Gill-netting surveys were dominated by yellow perch and accounted for 83-95% of the catch in any year. Other species that accounted for ≥1% of the catch in a study year included longnose sucker, white sucker, lake whitefish, steelhead, and alewife.

A total of 95 fish were collected during the entire IHW 2013-2015 impingement study, representing 10 identified species. The most abundant species were Alewife (38.9% by number / 39% by biomass), Gizzard Shad (23.2% by number / 14.3% by biomass), Spottail Shiner (17.9% by number / 1.9% by biomass), and Yellow Perch (4.2% by number / 0.6% by biomass),). These four species accounted for 84.2% of the total fish collected, as well as 55.8% of the total biomass. Rule-recognized “fragile species” (Alewife and Gizzard Shad) accounted for a combined 62.1% of the fish impinged. With the exception of one large Common Carp representing 37.2% of the total biomass, the remaining impinged fish species (including unidentified *Notropis* sp.) accounted for only 7% of the total biomass. Sport fish species (Yellow Perch and Smallmouth Bass) accounted for only 5.3% of the total impingement collection, and only 1% of the total biomass (TetraTech 2016a).

In comparison, the two-year IHE impingement study yielded a total of 290 fish representing seven identified species. The collection was dominated by Yellow Perch (73.4%), the invasive Round Goby (11.4%), Gizzard Shad (5.9%), unidentified Salmonidae (4.5%), and Spottail Shiner (1.4%). Four of the five dominant species in the IHE impingement study were the same as those found in the IHW study, with slightly differing relative abundance numbers (TetraTech 2016a and 2016b). In terms of biomass, the IHE impingement collection was dominated by Yellow Perch (67.8%), Round Goby (17.5%), unidentified Salmonidae (4.3%), a single Green

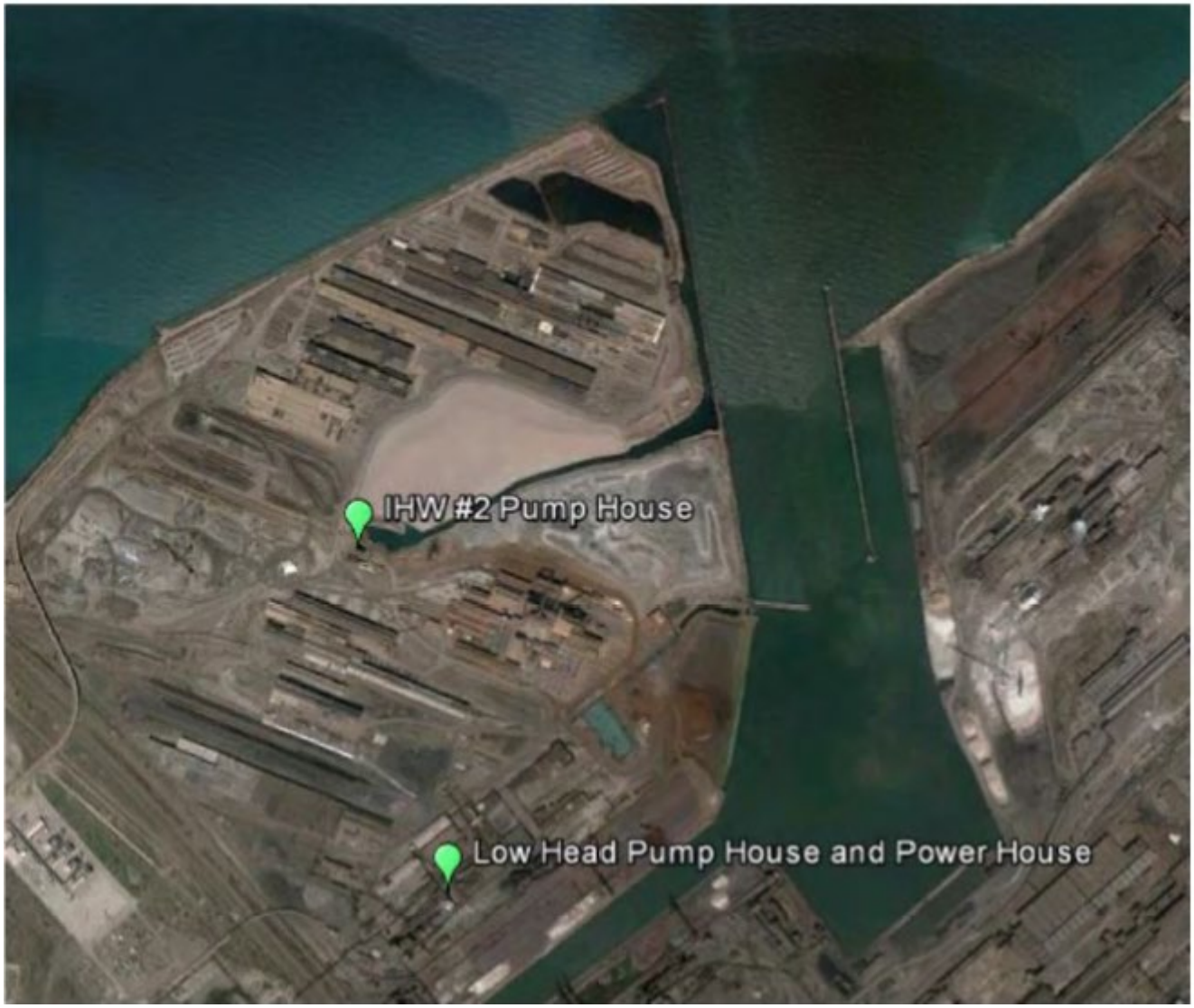
Sunfish (4.1%), and Gizzard Shad (2.8%). The remaining four species (plus unidentified specimens) composed only 3.5% of the total combined biomass. For IHE, sport fish (Yellow Perch, Walleye, Green Sunfish, and unidentified Salmonidae) composed 78.5% of the impingement collection and 76.5% of the biomass. However, it should be noted that 11 out of the 13 Salmonidae sp. specimens (84.6%) were assumed to have been dead before entering the CWIS, due to their condition (TetraTech 2016b), so the overall impact of impingement on this taxon should be considered negligible. Discounting the unidentified Salmonidae, sport fish composed 74% of the impingement collection and 72.2% of the biomass (TetraTech 2016b).

Gill netting was conducted directly outside of the IHE facility Main CWIS during the same time period in 2013-2015 as the IHW and IHE impingement and entrainment studies (TetraTech 2016b). Since this facility is immediately adjacent to IHW, this monitoring data can also provide additional information regarding the fisheries assemblage in Lake Michigan near IHW. Gill net samples were collected during August 2013, October 2013, May 2014, July 2014, November 2014, and May 2015 in accordance with the IHE sampling plan submitted to IDEM in November 2012 (TetraTech 2012b). A total of 12 seasonal experimental gill net samples were taken over the course of the two-year sampling period, with each set covering a continuous two-day period. Because net sampling Lake Michigan is impractical during the winter months, due to hazardous lake conditions caused by shore ice buildup, cold water/air, and wind, no winter samples were obtained.

A total of 84 fish comprised of 12 identified species were collected during the two-year IHE gill net monitoring period. Smallmouth Bass (22.6%), Lake Chub (15.5%), Freshwater Drum (11.9%), Chinook Salmon (14.3%), and Rock Bass (9.5%) accounted for 73.8% of the total collection (TetraTech 2016b).

Seven of the 12 identified species that were collected by gill netting outside of the IHE Main CWIS were also present in the IHW impingement collections: Gizzard Shad, Spottail Shiner, Yellow Perch, Smallmouth Bass, Lake Chub, Common Carp, and Round Goby. Species present in the gill net collections, but not in IHW impingement were: Freshwater Drum, Chinook Salmon, Rock Bass, Lake Trout, and Northern Pike. These results are not unexpected, as most are larger species that would not be subject to impingement due to life history characteristics and swimming ability unless they were otherwise compromised. Conversely, species present in the IHW impingement collections, but not the gillnetting surveys were Alewife, Bluntnose Minnow, and Bigeye Shiner. These are smaller, schooling species that may attain larger numbers in an impingement collection, especially when the through-screen velocity is higher.

Intake Location for Impingement and Entrainment Sampling



A. Impingement

Results of the impingement study conducted at IHW from June 2013 through May 2015 was used to identify species susceptible to impingement. Impingement samples collected from the IHW #2 Pumphouse during the two-year study included 10 fish species and one taxa, as well as Dreissenid mussels (zebra mussels).

Sampling equipment for IHW #2 Pump House impingement sampling consisted of a 1/4 –inch nylon net mesh, which allowed debris and organisms that collected on the 3/8-inch screens to accumulate in the discharge area over the duration of the sampling period. This net allowed screen wash water to discharge directly back to the sluiceway and enable easy removal of fish, invertebrates, and debris. Collections from the pump house were kept separate to form two 12-hour samples. The use of 1/4-inch mesh conservatively retained any organisms that were large enough to be impinged on the 3/8-inch mesh on the traveling screens.

Fish species collected were identified to the lowest possible taxonomic level, and each fish was measured (±0.1 centimeter [cm]) and weighed (± 1 grams [g]). Species that could not be identified because of damage to identifying characteristics were labeled as unidentified. Unidentified fish were used to calculate total abundance but were excluded from any taxa analysis.

A total of 95 fish were collected over the entire two-year period that consisted of 24 separate 24-hour sampling events (divided into two 12-hour sampling periods/sample date to account for diurnal variability). No federal or state threatened or endangered species were found during the IHW study. While considered as forage for Great Lakes predator fish, Gizzard Shad and Alewife are also considered to be fragile species under the §316(b) Rule, while the Round Goby is an invasive species. Dreissenid mussels were also encountered during some of the sampling events but are considered invasive and were discounted from further analysis (TetraTech 2016a).

Five of the 10 identified fish species were represented in the IHW impingement samples by single individuals: Round Goby, Common Carp, Smallmouth Bass, Lake Chub, and Bigeye Shiner. Sportfish species included Smallmouth Bass and Yellow Perch, representing only approximately 5% of the total impingement collection. Introduced species included Alewife, Common Carp, and Round Goby, which represented 41% of the overall impingement number (TetraTech 2016a).

By comparison, results of similar impingement study conducted at IHE during the same time period as the IHW study yielded a total of 290 fish over the two-year period, representing seven identified species and two taxa. As with the IHW study, no federal or state threatened or endangered species were found during the IHE study (TetraTech 2016a). Three of the seven identified fish species were represented in the IHE impingement samples by single individuals: Walleye, Green Sunfish, and Bullhead Minnow. (There was also a single unidentified shiner). The sportfish species Yellow Perch, Walleye, and Green Sunfish composed 74% of the total. (Unidentified Salmonidae, most suspected long dead, composed an additional 4.5% of the total impingement collection, but since a majority were considered long-dead, they are not considered here). The invasive Round Goby made up 11.4% of the two-year impingement collection at IHE (TetraTech 2016b).

A summary of the IHW impingement data, compared to the IHE impingement and gillnetting data, is presented in Table 3-1, below.

Table 3-1 Family, Common and Scientific Names of Fishes* Collected During §316(b) Sampling at Cleveland Cliffs Indiana Harbor West (IHW) and East (IHE); June 2013-May 2015

Family Name	Common Name	Scientific Name	316(b) Study		
			IHW Impingement /Entrainment	IHE Impingement /Entrainment	IHE Gill Netting
Herrings	**ALEWIFE**	*Alosa pseudoharengus*	IM	--	--
	GIZZARD SHAD	*Dorosoma cepedianum*	IM	IM	X
Whitefish, Chubs, Trout, and Salmon	CHINOOK SALMON	*Oncorhynchus tshawytscha*	--	--	X
	LAKE TROUT	*Salvelinus namaycush*	--	--	X
	SALMON (unidentified)	Salmonidae spp.	--	IM	--
	LAKE CHUB	*Couesius plumbeus*	IM	--	X
Pikes and Mudminnows	NORTHERN PIKE	*Esox lucius*	--	--	X
Minnows	**COMMON CARP**	*Cyprinus carpio*	IM	--	X
	BIGEYE SHINER	*Notropis boops*	IM	--	--
	SPOTTAIL SHINER	*Notropis hudsonius*	IM	IM	X
	SHINER (unidentified)	*Notropis spp.*	IM	IM	--
	BLUNTNOSE MINNOW	*Pimephales notatus*	IM and E	--	--
	BULLHEAD MINNOW	*Pimephales vigilax*	--	IM	--
Cods	BURBOT	*Lota lota*	E Only	--	--
Sunfishes	ROCK BASS	*Ambloplites rupestris*	--	--	X
	GREEN SUNFISH	*Lepomis cyanellus*	--	IM	--
	SMALLMOUTH BASS	*Micropterus dolomieu*	IM	--	X
Perches	YELLOW PERCH	*Perca flavescens*	IM	IM	X
	WALLEYE	*Sander vitreus*	--	IM	--
Gobies	**ROUND GOBY**	*Neogobius melanostomus*	IM	IM	X
Drum	FRESHWATER DRUM	*Aplodinotus grunniens*	--	--	X
Sculpins	SLIMY SCULPIN	*Cottus cognatus*	--	E Only	--

Nomenclature follows Page *et al.* 2013.
*List does not include dreissenid mussels, which were the only shellfish found during the studies
IM = found in impingement collection
E = found in entrainment collection
Shaded rows indicate species most likely to be impinged and/or entrained, either due to being found in multiple collections or by total number collected at a given location (including both IHE and IHW).
Introduced/Invasive species indicated in bold font.

The results of all of the 2013-2015 316(b) studies performed at IHW and IHE yielded a total of 20 identified fish species (Table 3-1). The above information provides an overview of the fish community expected to be present near both the IHW and IHE CWISs, which consists of a moderately diverse assemblage of native, introduced, stocked, and invasive species. On-going management of the recreational fishery of Lake Michigan, as well as the cyclic nature of the prey population, will continue to result in a dynamic and yet largely resilient system that supports a varied community of aquatic species adapted to the unique conditions that the southern Lake Michigan environment provides.

Results of the impingement study conducted at IHW from June 2013 through May 2015 was used to identify species susceptible to impingement. Impingement samples collected from the

IHW #2 Pumphouse during the two-year study included 10 fish species and one taxa, as well as Dreissenid mussels (zebra mussels).

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Fish species collected were identified to the lowest possible taxonomic level, and each fish was measured (±0.1 centimeter [cm]) and weighed (± 1 grams [g]). Species that could not be identified because of damage to identifying characteristics were labeled as unidentified. Unidentified fish were used to calculate total abundance but were excluded from any taxa analysis.

A total of 95 fish were collected over the entire two-year period that consisted of 24 separate 24-hour sampling events (divided into two 12-hour sampling periods/sample date to account for diurnal variability). No federal or state threatened or endangered species were found during the IHW study. While considered as forage for Great Lakes predator fish, Gizzard Shad and Alewife are also considered to be fragile species under the §316(b) Rule, while the Round Goby is an invasive species. Dreissenid mussels were also encountered during some of the sampling events but are considered invasive and were discounted from further analysis (TetraTech 2016a).

Five of the 10 identified fish species were represented in the IHW impingement samples by single individuals: Round Goby, Common Carp, Smallmouth Bass, Lake Chub, and Bigeye Shiner. Sportfish species included Smallmouth Bass and Yellow Perch, representing only approximately 5% of the total impingement collection. Introduced species included Alewife, Common Carp, and Round Goby, which represented 41% of the overall impingement number (TetraTech 2016a).

By comparison, results of similar impingement study conducted at IHE during the same time period as the IHW study yielded a total of 290 fish over the two-year period, representing seven identified species and two taxa. As with the IHW study, no federal or state threatened or endangered species were found during the IHE study (TetraTech 2016a). Three of the seven identified fish species were represented in the IHE impingement samples by single individuals: Walleye, Green Sunfish, and Bullhead Minnow. (There was also a single unidentified shiner). The sportfish species Yellow Perch, Walleye, and Green Sunfish composed 74% of the total. (Unidentified Salmonidae, most suspected long dead, composed an additional 4.5% of the total impingement collection, but since a majority were considered long-dead, they are not considered here). The invasive Round Goby made up 11.4% of the two-year impingement collection at IHE (TetraTech 2016b).

Table 3-2. Relative Abundance and Biomass of Fish Impinged at the IHW CWIS, June 2013-May 2015

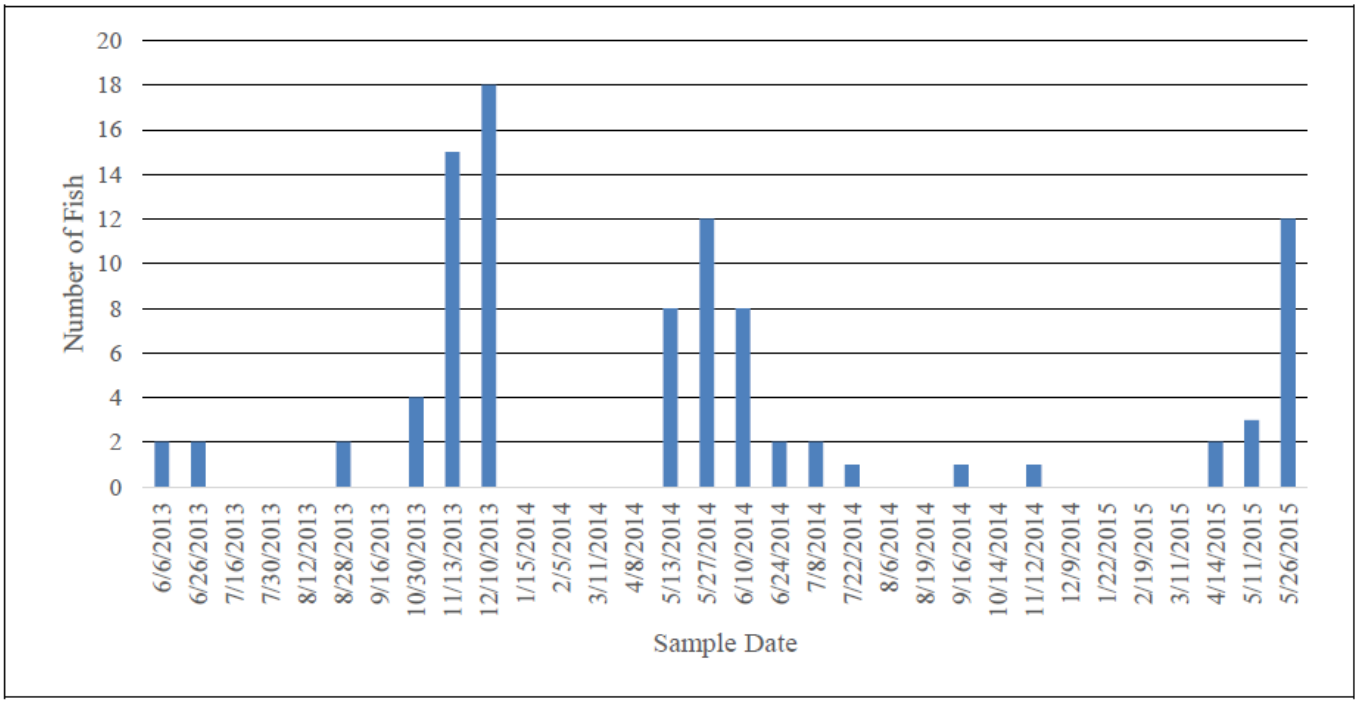
Common Name	Total Number	Rel. Abundance %	Rel. Abundance % (w/o excluded species)*	Number Suspected Long Dead	Percent Long Dead	Total Biomass (g)[1]	Percent Biomass %[2]
Alewife	37	38.9	--	6	16.2	2740.2	39.0
Gizzard Shad	22	23.2	--	1	4.5	1002.1	14.3
Spottail Shiner	17	17.9	48.6	1	5.9	133.4	1.9
Yellow Perch	4	4.2	11.4	0	0.0	40.5	0.6
Bluntnose Minnow	2	2.1	5.7	0	0.0	14.0	0.2
Round Goby	1	1.1	--	0	0.0	3.5	0.0
Common Carp	1	1.1	2.9	0	0.0	2608.2	37.2
Smallmouth Bass	1	1.1	2.9	0	0.0	31	0.4
Lake Chub	1	1.1	2.9	0	0.0	7.2	0.1
Bigeye Shiner	1	1.1	2.9	0	0.0	14.5	0.2
Unid. *Notropis*	3	3.2	8.6	0	0.0	9.75	0.1
Unidentified	5	5.3	14.3	4	80.0	415.1	5.9
TOTALS>>	95	100.0	100.0	12	--	7019.5	100.0

*Excluded species: Alewife and Gizzard Shad (fragile), and Round Goby (invasive)
1 – Fish that were identified as likely dead before impingement are included in the total biomass.
2 – Zebra mussels, while found in the samples, are not included in this analysis.

Seasonal Impingement

Impingement fluctuated seasonally, with the highest abundances occurring during spring and fall, accounting for 52.6% and 41.1% the total two-year collection, respectively. This is likely due to the high impingement rates for Gizzard Shad and Alewife during either one or both of these seasons. These higher numbers of Alewife and Gizzard Shad occurred during transitional weather periods, which are known to cause mortality events in these species, suggesting that they were more likely to be dead or significantly compromised before being impinged. Of the fifty percent of the impinged fish that were likely dead beforehand (12 fish), six were Alewife, and one was a Gizzard Shad. Round Goby was found in the fall, while Spottail Shiner and Yellow Perch demonstrated higher impingement rates during spring months. There was a notable decrease in impingement rate during the summer for all species. Species richness was similar during all seasons, with either five or six species found during each season. Due to minimal CWIS operation during the winter, no impingement collections were made during winter months (TetraTech 2016a) (Figure 3-1).

Figure 3-1. Seasonal Distribution of Fish Impinged at the IHW CWIS, June 2013-May 2015



Water temperature at the USGS Indiana Harbor ranged from 0.6°C (33.1°F) (January 2014) to 29.4°C (84.9°F) (July 2013). Seasonal average for water temperature at the USGS Indiana Harbor was 15.5 °C (59.9°F) in the spring; 17.5°C (63.5°F) in the summer; 15.4 °C (59.7°F) in the fall; and 13.8 °C (56.8°F) in the winter. Comparatively, seasonal average for water temperature at the pump houses was 15.9°C (60.6°F) in the spring; 22.4°C (72.3°F) in the summer; 10.4 °C (50.7°F) in the fall; and 2.4°C (36.3°F) in the winter. (TetraTech 2016a).

Since Lake Michigan is on the northern fringe of their range, Alewife and Gizzard Shad are susceptible to mortality due to cold stress (Lauer *et al.* 2005). While no winter impingement samples were collected at IHW, Alewife would not be expected to be found in abundance during this period due to their offshore movements to deeper water during the winter months.

Clear seasonal patterns were not evident for many species because of their infrequent occurrence during the two-year study. Overall, peak impingement rates appear to be related to seasonal changes in distribution of fish near the CWIS, which was the primary factor contributing to the observed variability. Impingement of infrequently occurring species was likely a random event and/or reflected low abundance of those species in the source waterbody.

Diel Distribution

Diel (nocturnal and diurnal) movements in the water column may cause fish to become more susceptible to impingement (EPRI 2004). Diel distribution was determined by comparing the 12-hour daytime and nighttime samples. During the two-year study, 46.3% of total impinged fish were collected during the day, and 53.7% were collected during the night. Of the sampling events that had diel impingement results (23), 10 had a higher nighttime impingement count, while 5 events had a higher daytime impingement count. The other 8 sampling events had the

same number of daytime and nighttime impingement counts. Based on a paired t-test, there is no statistical significance in the differences between day and nighttime impingement counts (TetraTech 2016a).

The U.S. Steel Gary Works facility and Cleveland-Cliffs Burns Harbor withdraw water from the same general area in Lake Michigan as Indiana Harbor East and West. Impingement and entrainment studies from USS Gary and Burns Harbor are used to supplement the information gathered in the impingement and entrainment studies conducted at IHW and IHE.

USS Gary Impingement Studies

U.S. Steel conducted monitoring for impingement and entrainment for the years 2011-2015. Three pump stations were monitored. No. 1 Pump Station and No. 2 Pump Stations are located in the ore loading slip and Gary Harbor, respectively. These areas are regularly disturbed by shipping traffic and dredging activities, so they do not provide critical/significant habitat for species present in southern Lake Michigan. The No. 1 Pump Station had a DIF of 424 mgd and No. 2 Pump Station had a DIF of 372 mgd. The three most abundant species encountered during the impingement study at No. 1 and No. 2 Pump Stations were gizzard shad, yellow perch, and alewife. The Lakeside Pump Station had a designed intake flow of 266 mgd and the intake is located 3,000 ft offshore and 28 ft deep. This area has a sandy bottom and is also not known for any critical habitat. The three most abundant species encountered at the Lakeside Pump Station were yellow perch, round goby, and alewife, respectively. It should be noted that the intake velocities at No. 1 and No. 2 Pump Stations were greater than 0.5 fps, resulting in significant numbers of yellow perch impinged during the study (U.S. Steel Corporation. May 2020. CWA 316(b) Requirements for CWIS. NPDES Permit No. IN0000128. Prepared by Ramboll US Corporation).

Burns Harbor Impingement Study

Impingement studies were conducted at the Cleveland-Cliffs (previously ArcelorMittal) Burns Harbor facility (BH) from June 2012 through May 2014. For BH, withdrawal is via two pump stations that withdraw water from Lake Michigan via two intake cribs located approximately 3,600 feet offshore in about 40 feet of water. The DIF for both pump stations is 748.8 mgd.

During the sampling period at the BH pump stations, there were 11 different species impinged including alewife, round goby, yellow perch, smallmouth bass, bluegill, emerald shiner, spottail shiner, gizzard shad, rainbow smelt, burbot, and unidentifiable. No species of special concern were impinged at the BH pump stations; however, there was one sport fish species impinged (i.e., yellow perch). Yellow perch, round goby, alewife, and spottail shiner were the most frequently impinged fish species at the BH pump stations, accounting for 39.8%, 31.3%, 18.9%, and 6.7% of the total impinged fish sample respectively (ArcelorMittal USA. 2015. 316(b) Cooling Water Intake Structures 2012-2014 Impingement and Entrainment Study Results NPDES Permit IN0000175. Prepared by ENVIRON International Corporation).

B. Entrainment

Entrainment samples were collected at Intake No. 2 within the same two 12-hour collection periods as impingement samples. However, the entrainment sample collection ran only for the amount of time needed to collect between 100 to 150 m^3 of water (ranging from 1.5 to 3.2 hours). The main circulating pumps provided the flow of water from the lake into a well-mixed supply of water before the pump house screens. A cooling water bypass valve was used to retrieve water from behind the screens at approximately 300 gallons per minute (gpm) by filling a tub and using a stopwatch to calculate flow. The net mesh size for entrainment was 300 microns.

IDEM and the permittee's peer reviewer for the 2013-2015 §122.21(r)(9) entrainment characterization study have questioned whether the de minimis entrainment observed at the No. 2 Intake during that study is representative.

Sampling Activities
A total of twenty-six 24-hour sampling events occurred from June 2013 through May 2015. Impingement and entrainment samples were collected at #2 pump house west (2W). During each sampling event, two 12-hour impingement samples were collected from each of the traveling water screens. Two entrainment samples were collected concurrently with impingement samples at the pump house within the 24-hour sampling event. Entrainment samples consisted of a target of 100 to 150 cubic meters (m3) of water collected over a 1.5 to 3-hour time period. Water quality samples were collected at each sampling location at the beginning and end of each impingement sampling period (3 times over 24 hours). Sampling was limited in some cases due to weather and maintenance issues.

Species Composition and Relative Abundance
Little insight can be gained on species composition and/or relative abundance based solely on the IHW entrainment study results from 2013-2015, as only two organisms were found during the entire two-year study period: a single post-yolk sac Burbot collected in June 2013, and a single post-yolk sac Bluntnose Minnow in July 2013 (TetraTech 2016a).

Given the level of effort expended for the IHW entrainment study over the two-year period, and unless there were issues with the sampling study itself (which is possible), the site-specific location and/or configuration of the IHW CWIS limited overall entrainment. This is consistent with the findings from the IHE entrainment study, with only four specimens of a single species found over a two-year period of sampling (TetraTech 2016b). Similar results were obtained from other recently completed entrainment studies performed at nearby facilities on the southern Lake Michigan and summarized below. These studies were conducted using the same basic methodologies as used in the IHW and IHE studies.

From 2020 Entrainment Characterization Study Pursuant to CWA 316(b) Rule 40 CFR 122.21(r)(9), U.S. Steel Corp (Ramboll 2020):

> *"Studies showed that entrainment of fish larvae and eggs was sporadic and relatively rare at* Gary *Works during the permit required monitoring beginning in mid-2011 through 2014.*
>
> - *No. 1 Pump Station documented no entrainment in 85% of sample events (66 events total)*

- *Lakeside Pump Station documented no entrainment in 82% of sample events (66 events total). Additionally, when ichthyoplankton were present taxonomic classification indicated Neogobius melanostomus (Round Goby), a common invasive nuisance species present in Lake Michigan."*

From 316(b) Cooling Water Intake Structures 2012-2014 Impingement and Entrainment Study Results NPDES Permit IN0000175 (Environ 2015) --- included in Source Water Baseline Biological Characterization ArcelorMittal Burns Harbor Submitted in Compliance with CWA Section 316(b) Rule 40 CFR 122.21(r)(7) (Ramboll 2020a):

> *"…this sampling and evaluation further demonstrates that entrainment of critical fish eggs, larvae, and other valued ichthyoplankton by the Burns Harbor Facility CWIS and equipment is negligible."*
>
> *"With respect to the sampling at the Burns Harbor Facility, given the high percentage of samples with no ichthyoplankton, and the positive samples dominated by round goby larvae, the impact due to entrainment is considered negligible. In comparison to other facilities located in the Great Lakes Basin, the Burns Harbor facility demonstrates similar high variability of entrainment of fish larvae and eggs, but at much lower rates."*

From 2019/2020 Entrainment Characterization Study, ArcelorMittal Burns Harbor Submitted in Compliance with CWA Section 316(b) Rule 40 CFR 122.21(r)(9) (Ramboll 2020b):

> *"Given the high percentage of samples with no entrained ichthyoplankton, and with only positive samples being comprised solely of demersal spawning Centrarchidae or Percidae eggs, the impact due to entrainment is negligible. Estimated ichthyoplankton entrainment of 7,555 larvae and/or eggs per day at PS1 and 5,375 larvae and/or eggs per day at PS2 are significantly less than those rates found at other facilities in the Great Lakes Basin."*

The entrainment studies in southern Lake Michigan find very few organisms entrained compared the volume of water used by the facilities. Based on these studies, it appears that entrainment is sporadic and rare with few individuals recorded. This is likely due to a variety of factors which are shared among the industrial facilities along southern Lake Michigan that utilize cooling water. For example, the areas around the industrial facilities are highly modified and are unlikely to contain any critical spawning habitat or support resident fishes. The high number of entrainment samples with no entrained ichthyoplankton found at multiple facilities combined with the small number of positive samples that either had a single specimen, or were dominated by invasive species, all indicate that the impact of entrainment on the aquatic resources of southern Lake Michigan is negligible.

Size Distribution

The size of ichthyoplankton collected during the two-year entrainment study at IHW was relatively uniform, with a 6.2 mm post yolk-sac Burbot and a 6.5 mm post yolk-sac Bluntnose Minnow. With so few specimens found, there is little additional information on site-specific size distribution in the IHW entrainment sample results. The lack of overall ichthyoplankton in the samples could be an indication that there is minimal spawning habitat or activity near the IHW Intake No. 2.

Depth Distribution
The entrainment samples at the IHW intake were taken from well-mixed water, so sampling the vertical distribution of ichthyoplankton was not warranted. With the small number of organisms found during the study, even if samples were taken at various depths, too little data were obtained to make any inferences. Due to the site-specific configuration and flow characteristics of the IHW CWIS, it is unlikely that different results would have been found by trying to sample at varying depths.

Diel Distribution
Entrainment samples were taken during two 12-hour periods on each sampling date, similar to the concurrent impingement sampling. However, due to the extremely low number of organisms found, there can be no inferences made regarding diel distribution of ichthyoplankton near the IHW CWIS (TetraTech 2016a). Overall, the sampling results confirm that there are few ichthoplankton present near the IHW intake, both during daylight and nighttime hours.

Reproduction and recruitment
The susceptibility of early life stages to entrainment depends in part on the reproductive strategies of the species near the IHW intake. Species known to occur in Lake Michigan represent four general breeding guilds (OEPA 1987). Most fishes belong to the simple, miscellaneous guild including all gars, herrings, pikes, and Freshwater Drum (Table 3-4). In contrast, all catfishes and sunfishes are in the complex guild that provides parental care. Parental care is also provided by Bluntnose Minnow, Bullhead Minnow, sculpins, and Round Goby. Although most species within a given family belong to the same breeding guild (e.g., all sunfish belong to the complex breeding guild), the cyprinid species represent three breeding guilds (Table 3-4). Generally, early life stages of species with more complex reproductive strategies are less likely to be entrained.

Table 3-4. Breeding Guilds of Common Lake Michigan Fishes

Family	Complex Without Parental Care	Simple Lithophil	Simple Miscellaneous	Complex Parental Care
Lepisosteidae (Longnose Gar)			X	
Amiidae (Bowfin)				X
Clupeidae (herrings)			X	
Cyprinidae (carps and minnows)	X		X	X
Catostomidae (suckers)		X		
Ictaluridae (catfishes)				X
Osmeridae (Rainbow Smelt)			X	
Salmonidae (trout and salmons)	X			
Esocidae (pikes and mudminnows)			X	X
Percopsidae (Trout-perch)			X	
Gadidae (Burbot)		X		
Fundulidae (Banded Killifish)			X	
Gasterosteidae (sticklebacks)				X
Cottidae (sculpins)				X
Centrarchidae (sunfishes)				X
Percidae (perches and darters)		X	X	
Sciaenidae (Freshwater Drum)			X	
Gobiidae (Round Goby [2])				X [2]

(1) Breeding Guilds: N = Complex, No Parental Care; S + Simple Lithophil; M = Simple, Misc; C + Complex, Parental Care; Ohio EPA 1987;
(2) http://animaldiversity.org/accounts/Neogobius_melanostomus/ Blue-highlighted Families were found in either the IHW or IHE 2013-2015 §316(b) studies-- (TetraTech 2016a and 2016b)

Pelagic species or life stages are most likely to be impacted by entrainment at cooling water intake structures. Species that have a pelagic life stage in southern Lake Michigan include alewife (juvenile and adult), spottail shiner (adult), round goby (juveniles), gizzard shad (juvenile and adult), and yellow perch (juvenile and adult).

Fish eggs are generally at low risk to entrainment in southern Lake Michigan as demonstrated by the fact that no eggs were found during the entire the two-year entrainment study at IHW or IHE (TetraTech 2016a and 2016b). The studies at IHW and IHE found no eggs during the entire two-year entrainment study. This result suggests that fish eggs are at low risk to entrainment in southern Lake Michigan. Most Lake Michigan fishes have demersal and/or adhesive eggs. Adhesive eggs reduce the likelihood of entrainment, whereas buoyant eggs are more at risk. The IHW entrainment study consisted of 25 separate sampling dates over the two-year study period. It is possible that sampling procedure was not frequent enough to detect regular or unusual entrainment events.

Ninety-two percent of the samples contained no ichthyoplankton. Only two single post yolk-sac specimens were obtained during the entire study: Burbot (June 2013) and Bluntnose Minnow (July 2013) (TetraTech 2016a). At IHE, the results of a two-year entrainment study conducted during the same time period as the IHW study were similar. In 32 separate sampling events, no fish larvae or eggs were found in over 90% of the samples. Only four larval fish were entrained from June 2013 to May 2015 and they were all post yolk-sac Slimy Sculpin, found in June (2), July (1), and August (1) with sizes ranging from 8.1mm to 9 mm (TetraTech 2016b).

The occurrence of early life stages encountered during the IHW entrainment study, although extremely low in number, generally corresponds to the known primary period of reproduction and larval recruitment in Lake Michigan, which runs from April through August for most fish species. The susceptibility of early life stages to entrainment depends in part on the reproductive strategies of the species near the intake structure. The most common species encountered at or near the IHW CWIS during the impingement study are listed in the permittees 316(b) application (included as Appendix A of the permittee's renewal application), which provides the primary spawning/larval recruitment period, YOY habitat preference, spawning habit, and egg characteristics for those species.

6.4.5 Protected Species Susceptible to Impingement and Entrainment

A copy of the permittee's renewal application was sent to the Bloomington Field Office of the U.S. Fish and Wildlife Service March 21, 2022. Mr. Dan Sparks of that office responded by email on May 25, 2022 and stated that "[t]here are no federal aquatic endangered species in Lake Michigan so I do not have any comments on this facility."

Shellfish

There are no federally listed shellfish found or expected for Lake Michigan in Lake County near the facility, most likely due to the lack of suitable habitat conditions. Moreover, adult and juvenile unionid mussels that may reside in the sediment have very limited mobility, so it can be reasonably concluded that they are not directly susceptible to impingement or entrainment. The 2013-2015 impingement study focused on fish and shellfish, as this term has traditionally been interpreted by resource and regulatory agencies. There were no native freshwater mussels encountered; invasive taxa such as *Dreissena* (i.e., zebra and quagga mussels) were noted but excluded from further evaluation.

Larval unionid mussels, glochidia, require temporary attachment to a "host" (almost exclusively fish) to survive beyond the larval stage. Many mussels employ strategies to directly release glochidia into or onto the host where they typically attach to the gills. It is reasonable to assume that glochidia of such species would not be susceptible to entrainment. Other mussel species simply expel their glochidia along with water and waste products. Hosts either take in suspended glochidia and pass them over their gills, where they attach, or hosts contact glochidia on the substrate, where the glochidia attach to the fins or skin. Broadcasted glochidia may be susceptible to entrainment; however, it would be challenging, if not impossible to: 1) effectively and efficiently collect them; 2) identify them to species; and 3) determine whether they are viable or moribund. With the combined knowledge that there are few native mussel species present in Lake Michigan near the facility, and with only invasive, non-native zebra

mussels found during the impingement study, it can be reasonably concluded that there are no shellfish entrainment risks associated with the operation of the facility's CWISs.

Fisheries Community Near the Facility

There are no federally-listed threatened or endangered aquatic fishes expected in this area of Lake Michigan, but it should be noted that the slimy sculpin and trout perch are listed by Indiana as a species of special concern. Slimy sculpin were found entrained at the IHE facility and trout perch were identified in other 316(b) studies in the area. Special concern species are those with known or suspected issues with abundance due to limited habitat or a recent change in legal status. They are not legally protected.

6.4.6 Best Technology Available (BTA) Determinations

A. Impingement BTA

Under 40 CFR 125.94(c) existing facilities subject to the rule must comply with one of the following seven BTA Standards for Impingement Mortality:

1. Operate a closed-cycle recirculating system as defined at 40 CFR §125.92;
2. Operate a CWIS that has a maximum design through-screen design intake velocity of 0.5 fps;
3. Operate a CWIS that has a maximum through-screen actual intake velocity of 0.5 fps;
4. Operate an offshore velocity cap that is a minimum of 800 feet offshore;
5. Operate a modified traveling screen that the Director (IDEM) determines meets the definition of the rule (at §125.92(s)) and that the Director (IDEM) determines is BTA for impingement reduction;
6. Operate any other combination of technologies, management practices, and operational measures that the Director (IDEM) determines is BTA for impingement reduction; or
7. Achieve the specified impingement mortality performance standard of less than 24 percent.

The permittee's chosen methods of compliance with the impingement mortality standard are as follows:

No. 1 Intake:

The permittee has proposed to comply with alternative 2, above; 40 CFR 125.94(c)(2). Under this alternative, the permittee must operate a cooling water intake structure that has a maximum design through-screen intake velocity of 0.5 feet per second. The permittee must submit information to IDEM that demonstrates that the maximum design intake velocity as water passes through the structural components of a screen measured perpendicular to the screen mesh does not exceed 0.5 feet per second. The maximum velocity must be achieved under all conditions, including during minimum ambient source water surface elevations (based on BPJ using hydrological data) and during periods of maximum head loss across the screens or other devices during normal operation of the intake structure.

Based on the information provided by the permittee, the maximum through screen intake design velocity is 0.43 feet per second; therefore, IDEM has determined that the permittee does comply

with this alternative. However, due to inconsistent information that has been provided for this intake and other intakes it operates, the permit proposes to require the permittee to conduct a velocity monitoring study at this intake to compare to calculated velocities.

The facility can meet the impingement BTA standard of a through screen velocity under 0.5 fps as long as no more than two of the three pumps at this intake are operated at one time. If more than two pumps are operated concurrently, the through screen velocity would exceed the 0.5 fps maximum. To assure compliance with this alternative for impingement BTA, the proposed permit will prohibit the use of more than two of these pumps at a time will require recordkeeping to document that this requirement is met.

No. 2 Intake:

The permittee has proposed to comply with one of three BTA alternatives; alternate 3, above (maximum through-screen actual intake velocity of 0.5 fps); alternative 2, above (maximum design through-screen design intake velocity of 0.5 fps) or a third as yet unselected alternative.

Initially, the permittee proposed to comply with alternative 3, above; 40 CFR 125.94(c)(3). Under this alternative, the permittee must operate a cooling water intake structure that has a maximum through-screen actual intake velocity of 0.5 feet per second. The owner or operator of the facility must submit information to IDEM that demonstrates that the maximum intake velocity as water passes through the structural components of a screen measured perpendicular to the screen mesh does not exceed 0.5 feet per second. The maximum velocity must be achieved under all conditions, including during minimum ambient source water surface elevations (based on best professional judgment using hydrological data) and during periods of maximum head loss across the screens or other devices during normal operation of the intake structure.

IDEM may authorize the owner or operator of the facility to exceed the 0.5 fps velocity at an intake for brief periods for the purpose of maintaining the cooling water intake system, such as backwashing the screen face. In addition, the permittee must monitor the velocity at the screen at a minimum frequency of daily. In lieu of velocity monitoring at the screen face, the permittee may calculate the through-screen velocity using water flow (using a flow meter), water depth, and the screen open areas.

For this alternative, the intake flow will need to be reduced and/or the number of screens increased to achieve a through screen actual intake velocity of less than 0.5 fps. The 0.5 fps maximum velocity is a not-to-exceed requirement. Assuring compliance with this 0.5 fps alternative requires an accurate determination of the intake flow and by extension, the through screen actual intake velocity.

Since the 0.5 fps maximum through screen velocity is a not-to exceed requirement (except that IDEM can allow this velocity to be exceeded “for brief periods for the purpose of maintaining the cooling water intake system, such as backwashing the screen face”), an annual or even daily maximum intake flow maximum intake flow would not ensure that the 0.5 fps velocity is only being exceeded for brief periods. For example, using the values provided by the permittee, if the permittee only has three screens, the intake flows will need to be reduced so this maximum intake flow does not exceed 55,556 gpm. If the permittee adds two screens, this maximum

intake flow must not exceed 93,056 gpm. This permit is proposing to require the use of a maximum hourly average flow to determine compliance with this 0.5 fps maximum velocity. The permittee would calculate the hourly average flow 24 times each day and use the maximum hourly average flow each day to calculate and report the maximum velocity for its monthly reports.

Based on the information that the permittee has provided, it is unclear whether the impingement BTA option of maintaining a through screen actual intake velocity of less than 0.5 fps is a viable option, even when the number of screens is increased from 3 to 5. However, IDEM is proposing to include it as an impingement mortality BTA compliance method in the permit. In addition, the permittee has indicated that they may not be able to install the intake flow meter needed to ensure compliance with this alternative. Therefore, they proposed alternate options for compliance with the impingement mortality BTA if they are not able to install this flow meter. Under alternative 2, above; 40 CFR 125.94(c)(2), the permittee must operate a cooling water intake structure that has a maximum design through-screen intake velocity of 0.5 feet per second. The permittee must submit information to IDEM that demonstrates that the maximum design intake velocity as water passes through the structural components of a screen measured perpendicular to the screen mesh does not exceed 0.5 feet per second. The maximum velocity must be achieved under all conditions, including during minimum ambient source water surface elevations (based on BPJ using hydrological data) and during periods of maximum head loss across the screens or other devices during normal operation of the intake structure.

For this alternative, the design intake flow will need to be significantly reduced and the number of screens increased to achieve a design through screen intake velocity of less than 0.5 fps.

In addition, during the course of its investigations for the above two options, the permittee may determine that neither option is feasible. Therefore, the permit proposes to allow them to submit a different impingement BTA alternative for IDEM review and approval.

Pursuant to 327 IAC 5-2-12, the permit may provide a compliance schedule of up to a maximum of three (3) years after the effective date of the permit to comply with an impingement mortality BTA alternative. However, before a compliance schedule can be included in the permit for any BTA alternatives, the permittee must justify the need and length of time for any such compliance schedule.

In a July 7, 2023 submittal, the permittee proposed a compliance schedule that can be summarized as follows:

Compliance Schedule Milestone No. 2 Intake Impingement Mortality BTA	Months After The NPDES Permit Effective Date
Notify IDEM how it intends to comply with the impingement mortality BTA at this intake by selecting one of the below alternatives: (1) Operate a cooling water intake structure that has a maximum through-screen actual intake velocity of 0.5 feet per second (2) operate a cooling water intake structure that has a design through-screen velocity of 0.5 feet per second or less	12

Compliance Schedule Milestone No. 2 Intake Impingement Mortality BTA	Months After The NPDES Permit Effective Date
(3) Compliance with one of the other BTA alternatives under 40 CFR 125.94(c)	
Complete detailed engineering plans for the selected alternative	21
Initiate construction of selected alternative	30
Achieve BTA for Impingement Mortality	48

As stated above, pursuant to 327 IAC 5-2-12, a compliance schedule cannot exceed three years or 36 months; therefore, the permit cannot include a 48-month compliance schedule. In addition, the schedule proposed by the permittee was not the type of detailed project schedule that IDEM typically needs to evaluate a request for a compliance schedule. However, based on the actions that the permittee needs to take to comply with an impingement mortality BTA alternative at this intake, IDEM has determined that a three-year compliance schedule is reasonable.

A reopening clause will be included allowing the permit to be modified to include any necessary conditions based on an alternative impingement mortality BTA.

B. Entrainment BTA

For existing facilities, EPA did not identify any single technology or group of technology controls as available and feasible for establishing national performance standards for entrainment. Instead, EPA's regulations require the permitting agency to make a site-specific determination of the best technology available standard for entrainment for each individual facility. See 40 CFR 125.94(d).

EPA's regulations put in place a framework for establishing entrainment requirements on a site-specific basis, including the factors that must be considered in the determination of the appropriate entrainment controls. These factors include the number of organisms entrained, emissions changes, land availability, and remaining useful plant life as well as social benefits and costs of available technologies when such information is of sufficient rigor to make a decision. These required factors are listed under 40 CFR 125.98(f)(2).

EPA's regulations also establish factors that may be considered when establishing site-specific entrainment BTA requirements, including: entrainment impacts on the waterbody, thermal discharge impacts, credit for flow reductions associated with unit retirements, impacts on reliability of energy delivery, impacts on water consumption, and availability of alternative sources of water. (40 CFR 125.98(f)(3))

As the owner/operator of an existing facility that withdraws greater than 125 MGD actual intake flow (AIF) of water for cooling purposes, the permittee is required to submit to IDEM for review the information required under paragraphs (r)(9), (10), (11), (12), and (13) of 40 CFR 122.21(r). This includes the following:

- Entrainment Characterization Study (§122.21(r)(9))
- Comprehensive Technical Feasibility and Cost Evaluation Study (§122.21(r)(10))
- Benefits Valuation Study (§122.21(r)(11))

- Non-water Quality Environmental and Other Impacts Study (§122.21(r)(12))
- Peer Review (§122.21(r)(13))

On February 28, 2023 the permittee submitted the application information required by 40 CFR 122.21(r)(2) through (r)(13) as a revised Appendix A Cooling Water Intake Structure Information.

In accordance with these requirements, the permittee evaluated the technical feasibility and engineering costs for the implementation of ichthyoplankton entrainment reduction technologies, including conversion to a closed-cycle recirculation system and installation of fine mesh screens.

The 40 CFR 122.21(r)(10) through (r)(12) portions of the application quantified social benefits and costs and are discussed in more detail below in the factors that must be considered under 40 CFR 125.98(f)(2) and the factors that may be considered under 40 CFR 125.98(f)(3).

In accordance with these requirements, the permittee evaluated the technical feasibility and engineering costs for the implementation of ichthyoplankton entrainment reduction technologies, including conversion to a complete closed-cycle recirculation system and installation of fine mesh traveling screens.

The reports quantified social benefits and costs based on a conceptual level design. The annualized total social costs (which included compliance costs, government regulatory costs, power system costs, and applicable environmental externalities) at 3% discount rate were $16.25 million for closed-cycle recirculating cooling systems (CCRS) and $0.9 million for fine mesh screens (FMS).

The associated total benefits of installing either closed-cycle recirculating cooling systems or for fine mesh screens entrainment control technology are small given the low numbers of organisms entrained at the facility. Only two (2) total organisms were entrained during the 2-year, 32 sampling event study conducted in 2013-2015.

However, IDEM and the permittee's peer reviewer for the 2013-2015 §122.21(r)(9) entrainment characterization study have questioned whether de minimis entrainment observed at the No. 2 Intake during that study is representative. Consequently, IDEM is requiring that the permittee conduct supplemental seasonal entrainment studies during the next permit.

As discussed previously, the permittee has also completed water reduction/reuse/optimization efforts throughout the facility. Plant wide water withdrawal reductions at Indiana Harbor West attributable to the current plant recycle systems is calculated by the permittee as 120 mgd. The permittee has determined that this represents a 51% withdrawal reduction versus once-through cooling water flow needed for the existing Indiana Harbor West operations.

Also, as set out in Attachment R5-A, above, the permittee has claimed that changes at Indiana Harbor West over the past 10 years have resulted in additional cooling water withdrawal reductions of approximately 78 mgd.

After considering all the factors that must and may be considered by the federal rules (see discussion below), based on the information currently available, IDEM has determined that the

existing facility for each intake and facility overall meets the best technology available (BTA) for entrainment mortality. This is primarily based on the following factors:

1. The number and species of organisms projected to be entrained by the facility.
2. The costs associated with installing a closed-cycle recirculating cooling system or fine mesh screens.
3. The flow reduction/water reuse optimization efforts already implemented at the facility.

The permit proposes to require that a new entrainment study be conducted at both Intake No. 1 and No. 2 to verify the current levels of entrainment at the facility.

Must and May Factor Discussion (40 CFR 125.98(f)(2) and (3))

1. MUST FACTORS (40 CFR 125.98(f)(2))

   i. Numbers and types of organisms entrained, including, specifically, the numbers and species (or lowest taxonomic classification possible) of Federally-listed, threatened and endangered species, and designated critical habitat (e.g., prey base);

   Based on the information currently available, the numbers of organisms expected to be entrained by the facility are minimal. This is based on only two (2) total organisms entrained during the 2-year, 32 sampling event study conducted in 2013-2015. Entrainment studies conducted at other nearby facilities on Lake Michigan with large intake flows have shown higher but still relatively small numbers of organisms entrained.

   IDEM and the permittee's peer reviewer for the 2013-2015 §122.21(r)(9) entrainment characterization study have questioned whether de minimis entrainment observed at the No. 2 Intake during that study is representative. Consequently, IDEM is requiring that the permittee conduct supplemental seasonal entrainment studies in the proposed permit.

   No expected impacts on federally listed threatened and endangered species. This conclusion is supported by the May 25, 2022, USFWS email that USFWS has no comments on the application regarding federally listed threatened and endangered species.

   ii. Impact of changes in particulate emissions or other pollutants associated with entrainment technologies;

   Reference is made to Attachment R12-B of the permittee February 2023 revised Appendix A Cooling Water Intake Structure Information for estimates of air pollutant emissions associated with installation of closed-cycle recirculating systems at IH West. The methodology and emission factors used are the same as those used in the Cleveland-Cliffs (ArcelorMittal) Burns Harbor §122.21(r)(12) CWIS application.

   Adverse human health and other impacts were not ascribed to these estimated emissions because it was presumed such emissions would be within emission rates

allowed by the Title V air permits for affected off-site energy production combustion sources, and thus would be deemed protective of human health.

iii. Land availability insofar as it relates to the feasibility of entrainment technology;

Land availability is constrained near the blast furnaces and power station/boiler house but is not considered a serious impediment to installation of closed-cycle recirculation systems or fine mesh screens.

iv. Remaining useful plant life; and

Useful life was estimated at 20 years for newly installed closed-cycle recirculation systems. Remaining useful life for Indiana Harbor West manufacturing facilities is considered indefinite as they are upgraded, maintained and refurbished from time to time. Remaining useful life is not an issue for the Indiana Harbor West CWIS application.

v. Quantified and qualitative social benefits and costs of available entrainment technologies when such information on both benefits and costs is of sufficient rigor to make a decision.

Table 5-1 below summarizes the net social benefits and costs of entrainment control technologies evaluated by the permittee – closed cycle cooling (CCRS) and fine mesh screens (FMS). Given the low levels of estimated entrainment and impingement, the net benefits are of each technology are minimal, especially in comparison to the cost.

IDEM does not believe that the social costs of installing either CCRS or FMS are warranted based on the information currently available.

Table 5-1 Costs and Benefits of Entrainment Technologies (From Part R-11A of February 2023 revised 316(b) Application)

Technology	Measure	Partial Social Cost (2022 $)	Conservative Social Benefit (2022 $)	Benefit to Cost Ratio
Cooling Towers	Present Value (3%)	$275,140,000	$46,209	0.0002
Fine Mesh Traveling Screens	Present Value (3%)	$15,300,000	$4556	0.0003

2. MAY FACTORS (40 CFR 125.98(f)(3))

i. Entrainment impacts on the waterbody;

The numbers of organisms expected to be entrained by the facility are minimal. This is based on the entrainment study done at the facility in 2013 -2015 as well as entrainment studies done at other nearby facilities with Lake Michigan intakes. Therefore, impacts due to entrainment on the surrounding water body are not expected to impact the waterbody.

However, IDEM and the permittee's peer reviewer for the 2013-2015 §122.21(r)(9) entrainment characterization study have questioned whether de minimis entrainment observed at the No. 2 Intake during that study is representative. Consequently, IDEM is requiring that the permittee conduct supplemental seasonal entrainment studies during the next permit.

ii. Thermal discharge impacts;

Thermal discharge impacts from Indiana Harbor West are within Indiana water quality standards for the Indiana Harbor Ship Canal and Indiana Harbor. There are no thermal discharge effluent limits in Indiana Harbor West NPDES Permit.

iii. Credit for reduction in flow

Based on the information provided by the permittee:

> Changes at Indiana Harbor West over the past 10 years have resulted in additional cooling water withdrawal reductions of approximately 78 mgd, for a total reduction in cooling water withdrawal of 198 mgd when considering the existing cooling recycle systems and the changes to the facility. The reduction of 198 mgd represents a 64% cooling water withdrawal reduction versus once-through cooling water flow needed for the existing Indiana Harbor West operations.

iv. Impacts on the reliability of energy delivery within the immediate area;

If installed, the incremental energy demand associated with closed-cycle recirculation systems (~ 12 MW) is not anticipated to affect energy delivery within the immediate area of the Indiana Harbor West facility.

v. Impacts on water consumption;

The Indiana Harbor West facility currently withdraws approximately 120 mgd from Lake Michigan and the northern end of the Indiana Harbor Ship Canal. Current evaporative losses are estimated at approximately 5 mgd. If closed-cycle cooling systems were installed throughout the facility, evaporative losses would increase by an additional 2.2 mgd. These evaporative water losses are not considered significant given the abundant available surface water supplies.

vi. Availability of process water, gray water, waste water, reclaimed water, or other waters of appropriate quantity; and, quality for reuse as cooling water

Process water at Indiana Harbor West for the No. 4 blast furnace (currently idle), the vacuum degasser and continuous caster are highly recycled in closed-cycle recirculation systems. Low volume blowdowns from these recycle systems are not suitable for reuse as cooling water because of chemical quality. There are no other

opportunities for reuse of process water as cooling water and no other apparent opportunities for use of reclaimed water as cooling water.

6.4.7 Best Technology Available (BTA) Impingement and Entrainment Determination Summary

A. Impingement Mortality BTA

1. Intake No. 1

IDEM has determined that compliance with the impingement mortality alternative under 40 CFR 125.94(c)(2) (operate a cooling water intake structure that has a maximum design through-screen intake velocity of 0.5 feet per second) is a viable impingement mortality BTA option at this intake. However, due to inconsistent information submitted by the permittee for this intake and its other intakes, the permit proposes to require the permittee to conduct a velocity monitoring study at this intake to compare to calculated velocities.

2. Intake No. 2

The permittee has proposed to comply with one of three BTA alternatives; achieve a maximum through-screen actual intake velocity of 0.5 fps pursuant to 40 CFR 125.94(c)(3); achieve a maximum design through-screen design intake velocity of 0.5 fps pursuant to 40 CFR 125.94(c)(2) or through a third as yet unselected alternative.

The first, comply with the impingement mortality BTA alternative under 40 CFR 125.94(c)(3) (operate a cooling water intake structure that has a maximum through-screen actual intake velocity of 0.5 feet per second) as the impingement mortality BTA for this intake. To meet this alternative, the intake flow will need to be reduced and/or the number of screens increased to achieve a through-screen velocity of 0.5 fps or less. The 0.5 fps maximum velocity is a not-to-exceed requirement, except that IDEM can allow this velocity to be exceeded “for brief periods for the purpose of maintaining the cooling water intake system, such as backwashing the screen face.” Ensuring compliance with this 0.5 fps alternative requires an accurate determination of the intake flow and by extension, the through screen actual intake velocity. This permit is proposing to require the use of a maximum hourly average flow to determine compliance with this 0.5 fps maximum velocity. The permittee would calculate the hourly average flow 24 times each day and use the maximum hourly average flow each day to calculate and report the maximum velocity for its monthly reports.

Based on the information that the permittee has submitted to date, it is unclear whether the impingement BTA option of maintaining an actual through screen velocity of 0.5 fps or less is a viable option, even when the number of screens is increased from 3 to 5. However, IDEM is proposing to include it as an impingement mortality BTA compliance method in the permit. The permittee has indicated that they may not be able to install the intake flow meter needed for this alternative. Therefore, they proposed alternate options for compliance with the impingement mortality BTA.

If the permittee determines that compliance with the above impingement mortality BTA is not feasible, the permittee proposed that they would comply with the impingement mortality BTA

alternative under 40 CFR 125.94(c)(2) (operate a cooling water intake structure that has a maximum design through-screen intake velocity of 0.5 feet per second.) For this alternative, the design intake flow will need to be significantly reduced and the number of screens increased to achieve a design through screen intake velocity of 0.5 fps or less.

Pursuant to 327 IAC 5-2-12, the permit will provide a compliance schedule of up to a maximum of three years after the effective date of the permit to comply with an impingement BTA alternative.

Further, if during the compliance period the permittee determines that a different impingement mortality BTA is the one they want install, the permittee must obtain the approval of IDEM for the change and, if approved, the impingement mortality BTA alternative must be installed and operational no later than three years after the effective date of the permit.

In addition, the permittee is required to conduct a velocity monitoring study at this intake to compare to calculated velocities.

B. Entrainment Mortality BTA:

After considering all the factors that must and may be considered by the federal rules, IDEM has determined that the existing facility for each intake and facility overall meets the best technology available (BTA) for entrainment mortality. This is primarily based on the following factors:

1. The species and small number of organisms expected to be entrained by the facility based on available data.
2. The costs associated with installing entrainment reduction technologies.
3. The flow reduction/water reuse optimization efforts already implemented at the facility.

The permit proposes to require that a new entrainment study be conducted at both Intake No. 1 and No. 2 to verify the current levels of entrainment at the facility.

6.4.8 Permit Conditions

A. The permittee must comply with the following cooling water intake structure requirements:

1. In accordance with 40 CFR 125.98(b)(1), nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act.

2. The permittee must at all times properly operate and maintain the cooling water intake structure and associated intake equipment.

3. The permittee must inform IDEM of any proposed changes to the CWIS or proposed changes to operations at the facility that affect the information taken into account in the current BTA evaluation.

4. Any discharge of intake screen backwash must meet the Minimum Narrative Limitations contained in Part I.B of the permit. There must be no discharge of debris from intake

screen washing which will settle to form objectionable deposits which are in amounts sufficient to be unsightly or deleterious, or which will produce colors or odors constituting a nuisance.

5. Intake 1 Flow Monitoring: The permittee must measure or estimate the intake flow at Intake No. 1 at a minimum frequency of daily. These data must be reported on the DMRs and MMRs. Further, the permittee must submit an annual report containing this daily intake flow data. If the intake flow rate is estimated, the annual report must include the data and calculations used to estimate the intake flow.

6. Intake 2 Flow Monitoring:
   a. If a flow measurement device is required to be installed pursuant to the 316(b) compliance schedule in Section 6.4.8.B., below, the following requirements are applicable:
      i. The permittee must install an intake flow measurement device that continuously monitors the intake flow at the No. 2 Intake.
      ii. After the intake flow measurement device is installed, the permittee must report the maximum hourly average flow for each day on the MMR with the monthly results summarized on the DMRs that are submitted every month. The permittee must calculate the hourly average flow 24 times each day to determine the maximum hourly average flow.
      iii. Until the flow monitoring device is installed, the permittee may estimate the flow at this intake and must report the daily flow for each day on the MMR with the monthly results summarized on the DMRs that are submitted every month.
   b. If a flow measurement device is not required to be installed the permittee may estimate the flow at this intake and must report the daily flow for each day on the MMR with the monthly results summarized on the DMRs that are submitted every month.
   c. the permittee must submit an annual report of the actual intake flows and include in the report both the maximum hourly average intake flow (if applicable) and the daily maximum intake flow for each day. For all estimated intake flows, the permittee must provide the data and calculations used to estimate each estimated intake flow in this annual report. As part of the annual report, the permittee shall also provide a spreadsheet containing the data and calculations.

7. At Intake No. 2, if the permittee selects the BTA alternative contained in 40 CFR 125.94(c)(3) and installs a cooling water intake structure that has a maximum through-screen actual intake velocity of 0.5 feet per second as the impingement mortality BTA at this intake pursuant to the 316(b) compliance schedule (Section 6.4.8.B., below), then beginning on the date that the schedule of compliance for Intake 2 is completed, or 36 months after the effective date of the permit, whichever is earlier:
   a. The permittee must calculate the velocity at the screens at Intake 2 using water flow (maximum hourly average water flow), water depth (the minimum ambient Lake Michigan level or actual water level at the screens if a method of measuring the actual water depth is installed), and the screen open area.
   b. The results of these daily calculations including the maximum hourly average intake flow and maximum calculated intake velocity must be reported on the MMR with the monthly results summarized on the DMRs that are submitted every month and

included in the annual report required under Section 6.4.8.A.6, above. As part of the annual report, the permittee shall also provide a spreadsheet containing the data and calculations.

8. Velocity Monitoring Study Requirements: The permittee is required to verify the actual through screen intake velocity at No. 1 Intake and the No. 2 Intake through actual measurements. The velocity measurements must be conducted for a range of flows. At a minimum, the velocity study must measure through screen velocity at design flow as well as when additional pumps at the intake(s) are operating and allow for estimating through screen velocity when operating at maximum actual flows above the design intake flow.
   a. For the No. 1 Intake, a study plan for this monitoring must be submitted to IDEM within 6 months of the effective date of this permit for review and approval prior to conducting the required study. The permittee must submit a report to IDEM containing the results of these velocity measurements no later than 24 months from the effective date of this permit. The through-screen velocity monitoring must, at a minimum, be conducted at a point where intake velocities are the greatest for each intake and the results must be compared to the velocities calculated by the permittee.
   b. For the No. 2 Intake, a study plan for this monitoring must be submitted to IDEM within 24 months of the effective date of this permit for review and approval prior to conducting the required study. The study must be initiated after completion of the 316(b)-compliance schedule (Section 6.4.8.B., below). The permittee must submit a report to IDEM containing the results of these velocity measurements no later than 48 months from the effective date of this permit. The through-screen velocity monitoring must, at a minimum, be conducted at a point where intake velocities are the greatest for each intake and the results must be compared to the velocities calculated by the permittee.

9. Pump Operation Requirements: At the No. 1 Intake and Pump Station, no more than two of the three pumps (Service Water Pumps No. 3, No, 4 and No.6) must operate at one time. The permittee must maintain pump operating records for all of the pumps at this intake (including date of operation and hours of operation on each day) and make these records available to IDEM upon request.

10. The permittee must either conduct visual inspections or employ remote monitoring devices during the period the cooling water intake structure is in operation as required by 40 CFR 125.96(e). The permittee must conduct such inspections at least weekly to ensure that any technologies operated to comply with 40 CFR 125.94 are maintained and operated to function as designed including those installed to protect Federally-listed threatened or endangered species or designated critical habitat. Alternative procedures can be approved if this requirement is not feasible (e.g., an offshore intake, velocity cap, or during periods of inclement weather).

11. Conduct two years of entrainment sampling at both Intake No. 1 and Intake No. 2. No later than 90 days after the effective date of the permit, the permittee must submit to IDEM for review and approval a study plan including a schedule for the conduct of two years of entrainment sampling at both Intake 1 and Intake 2, beginning on or before March 1 and lasting at a minimum through November 30 of each sampling year. The

entrainment study plan must conform to the entrainment characterization study requirements specified in 40 CFR 122.21(r)(9). After approval by IDEM, not later than 60 days prior to March 1 of the first study year, the permittee must conduct the approved entrainment sampling study. The entrainment sampling must be completed, and results submitted to IDEM within 90 days of completion of the two-year study. IDEM will review these study results and determine if it is necessary for the permittee to submit updated 40 CFR 122.21(r)(10) through (r)(13) reports. If IDEM determines that updates to any or all of these reports are needed, IDEM will notify the permittee. The permittee must submit any such updated reports no later than 180 days after receiving IDEM's notification that the updates are needed.

12. In accordance with 40 CFR 125.97(c), by January 31 of each year, the permittee must submit to the Industrial NPDES Permit Section IDEM-OWQ an annual certification statement for the preceding calendar year signed by the responsible corporate officer as defined in 40 CFR 122.22 (see 327 IAC 5-2-22) subject to the following:
    a. If the information contained in the previous year's annual certification is still pertinent, you may simply state as such in a letter to IDEM and the letter, along with any applicable data submission requirements specified in this section must constitute the annual certification.
    b. If you have substantially modified operation of any unit at your facility that impacts cooling water withdrawals or operation of your cooling water intake structures, you must provide a summary of those changes in the report. In addition, you must submit revisions to the information required at 40 CFR 122.21(r) in your next permit application.

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13. Best technology available (BTA) determinations for entrainment mortality and impingement mortality at cooling water intake structures will be made in each permit reissuance in accordance with 40 CFR 125.90-98. The permittee must submit all the information required by the applicable provisions of 40 CFR 122.21(r)(2) through (r)(13) with the next renewal application. Since the permittee has submitted the studies required by 40 CFR 122.21(r), the permittee may, in subsequent renewal applications pursuant to 40 CFR 125.95(c), request to reduce the information required if conditions at the facility and in the waterbody remain substantially unchanged since the previous application so long as the relevant previously submitted information remains representative of the current source water, intake structure, cooling water system, and operating conditions. Any habitat designated as critical or species listed as threatened or endangered after issuance of the current permit whose range of habitat or designated critical habitat includes waters where a facility intake is located constitutes potential for a substantial change that must be addressed by the owner/operator in subsequent permit applications, unless the facility received an exemption pursuant to 16 U.S.C. 1536(o) or a permit pursuant to 16 U.S.C. 1539(a) or there is no reasonable expectation of take. The permittee must submit the request for reduced cooling water intake structure and waterbody application information at least **two years and six months** prior to the expiration of the NPDES permit. The request must identify each element in this subsection that it determines has not substantially changed since the previous permit application and the basis for the determination. IDEM has the discretion to accept or reject any part of the request.

14. The permittee must submit and maintain all the information required by the applicable provisions of 40 CFR 125.97.

15. The permittee must keep records of all submissions that are part of its permit application until the subsequent permit issued to document compliance with 40 CFR 125.95. If IDEM approves a request for reduced permit application studies under 40 CFR 125.95(a) or (c) or 40 CFR 125.98(g), the permittee must keep records of all submissions that are part of the previous permit application until the subsequent permit is issued.

16. All required reports must be submitted to the IDEM, Office of Water Quality, NPDES Permits Branch, Industrial NPDES Permit Section at OWQWWPER@idem.in.gov and the Compliance Branch at wwReports@idem.in.gov.

B. Schedule of Compliance: The permittee shall install an impingement mortality BTA at the No. 2 Intake in accordance with the following schedule:

1. As soon as practicable but no later than twelve (12) months after the effective date of this permit, the permittee must provide for IDEM review and approval, the proposed impingement mortality BTA option it has selected for this intake to comply with the cooling water intake structure requirements and provide detailed descriptions, preliminary engineering study results, calculations, and the steps that will be taken to implement the selected impingement mortality BTA:
   (a) Compliance with the BTA alternative under 40 CFR 125.94(c)(3) (operate a cooling water intake structure that has a maximum through-screen actual intake velocity of 0.5 feet per second). This velocity is a not-to-exceed requirement that must be met under all conditions. The permittee shall provide documentation and calculations explaining how it intends to comply with this alternative which may include a combination of flow reductions and the addition of screens and shall provide the means for continuous intake flow measurement.
   (b) Compliance with the BTA alternative under 40 CFR 125.94(c)(2) (operate a cooling water intake structure that has a design through-screen velocity of 0.5 feet per second or less). Under this alternative, the permittee shall provide documentation and calculations explaining how it intends to comply with this alternative which may include a combination of modifications to intake pumps (flow reduction) and the addition of screens.
   (c) Compliance with one of the other BTA alternatives under 40 CFR 125.94(c)(1)-(c)(7).

   The alternative selected and approved under this provision shall be referred to as the "selected BTA alternative". The permittee shall request and receive approval for its selected BTA alternative prior to completion of the design plans required for the alternative under B.2., below.

2. As soon as practicable but no later than twenty (20) months after the permit effective date the permittee shall complete detailed engineering plans for the selected BTA alternative (the alternative selected under B.1., above).

3. As soon as practicable but no later than twenty-four (24) months after the permit effective date the permittee shall initiate construction of any the modifications necessary to

achieve compliance with the selected BTA alternative (the alternative selected under B.1., above). If the permittee selected an alternative of modified traveling screens under B.1.(c), above, the permittee must also submit a study plan for conducting an impingement technology performance optimization study pursuant to 40 CFR 122.21(r)(6)(i).

4. As soon as practicable, but no later than thirty-six (36) months after the effective date of the permit, complete construction of any modifications necessary to achieve compliance with the selected BTA alternative (the alternative selected under B.1., above).

5. Within thirty (30) days of completion, the permittee shall file with the Industrial NPDES Permits Section of Office of Water Quality (OWQ) a notice describing all modifications and actions taken to install the selected BTA alternative and a design summary of any modifications.

6. The permittee shall submit a written progress report to the Compliance Data Section of the OWQ three (3) months from the effective date of this permit and every six (6) months thereafter until the requirements in the compliance schedule outlined above have been achieved. The progress reports shall include relevant information related to steps the permittee has taken to meet the requirements in the compliance schedule and whether the permittee is meeting the dates in the compliance schedule.

7. If the permittee fails to comply with any deadline contained in the foregoing schedule, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Data Section of the OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance.

6.5 Streamlined Mercury Variance (SMV)

The SMV was initially incorporated into the NPDES Permit with a modification that became effective on September 1, 2016. The permittee submitted a complete SMV renewal application with its NPDES permit renewal application on March 3, 2022. The SMV renewal has been incorporated into this permit renewal and applies to the discharge from Outfall(s) 009 and 010.

The SMV establishes a streamlined process for obtaining a variance from a water quality criterion used to establish a WQBEL for mercury in an NPDES permit. The goal of the SMV is to reduce the effluent levels of mercury towards, and achieve as soon as practicable, compliance with the mercury WQBELs through implementation of a pollutant minimization program plan (PMPP). The SMV renewal will remain in effect until the permit expires under IC 13-14-8-9. Pursuant to IC 13-14-8-9(e), when the SMV renewal is incorporated into a permit extended under IC 13-15-3-6 (administratively extended), the renewal will remain in effect as long as the NPDES permit requirements affected by the SMV are in effect.

Mercury Interim Discharge Limit

The permit includes an interim discharge limit for mercury of 1.8 ng/l at Outfall 009 and 1.5 ng/l at Outfall 010. Compliance with each interim discharge limit will be achieved when the average

of the measured effluent daily values over the rolling twelve month period is less than the interim limit. Each reporting period, the permittee shall report both a daily maximum value and an annual average value for mercury.

The interim discharge limits were developed in accordance with 327 IAC 5-3.5-7 and with 327 IAC 5-3.5-8. Specifically, each interim discharge limit shall be based upon available, valid, and representative data of the effluent mercury levels collected and analyzed over the most recent two (2) year period from the facility. The interim limits of 1.8 ng/l at Outfall 009 and 1.5 ng/l at Outfall 010 represent the highest daily values for mercury from the most recent two (2) years of the permittee's effluent mercury data for the respective outfalls. This Office received a complete SMV renewal application on March 3, 2022. Therefore, mercury data two (2) years prior to March 3, 2022 were utilized in determining the mercury interim discharge limits. The SMV datasets are included below.

Date	Outfall 009 Hg (ng/L)
4/7/2020	0.426
6/2/2020	0.398
8/4/2020	0.404
10/5/2020	1.75
10/7/2020	0.474
10/9/2020	0.231
12/4/2020	0.231
2/6/2021	0.231
4/10/2021	0.231
6/14/2021	0.2425
6/16/2021	0.316
6/18/2021	0.231
8/5/2021	0.4805
10/6/2021	0.2565
12/9/2021	0.3865
2/16/2022	0.4

Date	Outfall 010 Hg (ng/L)
4/7/2020	0.426
6/2/2020	0.425
8/4/2020	0.4135
10/7/2020	0.258
12/4/2020	0.231
2/6/2021	0.231
4/10/2021	0.323
6/14/2021	0.28
8/5/2021	0.59
10/6/2021	0.341
12/9/2021	0.329
2/16/2022	1.5

Pollutant Minimization Program Plan (PMPP)

PMPP requirements are outlined in 327 IAC 5-3.5-9 and are included as an attachment to the NPDES permit in accordance with 327 IAC 5-3.5-6. The PMPP focuses on pollution prevention and source control measures to achieve mercury reduction in the effluent. The PMPP was public noticed prior to submittal to IDEM in accordance with 327 IAC 5-3.5-9(c). No comments were received during the public notice period. Or if comments were received, address those here. The goal of the PMPP is to reduce the effluent levels of mercury towards, and achieve as soon as practicable, compliance with the mercury WQBELs established for the permitted facility.

SMV Annual Reports

The permittee is required to submit annual reports to IDEM by August 1 of each year in which the SMV is in effect. The annual report must describe the SMV applicant's progress toward fulfilling each PMPP requirement, the results of all mercury monitoring within the previous year, and the steps taken to implement the planned activities outlined under the PMPP.

6.6 Polychlorinated Biphenyl (PCB)

There shall be no discharge of polychlorinated biphenyl (PCB) compounds attributable to facility operations such as those historically used in transformer fluids. In order to determine compliance with the PCB discharge prohibition, the permittee shall provide the following PCB data with the next NPDES permit renewal application for at least one sample taken from each final outfall. The corresponding facility water intakes shall be monitored at the same time as the final outfalls.

Pollutant	Test Method	LOD	LOQ
PCBs*	EPA 608	0.1 ug/L	0.3 ug/L

*PCB 1242, 1254, 1221, 1232, 1248, 1260, 1016

6.7 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.(d), Part II.B.3.(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.

6.8 Permit Processing/Public Comment

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at https://www.in.gov/idem/public-notices/. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at https://www.in.gov/idem/resources/citizens-guide-to-idem/. A 30-day comment period is available to solicit input from interested parties, including the public. A general notice will also be published in the newspaper with the largest general circulation within Lake County.

6.9 Post Public Notice Addendum

The draft NPDES permit for Cleveland-Cliffs Steel LLC - Indiana Harbor West was made available for public comment from September 30, 2023, through November 16, 2023, as part of Public Notice No. 2023 - 0930 – IN0000205 PH/RD on IDEM's website at https://www.in.gov/idem/public-notices/public-notices-all-regions/. During this comment period, public hearing comments and comment letters were received. All comments, and this Office's corresponding responses, are summarized in Appendix C. Any changes to the permit and/or Fact Sheet are so noted in Appendix C.

Appendix A
Technology-Based Effluent Limitation Calculations

PROCESS	ELG	PROD. (TONS/DAY)	TSS AVE	TSS MAX	TOTAL LEAD AVE	TOTAL LEAD MAX	TOTAL ZINC AVE	TOTAL ZINC MAX	AMMONIA AVE	AMMONIA MAX	CYANIDE AVE	CYANIDE MAX	PHENOLS (4AAP) AVE	PHENOLS (4AAP) MAX	TRC(1) MAX	
Blast Furnace	420.32(a), 33(a)	7,000	0.0260	0.0782	0.0000876	0.000263	0.000131	0.000394	0.00292	0.00876	0.000876	0.00175	0.0000292	0.0000584	0.000146	**lbs/1000 lbs**
H4 furnace			364.0	1094.8	1.2	3.7	1.8	5.5	40.9	122.6	12.3	24.5	0.41	0.82	2.0	**lbs/day**
TOTAL			**364**	**1095**	**1.23**	**3.68**	**1.83**	**5.52**	**301(g)**	**301(g)**	**12.3**	**24.5**	**301(g)**	**301(g)**	**2.04**	**lbs/day**
Current Permit Limits			**546**	**1642**	**1.84**	**5.52**	**2.75**	**8.27**	**301(g)**	**301(g)**	**18.4**	**36.8**	**301(g)**	**301(g)**	**no limit**	
Effective 301(g) Variance Limits																
	Outfall 009								425	1,000			NA	11		lbs/day
	Outfall 010								100	300			NA	5		lbs/day
	Outfall 011								75	150			NA	5		lbs/day
	Total								**600**	**1450**			**NA**	**21**		**lbs/day**

Cleveland Cliffs requests to maintain the effective 301(g) variance limits at Outfalls 009, 010 and 011

(1) TRC limit only applicable if wastewater is chlorinated

Outfall 701 - Vacuum Degassing Wastewater Treatment System

Operation	Production (tons/day)	ELG	TSS M. Avg.	TSS Daily Max	Oil and Grease M. Avg.	Oil and Grease Daily Max	Lead M. Avg.	Lead Daily Max	Zinc M. Avg.	Zinc Daily Max	
Vacuum Degassing	6,048	420.54	0.00261	0.00730	--	--	0.0000313	0.0000939	0.0000469	0.000141	lbs/1000 lbs
TOTAL			**31.6**	**88.3**	**--**	**--**	**0.38**	**1.14**	**0.57**	**1.71**	**lbs/day**
Current Permit Limits			**21.2**	**59.4**	**--**	**--**	**0.255**	**0.764**	**0.382**	**1.15**	**lbs/day**

Outfall 702 - Continuous Casting Wastewater Treatment System

Operation	Production (tons/day)	ELG	TSS M. Avg.	TSS Daily Max	Oil and Grease M. Avg.	Oil and Grease Daily Max	Lead M. Avg.	Lead Daily Max	Zinc M. Avg.	Zinc Daily Max	
Continuous Casting	9,853	420.64	0.00261	0.00730	0.00104	0.00313	0.0000313	0.0000939	0.0000469	0.000141	lbs/1000 lbs
TOTAL			**51.4**	**144**	**20.5**	**61.7**	**0.62**	**1.85**	**0.92**	**2.78**	**lbs/day**
Current Permit Limits			**60.3**	**169**	**24**	**72.4**	**0.724**	**2.17**	**1.08**	**3.26**	**lbs/day**

Appendix B
Wasteload Allocation Analysis

Use Classifications

The Indiana Harbor 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 Lake George Canal originates two miles to the west of its confluence with the Indiana Harbor Canal. The Indiana Harbor 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 "open waters of Lake Michigan" is defined at 327 IAC 2-1.5-2(64) as the following:

"…(A) The waters within Lake Michigan lakeward, from a line drawn across the mouth of tributaries to the lake, including all waters enclosed by constructed breakwaters.
(B) For the Indiana Harbor Ship Canal, the boundary of the open waters of Lake Michigan is delineated by a line drawn across the mouth of the harbor from the East Breakwater Light (2016 United States Coast Guard Light List No. 19675) to the northernmost point of the shore line along the west side of the harbor."

Based on this definition, IDEM considers the shoreline on the west side of the breakwall, which creates a channel for the Cleveland-Cliffs West No. 2 water intake, as the western boundary of the Indiana Harbor Ship Canal. The breakwall creates a barrier between the channel and the Indiana Harbor during critical flow conditions, so the channel will not be considered part of the Indiana Harbor for purposes of conducting wasteload allocations. Instead, it will be treated as a tributary within the Lake Michigan drainage basin.

Cleveland-Cliffs has outfalls that discharge to the Indiana Harbor Canal downstream of the Lake George Canal and outfalls that discharge to the Indiana Harbor. The Indiana Harbor Canal, the Indiana Harbor and the channel for the Cleveland-Cliffs West No. 2 water intake are designated for full-body contact recreation and shall be capable of supporting a well-balanced, warm water aquatic community. Cleveland-Cliffs West water intake No. 1 is in the Indiana Harbor, so the Indiana Harbor is designated as an industrial water supply. The Indiana portion of the open waters of Lake Michigan is designated for full-body contact recreation; shall be capable of supporting a well-balanced, warm water aquatic community; is designated as salmonid waters and shall be capable of supporting a salmonid fishery; is designated as a public water supply; and, is designated as an industrial water supply. The Indiana portion of the open waters of Lake Michigan is also classified as an outstanding state resource water. These waterbodies are identified as waters of the state within the Great Lakes system. As such, they are subject to the water quality standards and implementation procedures specific to Great Lakes system dischargers as found in 2-1.5, 5-1.5, and 5-2, and the 2006 revised GLI MOA with U.S. EPA. In addition, these waterbodies are subject to the statewide antidegradation policy and implementation procedures as found in 2-1.3.

Section 303(d) of the Clean Water Act requires states to identify waters, through their Section 305(b) water quality assessments, that do not or are not expected to meet applicable water

quality standards with federal technology-based standards alone. States are also required to develop a priority ranking for these waters taking into account the severity of the pollution and the designated uses of the waters. Once this listing and ranking of impaired waters is completed, the states are required to develop Total Maximum Daily Loads (TMDLs) for these waters in order to achieve compliance with the water quality standards. Indiana's 2022 303(d) List of Impaired Waters was developed in accordance with Indiana's Water Quality Assessment and 303(d) Listing Methodology for Waterbody Impairments and Total Maximum Daily Load Development for the 2022 Cycle. As of the 2022 303(d) List of Impaired Waters, the following impairments were listed for waters to which the permittee discharges:

Table 1

Assessment Unit	Waterbody	Impairments	Cleveland-Cliffs West Outfalls
INC0163_T1001	Indiana Harbor Canal	Biological Integrity, Oil and Grease, *E. coli* and PCBs in Fish Tissue	002, 009 and 010
INC0163G_G1078	Lake Michigan Shoreline (includes Indiana Harbor)	Free Cyanide, Mercury in Fish Tissue and PCBs in Fish Tissue	011
INM00G1000_00	Lake Michigan (beyond the shoreline)	Mercury in Fish Tissue and PCBs in Fish Tissue	None

Water Quality-based Effluent Limitations

The water quality-based effluent limitations (WQBELs) included in the 2017 permit and documented in the Fact Sheet were developed as part of a wasteload allocation analysis for the Indiana Harbor Canal presented in the report “Supplemental Information for the Wasteload Allocation Analysis for the ArcelorMittal Indiana Harbor 2017 Permits” dated June 23, 2017. The wasteload allocation included a multi-discharger model that was limited to the Indiana Harbor Canal/Lake George Canal/Indiana Harbor subwatershed. Pollutants selected for the multi-discharger model were based on water quality concerns and the application of technology-based effluent limitations (TBELs) at multiple outfalls. For Cleveland-Cliffs (Indiana Harbor West), hereinafter Cleveland-Cliffs West, WQBELs for ammonia (as N) at Outfalls 009, 010 and 011, for lead and zinc at Outfalls 009 and 011 and for total residual chlorine at Outfalls 002, 009, 010 and 011 were developed as part of the multi-discharger model. The 2017 wasteload allocation (WLA) also included WQBELs for specific pollutants calculated on an individual outfall basis.

The 2017 WLA was developed using Indiana water quality regulations for discharges to waters within the Great Lakes system that include water quality criteria and methodologies for developing water quality criteria (327 IAC 2-1.5), procedures for calculating WLAs (5-2-11.4), making reasonable potential to exceed determinations (5-2-11.5) and developing WQBELs (5-2-11.6). These regulations are applicable to individual pollutants and to whole effluent toxicity (WET). These regulations are still applicable and were used in the current WLA analysis for the

Indiana Harbor Canal presented in the report “Supplemental Information for the Wasteload Allocation Analysis for the Cleveland-Cliffs Indiana Harbor 2023 Permits” dated May 22, 2023. The application of WET requirements to Cleveland-Cliffs is included in a later section.

The current subwatershed model for the Indiana Harbor Canal/Lake George Canal/Indiana Harbor included the Cleveland-Cliffs West facility which has three active outfalls to the Indiana Harbor Canal, one active outfall to the Indiana Harbor, and water intake No. 1 in the Indiana Harbor near the mouth of the Indiana Harbor Canal. The other major dischargers included in the subwatershed model are as follows in relation to the Cleveland-Cliffs West facility: Cleveland-Cliffs (Indiana Harbor Central Treatment Plant) (IN0063711), hereinafter Cleveland-Cliffs CTP, has one active outfall upstream to the Indiana Harbor Canal; and, Cleveland-Cliffs (Indiana Harbor East) (IN0000094), hereinafter Cleveland-Cliffs East, has three active outfalls to the Indiana Harbor. The discharges from these two facilities were taken into consideration in determining the need for and establishing WQBELs for the discharges from the Cleveland-Cliffs West outfalls.

A review of the 2022 303(d) list shows that there is only one pollutant on the list that has the potential to impact wasteload allocation analyses conducted for the renewal of NPDES permits for dischargers in the Indiana Harbor Canal/Lake George Canal/Indiana Harbor subwatershed. The Indiana Harbor was first listed for free cyanide on the 2010 303(d) list. The listing was based on free cyanide data collected during the years 2000 and 2001 at IDEM fixed station IHC-0 in the Indiana Harbor. This station is located just upstream of Cleveland-Cliffs West Outfall 011 and, due to the potential for reverse flows in the Indiana Harbor, could be impacted by the outfall. It is also located downstream of Cleveland-Cliffs East Outfalls 011, 014 and 018. The aquatic life criteria for cyanide were changed from total cyanide to free cyanide in the 1997 Great Lakes rulemaking. It is IDEM current practice to monitor for total cyanide at fixed stations and analyze samples for free cyanide only when total cyanide data show a reportable concentration (> 5 ug/l). After 2001, data collected at fixed station IHC-0 no longer showed any reportable values for total cyanide so free cyanide data have not been collected. Cleveland-Cliffs West has also installed additional treatment and redirected cyanide containing process wastewater away from Outfall 011.

The Indiana Harbor Canal has not been included on the 303(d) list for free cyanide due to the two IDEM fixed stations in the Indiana Harbor Canal (located upstream of fixed station IHC-0 at Columbus Avenue (IHC-3S) and Dickey Road (IHC-2)) not showing impairment for free cyanide. Only one value (6 ug/l in October 2022) for total cyanide above 5 ug/l has been reported at IHC-3S since February 2007 and at IHC-2 since January 2005. Prior to the 2011 permit renewal, total cyanide had been reported at many of the Cleveland-Cliffs outfalls due to technology-based limits for this parameter, but little data for free cyanide was available. Therefore, in the 2011 permit renewal, monitoring was required for free cyanide at all Cleveland-Cliffs outfalls for use in conducting a multi-discharger WLA and assessment of reasonable potential at the next permit renewal. The analysis is documented in the 2017 report cited above and resulted in limits for free cyanide at Cleveland-Cliffs CTP Outfall 001 and monitoring at Cleveland-Cliffs East Outfalls 014 and 018.

A TMDL is not currently planned for the subwatershed, and, based on current IDEM monitoring data, may not be required. Therefore, as was done in the 2017 WLA, the procedures for calculating WLAs under 5-2-11.4 were used to develop preliminary WLAs and WLAs in the

absence of a TMDL. Wasteload allocations in the absence of TMDLs are developed to establish water quality-based effluent limitations under 5-2-11.6 and preliminary wasteload allocations are developed to make reasonable potential determinations under 5-2-11.5. The reasonable potential procedures under 5-2-11.5 include provisions for making reasonable potential determinations using best professional judgment (5-2-11.5(a)) and using a statistical procedure (5-2-11.5(b)). The statistical procedure is a screening process in which a projected effluent quality (PEQ) based on effluent data is calculated and compared to a preliminary effluent limitation (PEL) based on the preliminary wasteload allocation. Both the best professional judgment and statistical procedures were used to establish the need for WQBELs to protect the designated uses of the Indiana Harbor Canal, Indiana Harbor, and Lake Michigan.

To develop WLAs and conduct reasonable potential to exceed analyses, IDEM utilized the following effluent data collected and submitted by Cleveland-Cliffs for the West facility: data collected during the period January 2019 through February 2022 in accordance with the current permit and reported on monthly monitoring reports (MMRs); data for mercury collected during the term of the current permit; and, data for ammonia (as N), lead and zinc collected for the 2022 permit renewal application. To develop WLAs, IDEM utilized the following sources of water quality data for the Indiana Harbor Canal and Indiana Harbor: IDEM fixed water quality monitoring station IHC-3S at Columbus Drive (Indiana Harbor Canal upstream of Lake George Canal and all Cleveland-Cliffs outfalls); IDEM fixed station IHC-2 at Dickey Road (Indiana Harbor Canal); and, IDEM fixed station IHC-0 at the mouth of the Indiana Harbor. To develop WLAs, IDEM utilized the following sources of data for Lake Michigan: IDEM fixed station LM-H at the public water supply intake for the City of Hammond and IDEM fixed station LM-DSP at Dunes State Park. After a review of effluent and in-stream data, it was decided to conduct a multi-discharger WLA for ammonia (as N), lead, zinc and total residual chlorine. Other pollutants of concern, including mercury, were considered on an outfall-by-outfall basis.

In the 2017 multi-discharger model, the Indiana Harbor Canal was divided into sixteen complete mix segments and the Indiana Harbor into five complete mix segments. The Lake George Canal was incorporated as an input to the Indiana Harbor Canal. The intrusion of lake water was accounted for in the model by adding a portion of the total lake intrusion flow to the surface layer of each of nine affected segments in the Indiana Harbor and Indiana Harbor Canal. A total lake intrusion flow of 138 cfs was used based on a measurement made by the USGS in October 2002 during a normal lake level condition. The procedures in 5-2-11.4 require the more stringent of the FAV or the acute WLA calculated using up to a one-to-one dilution to be applied to individual outfalls. They also limit the dilution available for each outfall (the mixing zone) to twenty-five percent (25%) of the stream design flow. Because of the potential for overlapping mixing zones within a segment, the combined discharges in a segment were also limited collectively to twenty-five percent (25%) of the stream design flow. This was done in accordance with 5-2-11.4(b)(3)(D) which requires the combined effect of overlapping mixing zones to be evaluated to ensure that applicable criteria and values are met in the area where the mixing zones overlap.

Based on the reasonable potential statistical procedure at 5-2-11.5(b)(1)(iii) and (iv), the procedures under 5-2-11.4(c) are used as the basis for determining preliminary WLAs and the preliminary WLAs are then used to develop monthly and daily PELs in accordance with the procedure for converting WLAs into WQBELs under 5-2-11.6. Three critical inputs to the procedure under 5-2-11.4(c) include the background concentration, the effluent flow and the

stream flow. The background concentration is determined under 5-2-11.4(a)(8). Under this rule, background concentrations can be determined using actual in-stream data or in-stream concentrations estimated using actual or projected pollutant loading data. In the multi-discharger WLA, in-stream data were used to establish the background concentration for the first segment of the model and then either actual or projected pollutant loading data were used.

The flow assigned to Cleveland-Cliffs Central Outfall 001 and Cleveland-Cliffs West Outfall 002 was the long-term average flow calculated using data from the period December 2017 through November 2019. This period represents production prior to the idling in November 2019 of the U.S. Steel ECTO operations. The flow assigned to Cleveland-Cliffs West Outfalls 009, 010 and 011 was the long-term average flow calculated using data from the period January 2020 through December 2021. This period represents production prior to the idling in April 2022 of the No. 4 blast furnace. The flow assigned to Cleveland-Cliffs East Outfalls 011, 014 and 018 was the long-term average flow calculated using data also from the period January 2020 through December 2021 to be consistent with the period used for the Cleveland-Cliffs West outfalls.

The stream design flow used to develop wasteload allocations is determined under 5-2-11.4(b)(3). For the pollutants considered in this analysis, the aquatic life criteria are limiting and the stream design flow for chronic aquatic life criteria is the Q7,10. As was done in the 2017 WLA, the Q7,10 was used as the stream design flow for the first segment of the multi-discharger model and then the long-term average flow of each discharger was added to become the stream design flow for downstream dischargers. The lake intrusion flow was added to the stream design flow at the end of each applicable segment. The Q7,10 was calculated using data from USGS gauging station 04092750 which is located in the Indiana Harbor Canal at Canal Street. The data used in the calculation consisted of continuous daily mean flow data approved by the USGS for the period 10-1-1994 through 3-31-2012. The Q7,10 based on the climatic year (April 1 through March 31) is 358 cfs.

At each applicable outfall, PELs were calculated for each pollutant of concern using an outfall specific spreadsheet that calculates PELs using the procedures under 5-2-11.4(c) to calculate WLAs and the procedures under 5-2-11.6 to convert WLAs into PELs. The spreadsheet considers all water quality criteria (acute and chronic aquatic life, human health and wildlife) and associated stream design flows and mixing zones. The stream design flow for each water quality criterion was set equal to the same value in the outfall specific spreadsheet. This value was the Q7,10 flow plus the accumulation of long-term average effluent flow and any lake intrusion flow, minus any intake flow. For mercury, which is a bioaccumulative chemical of concern (BCC), a mixing zone was not allowed in the development of PELs for any outfall in accordance with 5-2-11.4(b)(1). For those pollutants included in a multi-discharger WLA, the multi-discharger model was used to ensure that the most stringent water quality criterion is met at the edge of the mixing zone for each segment. This was the 4-day average chronic criterion. The multi-discharger model was also used to ensure that Lake Michigan criteria are met at the end of the last segment in the Indiana Harbor. The preliminary WLA was included as an input in the multi-discharger model and PELs were calculated from the preliminary WLA.

In the multi-discharger model, preliminary WLAs for each outfall were established, if possible, so that the monthly and daily PEQs did not exceed the PELs calculated from the preliminary WLAs. If TBELs were included for the parameter at a final outfall or an internal outfall, then the preliminary WLA was increased to the extent possible to allow the mass-based PELs to exceed

the TBELs. The preliminary WLAs were adjusted as necessary so that the calculated PELs did not exceed the PELs calculated using the outfall specific spreadsheets and so that the water quality criterion was not exceeded at the edge of the mixing zone for each segment as determined using the multi-discharger model. For some outfalls, the discharge of one or more pollutants for which a multi-discharger WLA was conducted was not considered significant, so a preliminary WLA was established based on the reported effluent concentration, or if sufficient data were available, reported effluent loading data, but PELs were not calculated as allowed under 5-2-11.5(b)(1).

After assigning a preliminary WLA to each outfall in a segment and entering the WLA into the multi-discharger model, the model calculates the PELs for each outfall, the concentration at the edge of the mixing zone for the segment and the concentration at the end of each segment after complete mixing. The concentration after complete mixing then becomes the background concentration for the next segment. To calculate PELs using the outfall specific spreadsheets, the background concentration for each outfall was calculated assuming complete mixing between outfalls. This was done by entering the WLAs for each outfall into a separate spreadsheet that calculated the background concentration upstream of each outfall. By conducting a multi-discharger WLA in this manner, the background concentration for each outfall was based on the accumulated WLAs for the prior outfalls. Since the WLAs were based in some cases on projected effluent quality, the background concentrations were based on projected loading data. This provided a conservative means of determining the cumulative impact of the outfalls. For those pollutants not included in a multi-discharger WLA, the background concentration for each outfall was based on in-stream data.

The results of the reasonable potential statistical procedure are included in Tables 2 through 4. The results show that the discharge from Cleveland-Cliffs West Outfall 009 has a reasonable potential to exceed a water quality criterion for ammonia (as N) and zinc.

In addition to establishing WQBELs based on the reasonable potential statistical procedure, IDEM is also required to establish WQBELs under 5-2-11.5(a) “If the commissioner determines that a pollutant or pollutant parameter (either conventional, nonconventional, a toxic substance, or whole effluent toxicity (WET)) is or may be discharged into the Great Lakes system at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable narrative criterion or numeric water quality criterion or value under 327 IAC 2-1.5”. Chlorine is added to the intake water for zebra and quagga mussel control at concentrations exceeding water quality criteria. Outfalls 002, 009, 010 and 011 receive noncontact cooling water. Therefore, chlorine may be discharged from these outfalls at a level that will cause an excursion above the numeric water quality criterion for total residual chlorine under 2-1.5 and WQBELs for total residual chlorine are required at Outfalls 002, 009, 010 and 011. In addition, bromine-based water treatment additives may be used at plant processes contributing to Outfall 011, so WQBELs for bromine are required at this outfall.

For each pollutant receiving TBELs at an internal outfall, and for which water quality criteria or values exist or can be developed, concentration and corresponding mass-based WQBELs were calculated at the final outfall. The WQBELs were set equal to the applicable PELs from the multi-discharger model or the outfall specific spreadsheet. This was done for Cleveland-Cliffs West Outfall 009 (lead and zinc at internal Outfall 509 and a 301(g) variance for ammonia (as N) at the final outfall), Cleveland-Cliffs West Outfall 010 (301(g) variance for ammonia (as N)), and

Cleveland-Cliffs West Outfall 011 (lead and zinc at internal Outfalls 701 and 702 and a 301(g) variance for ammonia (as N) at the final outfall). The mass-based WQBELs at the final outfall were compared to the mass-based TBELs. Since the facility is authorized to discharge up to the mass-based TBELs, if the mass-based TBELs exceed the mass-based WQBELs at the final outfall, the pollutant may be discharged at a level that will cause an excursion above a numeric water quality criterion or value under 2-1.5 and WQBELs are required for the pollutant at the final outfall. This was not the case for any pollutant at Outfalls 009, 010 and 011.

Once a determination is made using the reasonable potential provisions under 5-2-11.5 that WQBELs must be included in the permit, the WQBELs are calculated in accordance with 5-2-11.5(d). Under this provision, in the absence of an EPA-approved TMDL, WLAs are calculated for the protection of acute and chronic aquatic life, wildlife, and human health in accordance with the WLA provisions under 5-2-11.4. The WLAs are then converted into WQBELs in accordance with the WQBEL provisions under 5-2-11.6. The WQBELs are included in Table 5 and were set equal to the PELs calculated for each pollutant.

Whole Effluent Toxicity Testing Requirements

The 1997 Indiana Great Lakes regulations included narrative criteria with numeric interpretations for acute (2-1.5-8(b)(1)(E)(ii)) and chronic (2-1.5-8(b)(2)(A)(iv)) whole effluent toxicity (WET) and a procedure for conducting reasonable potential for WET (5-2-11.5(c)(1)). U.S. EPA did not approve the reasonable potential procedure for WET, so Indiana is now required by 40 CFR Part 132.6(c) to use the reasonable potential procedure in Paragraphs C.1 and D of Procedure 6 in Appendix F of 40 CFR Part 132. IDEM used this procedure in conducting the reasonable potential analysis for WET except that the equation was rearranged so that it is similar to the equation that IDEM uses for other pollutants and pollutant parameters.

The renewal permit effective September 1, 2017 for Cleveland-Cliffs West required annual chronic toxicity testing at Outfalls 009 and 011 for *Ceriodaphnia d*ubia. Data collected from September 2019 through October 2022 were used in the analysis. The results of the reasonable potential analysis are shown in Table 6. The results show that the discharges from Outfalls 009 and 011 do not have a reasonable potential to exceed the numeric interpretation of the narrative criterion for acute or chronic WET.

The permittee will be required to conduct chronic whole effluent toxicity testing of its effluent discharge from Outfalls 009 and 011 using *Ceriodaphnia dubia.* Acute toxicity is to be derived from chronic toxicity tests and toxicity is to be reported in terms of acute and chronic toxic units and compared to calculated TRE triggers. The TRE triggers are set equal to the acute and chronic WLAs for WET in accordance with 327 IAC 5-2-11.6(d). If either an acute or chronic TRE trigger is exceeded, another chronic WET test must be conducted within two weeks. If the results of any two consecutive tests exceed the applicable TRE trigger, Cleveland-Cliffs must conduct a TRE. The TRE triggers are shown in Table 5.

TABLE 2 REASONABLE POTENTIAL TO EXCEED CLEVELAND-CLIFFS (INDIANA HARBOR WEST) OUTFALL 009 (36.0 mgd)

PARAMETER	MONTHLY AVERAGE					DAILY MAXIMUM					PEL		PEQ > PEL	
	Maximum Effluent Value	Count	C.V.	M.F.	PEQ	Maximum Effluent Value	Count	C.V.	M.F.	PEQ	Monthly Average@	Daily Maximum	Monthly Average	Daily Maximum
Lead (ug/l) *	2.6	38	0.7	1.1	**2.9**	9.2	208	1.4	0.8	**7.4**	**6.4**	**13**	No	No
Zinc (ug/l) *	261	38	2.4	1.3	**340**	1000	208	4.4	0.7	**700**	**170**	**330**	**Yes**	**Yes**
Ammonia (as N) (mg/l) *	4.4	38	0.8	1.2	**5.3**	7.1	216	1.0	0.9	**6.4**	**2.4**	**4.8**	**Yes**	**Yes**

* Effluent data were obtained from MMRs for the period January 2019 through February 2022.

@ Monthly average PELs were calculated based on the applicable sampling frequency in a month.

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TABLE 3 REASONABLE POTENTIAL TO EXCEED CLEVELAND-CLIFFS (INDIANA HARBOR WEST) OUTFALL 010 (35.4 mgd)

PARAMETER	MONTHLY AVERAGE					DAILY MAXIMUM					PEL		PEQ > PEL	
	Maximum Effluent Value	Count	C.V.	M.F.	PEQ	Maximum Effluent Value	Count	C.V.	M.F.	PEQ	Monthly Average@	Daily Maximum	Monthly Average	Daily Maximum
Lead (ug/l) *	1.9	38	0.6	1.1	**2.1**	4.3	200	0.9	0.8	**3.4**	**2.3**	**4.6**	No	No
Zinc (ug/l) *	18	38	0.4	1.1	**20**	26	200	0.6	0.9	**23**	**30**	**60**	No	No
Ammonia (as N) (mg/l) *	0.34	38	0.4	1.1	**0.37**	0.47	201	0.5	0.9	**0.42**	**0.37**	**0.74**	No	No

* Effluent data were obtained from MMRs for the period January 2019 through February 2022.

@ Monthly average PELs were calculated based on the applicable sampling frequency in a month.

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TABLE 4 REASONABLE POTENTIAL TO EXCEED CLEVELAND-CLIFFS (INDIANA HARBOR WEST) OUTFALL 011 (30.8 mgd)

PARAMETER	MONTHLY AVERAGE					DAILY MAXIMUM					PEL		PEQ > PEL	
	Maximum Effluent Value	Count	C.V.	M.F.	PEQ	Maximum Effluent Value	Count	C.V.	M.F.	PEQ	Monthly Average@	Daily Maximum	Monthly Average	Daily Maximum
Lead (ug/l) *	1.6	38	0.7	1.1	**1.8**	7.9	184	1.6	0.8	6.3	**10**	**20**	No	No
Mercury (ng/l) **					**0.67**	0.612	40	0.4	1.1	**0.67**	**1.3**	**3.2**	No	No
Zinc (ug/l) *	23	38	0.5	1.1	**25**	90	179	1.1	0.8	**72**	**150**	**310**	No	No
Ammonia (as N) (mg/l) *	0.22	38	0.3	1.1	**0.24**	0.63	185	0.7	0.9	**0.57**	**0.41**	**0.82**	No	No

* Effluent data were obtained from MMRs for the period January 2019 through February 2022.

** Effluent data were obtained from MMRs for the period October 2017 through February 2022.

@ Monthly average PELs were calculated based on the applicable sampling frequency in a month.

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TABLE 5
WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR CLEVELAND-CLIFFS (INDIANA HARBOR WEST) (IN0000205)

Parameter	Quantity or Loading			Quality or Concentration		
	Monthly Average	Daily Maximum	Units	Monthly Average @	Daily Maximum	Units
Outfall 002 (12.5 mgd)						
Total Residual Chlorine	1.7	3.9	lbs/day	16	37	ug/l
Outfall 009 (36.0 mgd)						
Lead	1.9	3.9	lbs/day	6.4	13	ug/l
Mercury	0.00039	0.00096	lbs/day	1.3	3.2	ng/l
Zinc	51	99	lbs/day	170	330	ug/l
Ammonia (as N)	720	1,400	lbs/day	2,400	4,800	ug/l
Total Residual Chlorine	4.2	9.6	lbs/day	14	32	ug/l
Whole Effluent Toxicity (WET)						
Acute #					1.0	TUa
Chronic &				2.8		TUc
Outfall 010 (35.4 mgd)						
Mercury	0.00038	0.00095	lbs/day	1.3	3.2	ng/l
Ammonia (as N)	110	300	lbs/day	370	740	ug/l
Total Residual Chlorine	4.1	9.5	lbs/day	14	32	ug/l
Outfall 011 (30.8 mgd)						
Lead	2.6	5.1	lbs/day	10	20	ug/l
Zinc	39	80	lbs/day	150	310	ug/l
Ammonia (as N)	110	210	lbs/day	410	820	ug/l
Bromine	0.19	0.44	lbs/day	0.74	1.7	ug/l
Total Residual Chlorine	3.6	8.2	lbs/day	14	32	ug/l
Whole Effluent Toxicity (WET)						
Acute #					1.0	TUa
Chronic &				4.1		TUc

@ Monthly average WQBELs were calculated based on the applicable sampling frequency in a month, except for WET.
# This value is the Toxicity Reduction Evaluation (TRE) trigger for acute WET testing.
& This value is the Toxicity Reduction Evaluation (TRE) trigger for chronic WET testing.

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TABLE 6 REASONABLE POTENTIAL TO EXCEED FOR WHOLE EFFLUENT TOXICITY
CLEVELAND-CLIFFS (INDIANA HARBOR WEST)

Outfall 009*

Parameter	Maximum Effluent Value	Count	C.V.	M.F.	PEQ	WLA	PEQ>WLA	WQBEL	
								Monthly Average	Daily Maximum
Acute WET (TUa)	<1.0	4	0.6	2.6	<2.6	1.0	NO	--	Not Required
Chronic WET (TUc)	<1.0	4	0.6	2.6	<2.6	2.8	NO	Not Required	--

Outfall 011*

Parameter	Maximum Effluent Value	Count	C.V.	M.F.	PEQ	WLA	PEQ>WLA	WQBEL	
								Monthly Average	Daily Maximum
Acute WET (TUa)	<1.0	4	0.6	2.6	<2.6	1.0	NO	--	Not Required
Chronic WET (TUc)	<1.0	4	0.6	2.6	<2.6	4.1	NO	Not Required	--

* The data used in the analysis were those collected from September 2019 through October 2022 for *Ceriodaphnia dubia* in accordance with the July 2017 permit renewal.

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Appendix C
Post Public Notice Addendum

The draft NPDES permit for Cleveland-Cliffs Steel LLC - Indiana Harbor West was made available for public comment from September 30, 2023, through November 16, 2023, as part of Public Notice No. 2023 - 0930 – IN0000205 PH/RD on IDEM's website at https://www.in.gov/idem/public-notices/public-notices-all-regions/. During this comment period, public hearing comments and comment letters were received. All comments, and this Office's corresponding responses, are summarized below. Any changes to the permit and/or Fact Sheet are so noted below.

Comment provided by Graham Hamilton, US Policy Officer at Break Free from Plastic of the Environmental Law and Policy Center on October 30, 2023:

Comment 1: I would like to submit a formal request that the IDEM give residents a 45 day extension of the comment period to adequately review and in order to provide input on wastewater discharge permits on steel mills impacting Lake Michigan.

With these renewals up for consideration IDEM has the opportunity to ensure facilities to utilize current and maximum available control technology to reduce pollutants, such as mercury, chromium, and lead. IDEM must take full advantage of this opportunity and strengthen protections for the lake and all her residents.

Response 1: IDEM appreciates your interest in these NPDES Permits and participation in the Public Hearing. The agency provided an extended public comment period (45 days vs. 30 days) as well as an in-person public hearing on November 1, 2023, to provide expanded participation opportunities. A copy of the PowerPoint presentation from the public hearing was also posted online: https://www.in.gov/idem/resources/lake-michigan-sites-of-interest/cleveland-cliffs-indiana-harbor-long-carbon/.

Please note that IDEM has an Environmental Stakeholder Inclusion program to ensure that interested stakeholders are included and represented in agency actions. Within IDEM, an environmental stakeholder inclusion coordinator works with the agency's program areas to enhance environmental stakeholder involvement in the regulatory processes administered by the agency. The environmental stakeholder inclusion coordinator assists agency staff with fulfilling requests from external stakeholders for services such as translation and interpretation services. The Permits Branch communicated with the Environmental Stakeholder Program throughout the Public Hearing process. If you would like additional information on the program, or to request assistance, please visit this webpage: https://www.in.gov/idem/health/environmental-stakeholder-inclusion/

In order to maximize time to review future public notices, IDEM recommends that concerned citizens sign up for IDEM's notification service to receive SMS and/or email messages whenever a permit action, such as a Public Notice, takes place.

You may sign up using the following link: https://www.in.gov/idem/subscribe-to-idem-updates/.

IDEM believes the permit as drafted meets the requirements of NPDES requirements set forth in the Clean Water Act, federal regulations adopted pursuant thereto, and Indiana Administrative Code Title 327. Therefore, IDEM does not believe additional notice period or Public Meeting is warranted at this time.

Please refer to Response 45 below for more detailed information regarding control technologies.

Comment provided by Mike Zoeller of the Environmental Law and Policy Center on October 30, 2023:

Comment 2: The Environmental Law & Policy Center ("ELPC"), on behalf of itself and its members, respectfully request an extension of the comment period for the draft renewal of the above referenced three NPDES permits. Each of these three permits are major industrial wastewater permits discharging to Indiana Harbor and Lake Michigan. Although the Indiana Department of Environmental Management ("IDEM") provided 45 days' notice before the comment deadline on November 16, that is only 15 days per permit. We respectfully request an additional 45 days (30 days for each permit) or such greater time as needed in order to schedule and conduct a public meeting.

In addition, we respectfully request that IDEM hold a public meeting for each of the three NPDES permits to inform the local communities about the current operations of the wastewater treatment plants, the proposed effluent limits, and the volume of effluent and pollutants being discharged from these three facilities. We would ask that personnel from Cleveland-Cliffs be invited to attend the public meeting to help answer questions and provide a description of the facilities' efforts to reduce pollutants entering Lake Michigan. We also ask that materials be translated and an interpreter be available due to the prevalence of Spanish-speaking residents of East Chicago.

The Indiana Harbor steel works covers 2,600 acres of Lake Michigan shoreline and discharges an average of 193 million gallons each day through 9 outfalls into the waters around Indiana Harbor. Once every five years, IDEM has the opportunity through the renewal process to require facilities to utilize current technology to reduce pollutants. IDEM should actively engage the community in this process.

We will be unable to attend the public hearing scheduled for November 1, due to the limited time available to prepare for it and its timing on a weekday afternoon. We intend to submit written comments on each permit. Please let us know if IDEM would be willing to extend the comment period and hold one or more public meetings on the draft NPDES permits.

Response 2: Please refer to Response 1.

Comment provided by Catherine Perrin during Public Hearing on November 1, 2023:

Comment 3: Thank you for holding this meeting. I only wish you were having it when people who are working would be able to come. I could only come because I'm retired. I would ask that you please extend the comment period past the November 16th deadline, so more concerned citizens would be able to comment. I know that there are many more people who care about protecting our environment than are in this room today. I appreciate all of the positive economic impact that the steel industry has provided to this area. My father worked at Inland Steel for as long as I can remember, and retired in 2003. The steel industry has provided for me and my family. That being said, we cannot continue to deliberately or accidentally discharge heavy metals and contaminants into Lake Michigan, our source of drinking water. I would like you to know that Indiana does not have a good track record of protecting our natural environment, and we are depending on you to protect our air, land, and our water.

Response 3: Please refer to Response 1.

Comment provided by Connie Wachala during Public Hearing on November 1, 2023:

Comment 4: I live in Highland, but I grew up here in East Chicago. I'd like to request that IDEM convene a public meeting rather than a public hearing, so that -- and during the evening, when working people can come, and extend the November 16th deadline for comments. So, a public meeting that maybe is informing us about the water treatment and discharges at the mill, but also, you know, asking some of those officials from the mill to come and answer questions about the discharges. And a public meeting that we can ask you questions and you can answer them about the actions that you intend to take on reducing the lake pollution. And at such a public meeting, I would ask that a Spanish interpreter be available, since there is a large Spanish-speaking population in this city. I think this is a really unique time to give an -- to give you an opportunity to really clean up the lake. There's a lot of federal money available for cleanup. And so, I'm asking you to take this matter very seriously, as you evidently are, but, you know, really rethinking how these permits are given, and, you know, thinking about how do we make those legal limits zero? How do we make those -- the industry do better? You know, as a mother of a son who had cancer, I am concerned. I know there are other people in this room who has -- have children with cancer. We need to really be cleaning up our water and our land and our air. So, as the regulatory body that gives the permits, please, please really take this opportunity that -- you know, we're in the 21st Century and the permits have been given for so long, and really under 19th -- under 20th Century thinking. In the 21st Century, can we do better? Thank you.

Response 4: Please refer to Response 1.

Comment provided by Carolyn McCrady during Public Hearing on November 1, 2023:

Comment 5: I'm a resident of Gary, retired school teacher. And now that I'm retired, I'm very concerned about everything that people have said so far in regard to the environment, our land, our water and our air. And I know we're here tonight to talk about the water, and I want to say that I agree with everything that Catherine and Connie have said tonight about calling for a public meeting at a time when people can actually attend, because it's obvious that there are more people than are in this room that would like to have a chance to say something. The other thing is that this is very technical stuff, and most people look at it and their eyes glaze over, and so, there has to be a way that people can understand what all of this means, other than being talked -- being read to, you know, all of this stuff that you have here and in here, but there has to be time to digest that. So, I want to suggest that you put the permit -- I'm sorry -- put the time to hear each of these permits, give each of those times a 30-day time from now; in other words, 45 days from now, 45 days from now, so that people have a chance to digest the information. And if people can't understand it on their own, be able to consult with people who can understand it, because there's something very dissociating about this whole process. You know, you all seem to be very nice people, but, you know, there's a disconnect between what you do and what the community knows. It's what we experience. It's a lived experience. We experience the asthma and the COPD and the cancer and everything else, the high levels that we have, particularly in Gary and East Chicago. We experience that, but we're not the experts on the technicalities. So, somehow that has to change, because you all are in charge of our lives, really, you know? And it's just amazing to me that the way IDEM operates, and even the EPA, back in the 20th Century. I mean -- no. This is the 21st Century -- 1972. But how many times have the water criteria been changed? And if the water criteria had been changed to reflect the level of pollution, then why is there still a fish advisory for Lake Michigan? Why is that? And it has to do with mercury. So, people have been told, you know, "Don't -- well, limit your consumption of fish that come out of Lake Michigan." Why is that? Because the lake is polluted. And yet IDEM keeps telling us, "Well, you know, we're within EPA and IDEM guidelines." Well, what does that mean when people are still getting sick? You know that Gary is the fourth most polluted city in the entire country, you know, and the polluters that are on our lakefront lead the charge in the nation. Something is very, very wrong with the regulatory procedure, very wrong, that IDEM can -- and I've been to many IDEM hearings -- can sit at a table and say, "Everything is okay. We're within guidelines." I mean, you know, I'm reading this, the East Harbor Outfall, and it says that mercury limits have been removed. This is going to be a change at 014, 013. No reasonable potential to exceed water quality criteria exists. What? How is that possible? How is that possible? It doesn't make any sense when people are being advised not to eat the fish because of mercury contamination. So, I'm just saying, and I agree with what everyone has said so far, you really -- you are the gatekeepers for our health. It's not just a job. You know, you are responsible for what happens to our lives by what you permit and what you don't permit and what you make -- where you make

your changes. So, I would say, you know, I wouldn't ask you, I would demand that you see this as more -- not just a job that you do, but as really the people who are responsible for what happens to our health and well-being in this area. Thank you. Thank you.

Response 5: Please refer to Response 1.

All technology-based and water quality-based effluent limits which appear in the permit are developed in accordance with federal and state regulations. With respect to the Indiana Harbor East permit, please refer to the Post-Public Notice Addendum of NPDES Permit IN0000094. The reasonable potential to exceed (RPE) analysis which was conducted for this facility may be found in Attachment A of this Fact Sheet.

Indiana periodically evaluates and revises its water quality criteria. Most recently, Indiana promulgated revised aquatic life criteria for cadmium, lead, and selenium for waters within the Great lakes system and on February 1, 2022, the U.S. EPA determined that these revised water quality criteria were consistent with the relevant requirements of the CWA and 40 CFR parts 131 and 132 and approved them pursuant to Section 303(c) of the CWA and 40 CFR § 131.21. Water quality criteria include, but are not limited to, criteria and values for the protection of aquatic life, human health, and wildlife.

IDEM believes the permit as drafted meets the requirements of NPDES requirements set forth in the Clean Water Act, federal regulations adopted pursuant thereto, and Indiana Administrative Code Title 327.

Comment provided by Terry Steagall during Public Hearing on November 1, 2023:

Comment 6: I worked about a hundred feet from Indiana Harbor Ship Canal there, which is one of the most toxic bodies in the tributary to Lake Michigan. I grew up about two blocks from the Grand Calumet River, another one of those most toxic tributaries that, of our past sins, we managed to pollute to the point that both of these tributaries have 14 AOC's, and that's not Congresswomen; okay? So, the Grand Calumet, I think they've eliminated maybe about four of those and spent millions of dollars, hundreds of millions of dollars. They've spent hundreds of million dollars [sic] on the Indiana Harbor Ship Canal, with a containment facility to try and dredge the canal there so that the ships can go through the canal without dredging up the PCB's and everything else down there. So, we have major problems that we have to address in a constructive way to be sustainable in the future. You know, I want to see the steel industry survive and thrive, but we have to start doing more sensible things. Lake Michigan is one of the most valuable assets this area has, especially when you go speak to the people out in Arizona, you know, where the water's drying up. I mean they're going to be flocking here pretty soon. So, we have to do what we can to do the best to protect Lake Michigan, and this is where we've got to take a different paradigm of how we look at things, because in the past, we've

looked at Northwest Indiana from Hammond to Michigan City as a sacrifice zone, to where we let this pollution go on to the point that, you know, we're killing ourselves. So, we've got to have a different paradigm on how we're going to look at this and address those issues. So, I guess what I'm saying is here is it's -- you folks are going to have to take a different paradigm, too, because you've kind of been working within whatever rules you've been given, but those rules don't apply to today's needs, and it needs to have a different structure, because in this area, IDEM is looked at as a rubber stamp for industry. And that's not the way it should be, because we have to have a constructive approach to making things better; okay? And with the infrastructure money that comes through the state, with the IRA money, which comes through the state, okay, and also we have a university here in Hammond called Purdue Northwest. They do computer modeling for the steel industry on glass furnaces and things like this. So, part of that process should be to look at those outflows, so that we can better examine how we're going to do this and capture that, because also, we're creating another problem for the municipalities. Because we put pollution in the lake, it goes to the treatment facilities for the municipalities, and you've got to take the pollution out over there. Why don't we capture it at the outfall, process it there, and make water going back into the lake like drinking water? And we can stop the craziness that accumulates over time. A good example, if you take BP. They discharge 18 million gallons a day of discharge in their outfall; okay? And then they have their legal limits. Well, you take those legal limits and you take 18 million gallons a day times seven times 52, over a year's time there's a lot of stuff going into the lake. Now, we go for about 125 years, how much did we dump in the lake, you know? So, I mean these are things that we're not taking a more constructive approach at on fixing the problem where the source of the problem is. So, I guess what I would suggest, and I have suggested this at another hearing also, that you folks should be the facilitators with all of the stakeholders. In other words, the companies, the environmentalists, the community, the municipalities, where we need to come together and figure out how we can lower these limits to zero, if possible, and use that federal money that's available now and come up with a solution, so -- because if we come up with a solution, we can fix this. And I can guarantee my pension then if they keep running, so that's an important part, too, you know, sustainability for the future, whether it be for the people working in the mill or the people retired. And that's the goal there is keep this all going in the right direction so people have jobs and we have the sources we need for our economy. So, whatever you can do to kind of change your paradigm, and this is a big change for the organization, and I don't know whether it's possible or not, but it should be. And I'm hoping the young people will speak up within the organization and say, "Look, we've got to change. We've got to do things different. We've got to move this in a more positive direction, and not be looked at as the rubber-stamp organization for industry." And like I said, in Northwest Indiana, the people feel like we're the sacrifice zone, you don't care about us. We've got to change that perception. Perception is powerful, but if you guys -- you know, you've got a big situation here where you can bring new light on this to where it can be a positive move for everybody. And we can get those -- if we come up with a solution, we can apply for the grants, but if we don't have a solution, you know, then we're

going to get -- just keep rubber stamping the same old problem. So, what I would suggest is: The permits, they get approved on a temporary basis, until this organization can bring the stakeholders together, come up with a solution to the problem, and address it from there. That would put us in a position to move forward in the community here. So, whatever you can do to do that would be greatly appreciated. Thank you.

Response 6: IDEM appreciates your interest in these NPDES Permits and participation in the Public Hearing.

To learn more about grant funding opportunities, please contact Lindsay Hylton Adams (lhylton.idem.in.gov | 317-308-3378) with the IDEM Watershed Assessment and Planning Branch. Additional funding information is located here https://www.in.gov/idem/resources/funding/.

All NPDES permits are temporary, in that they must be reapplied for every five years. NPDES Permits issued by IDEM protect waters of the state by establishing effluent limitations and other requirements. Effluent limitations are based on technology-based effluent limitations and/or water quality-based effluent limitations, whichever is the most stringent. The proposed permits were developed using Indiana's water quality criteria.

IDEM believes the permit meets the NPDES requirements set forth in the Clean Water Act, federal regulations adopted pursuant thereto, and Indiana Administrative Code Title 327.

Comment provided by Jorge Garcia during Public Hearing on November 1, 2023:

Comment 7: I've been living here seven years, Block and Pennsy. Me and my brother used to fish over here all of the time, you know. Now, we can't fish no more because of that mercury in there. I worked in the mills for 32 years there, you know, right here by U.S. Steel. I've been there, seen a lot of things, dumping, you know, in the water. And just like he says, you know, the water's very important to us. You know, we can't take things for granted here. You know, that water's very important to us and to our health. You have to see that. You're the guy -- you guys are the ones that can stop them. You know, that's what you're here for, because -- and if you don't stop them, they're just going to keep on doing it. You know, they're going to pollute that thing no matter what. Like they say, BP and all of them, you know, they've got the money and they've got the power. BP has that money and has that power to stop all of this, and they don't want to do it. They do not want to spend no money on it. They just want to keep on taking, let the EPA do it, let the EPA -- okay. No, you can't do that. You can't let them do that. You've got to stop it. If they've got the money to make that oil, they've got the money to stop all of this, and they could do it. They've got the money, but they don't want to do it. They worry about their big money, checks and stuff, whatever. No, you can't do that. You've got to -- you have to worry about these people here that live in Whiting, Highland, Merrillville,

whatever, where all of this water -- you know, this is water. This is important to us. You know, we drink it. People -- you know, and then when it's polluted, we get sick. We can't get well. The doctors can't -- they're not -- they're not God. Only He can stop this. And when it's too late -- like I said, in Arizona, you know, "It's getting dry over here." We've got the water, but it's being polluted. It's being polluted by them, the industries, them out there, you know, BP and all of them. I've been here 70 years. I can't – we can't even go fishing. Me and my brother used to fish out there all of the time. We can't fish out there no more. It's got that mercury in it. It's all polluted. We used to eat that stuff. When we were poor, we used to have to, you know, worry about catching -- you go to the store, it cost a lot of money, so we went fishing, you know, save a little money there. But you guys can stop this. They've got the money. They have the money to stop all -- doing all of this, but they don't want to do it. And if you guys don't stop it, they're going to keep on doing it.

Response 7: Please refer to Response 1.

The commenters listed below submitted their comment letter between November 3, 2023, and November 16, 2023:

Alexis Kirkwood
Andrea Drygas
LaTanya Rodgers
Allison Kramer
Ryan Barrett
Amber Laughner
John Ploof
Rosemary Bell
Rev Amber Good
Ms. Sue Wildemann
Mr. David Wildemann
Mr. John Glick
Sr. Rosie Miller
Mr. Ronald Kieper
Mrs. Kathryn Lindsay
Ms. Pam Gabor
Ms. Linda Evinger
Mr. John Marquis
Ms. Heliene Houdek
Eileen Tintle
Mx. Kassia Groszewski
Mr. William Iltzsche
Dr. Mary Mahern
Mrs. Kathryn Lisinicchia
Mrs. Jan Evrard
Ben Inskeep
Tyson and Jen Lagoni
Brittany Ray
Susan Thomas
Patrick Bergerson
John Llewellyn
Deborah Chubb
Jalisa Mauldin
Jessica Cresseveur
Marilyn Olson
Junius Pressey Jr.
Michael Garcher
Lauren Urevig
Susan Howell Ulrich
Cheryl Chapman
Joanne Evers
Toni Mitchell
Jennifer Dimitroff
Mary Peckinpaugh
Mary Boggs
Marilyn Rogers
Jake Cseke
Bruce Bailey
Karen Hand
Nada O'Neal
Dr. Paul Yoder
Mr. Jesse Kirkham
Lisa Wodrich
Miss Andrea Phan
Christina Thanstrom
Jennifer Mullin
Jayde McAloon
Mrs. Hannah Miller
Catherine A O'Grady
Mr. Thomas Pennington
Mrs. Elizabeth Venstra
Vicky Foltz
Mr. Michael McCartin
Rev Anna Lisa Gross
Sr. Claire Whalen
Susan Thompson
Nina Iglinski
Laura Demchuck
Cyn Roberts
Anna Cicirelli
Joyce Dagley
Harriet Moore
Barbara Wellnitz
Olimpia Gutierrez
Nancy Walter
Nathan Pate
Dawn Nye
Jeff Osborne
Em Racine
Mia Terek
Sr. Jean Ballard
Ms. Andrea Basile
Mx. Cas Flores
Ms. Mary Blackburn
Todd Turina
Devin Breen
Caryn Corriere
Vicki Rubio
Frank Hardwick
Paul Grajnert
Fay Booker
Sally Small
John Gates
Sarah Haas
Mark Anderson
Fred Lanahan
Jason Sofianos
Marian Shaaban
John Kirchner
Joseph James Hoess
John Mazeika
Robert Boklund
Barbara Hargrove
Susan Wilder
Sue Errington
Susan Schechter
Heidi Schaefer
M. Mateja
Jorgena Evans-Watson
Nannett Polk
Erika Bradley
Dustin Thibideau
Erin Moodie
Todd Turina
Devin Breen
Caryn Corriere
Vicki Rubio
Elizabeth A. Solberg (*)
Jim Sweeney (*)
Geof Potter(*)
Molly B Moon (*)
Stacey Burr (*)
Ms. Anne Byler (*)
Christine Glaser(*)
Dr. Thomas Tweed (*)
Julie Niepokoj (*)
Mr. Eric Riddle (*)
Thomas Gaertig (*)
Ms. Patricia Massa (

Comment 8: I am writing as a concerned resident of Indiana to express my deep concerns regarding the permits for the Cleveland-Cliffs Steel Mills in Indiana Harbor. These permits have a significant impact on the environment and the well-being of our community.

The environmental implications of Cleveland-Cliffs' operations are hard to ignore. The facility discharges an average of 193 million gallons of wastewater daily into our waters, including Lake Michigan.

To mitigate the destructive nature of the wastewater from the Cleveland-Cliffs facility, IDEM should consider/KEY CONCERNS:

1. Environmental Justice: Within a 3-mile radius of these mills, 96% of residents are BIPOC, and 61% are low-income. It is deeply troubling that the draft permits do not even acknowledge these affected residents or consider the impact on their communities. The discharge of solids and oil and grease into Indiana Harbor and Lake Michigan exceeds 5 million pounds per year.

2. Outdated Technology & Requirements: EPA regulations for the steel industry date back to the 1980s, and they haven't seen significant updates. In contrast, water pollution control technology has made substantial advancements over the past 40 years. To protect our community and environment, IDEM should mandate modern treatment technology.

3. Mercury Variance: The draft permits allow for an excess of mercury discharge into Lake Michigan without full consideration of impacts on public health and the environment. Mercury, a highly toxic metal that accumulates in fish, impacting public health. This variance is concerning and should not be allowed.

I request that IDEM take these concerns seriously and reconsider the permits in light of the health, well-being, and environmental impact on our community. Stronger permits and regulations are needed to ensure that we are doing our best to protect our precious resources and vulnerable populations.

I urge you to revise these permits to address the concerns mentioned above. We must ensure that the permits are in line with modern environmental requirements and are sensitive to the unique needs of our community. Our future depends on responsible, sustainable practices that protect our environment and promote environmental justice.

Thank you for considering the voices of concerned residents like me. I trust that IDEM will make the right decision for the health of our community, the environment, and Lake Michigan.

Response 8: IDEM appreciates your interest in these NPDES Permits and participation in the Public Comment process. IDEM believes the permit as drafted meets the NPDES requirements set forth in the Clean Water Act, federal regulations adopted pursuant thereto, and Indiana Administrative Code Title 327.

Similar comments were submitted by Lori G. Kier, Senior Attorney, Environmental Integrity Project, on behalf of the Environmental Integrity Project ("EIP"). Please refer to Responses 37 through 57.

Comments submitted by Terry Steagall on November 4, 2023, and November 6, 2023:

Comment 9: IDEM held a public hearing at 2 pm Central on Wednesday, Nov. 1 at Unity Center, 3723 Guthrie Street, East Chicago, IN – one for all three water pollution (NPDES) permits for the steel mills in Indiana Harbor East, West, and Central, currently owned by Cleveland-Cliffs Steel. Interested parties, please send in written comments to IDEM by November 16, 2023, comment deadline.

East
Nikki Gardner, Technical Environmental Specialist
(317) 232-8707; ngardner@idem.in.gov

West
Matt Warrener
(317) 233-0798 | mwarrene@idem.in.gov

Central
Jodi Glickert
(317) 447-4176 or jglicker@idem.in.gov

IDEM has an obligation and responsibility to represent the best interest of the people for public safety! Journey to zero pollution is the goal! We have the technology for discharge water to be drinking water quality! Environmental Justice "Sacrifice Zone" from Hammond to Michigan City! Stop Poisoning the Air, the Land, the Water and the People! We need solutions to pollution! What is IDEM doing to facilitate with all the stakeholders the best solutions to our environmental problems to apply for grants?

What is IDEM doing to coordinate a statewide water quality program? IDEM has an obligation and responsibility to represent the best interest of the people for public safety! Journey to zero pollution is the goal! Environmental Justice "Sacrifice Zone" from Hammond to Michigan City! Stop Poisoning the Air, the Land, the Water and the People! We need solutions to pollution! What is IDEM doing to facilitate with all the stakeholders the best solutions to our environmental problems to apply for grants?

Response 9: Please refer to Response 1 and Response 6.

Indiana has established water quality standards for all waters of the state of Indiana. Water quality standards applicable to all state waters except waters of the state within the Great Lakes system are found in 327 IAC 2-1. Water quality standards applicable to all state waters within the Great Lakes system are found in 327 IAC 2-1.5.

Comment provided by Carolyn McCrady on November 6, 2023:

Comment 10: We need an extension of time to review the documents and a public meeting at a time when the public can attend like in the evening!

Response 10: Please refer to Response 1.

Comment provided by Dorreen Carey on November 5, 2023:

Comment 11: I am writing as a resident of Gary and member of Gary Advocates for Responsible Development (GARD) to request an extension of the comment period for the draft renewal of the above referenced three NPDES permits.

Each of these three permits are major industrial wastewater permits discharging to Indiana Harbor and Lake Michigan. Although the Indiana Department of Environmental Management ("IDEM") provided 45 days' notice before the comment deadline on November 16, that is only 15 days per permit.

I am requesting an additional 45 days (a total of 30 days for each permit) to give the public an opportunity to review these important permits impacting Lake Michigan, and further for the IDEM to schedule and conduct a public meeting where residents can ask and receive answers to their questions.

Therefore, I am requesting that IDEM hold a public meeting, in conjunction with personnel from Cleveland Cliffs, for each of the three NPDES permits in order to inform local communities about the current operations of the wastewater treatment plants, the proposed effluent limits, the volume of effluent and pollutants being discharged from these three facilities, and the facilities' current and proposed efforts to reduce pollutants entering Lake Michigan. The previously held Public Hearing was not scheduled at a time of day that made it possible for residents to attend and did not allow for resident questions or responses from the IDEM or Cleveland Cliffs. The Public Meeting should be held after 5 pm, when working residents would have an opportunity to attend.

I am also requesting that informational materials and notifications associated with these permits be provided in Spanish and that an interpreter be available at the Public Meetings due to the prevalence of Spanish-speaking residents of East Chicago.

It is important that residents of this region understand the purpose for and impacts that these waste- water permits have on our community health and the waters and habitats of Lake Michigan. For this reason, IDEM should actively engage the community in this process.

Please let me know if IDEM will extend the comment period and hold one or more public meetings on the draft NPDES permits.

Response 11: Please refer to Response 1.

Comment provided by Elizabeth Solberg on November 6, 2023:

Comment 12: IDEM permits for the Cleveland-Cliffs Steel Mills in Indiana Harbor need to be stricter to protect the health and welfare of our citizens and to protect our national treasure, Lake Michigan. Even as an Indiana resident living in the middle of the state, I am very concerned about ensuring that the waters of Lake Michigan are healthy right now and for future generations. Our state, of course, needs robust industries and economic development. The IDEM permitting process is key to striking an environmentally responsible balance. Please revise your draft permits to better address the discharge of solids and oil and grease, outdated treatment technology, and mercury discharge. Thank you.

Response 12: IDEM appreciates your interest in these NPDES Permits and participation in the Public Comment process. IDEM believes the permit meets the NPDES requirements set forth in the Clean Water Act, federal regulations adopted pursuant thereto, and Indiana Administrative Code Title 327.

Comment provided by Justin Flores on November 8, 2023:

Comment 13: As long-time residents of East Chicago living in the Harbor and Northside, the Guerra family actively REFUSES the Indiana Department of Environmental Management's proposal to renew Cleveland Cliffs permits to continue discharging wastewater and other harmful pollutants into the Indiana Harbor Canal. Some of us are former employees of Inland Steel, LTV, and Bethlehem Steel and have endured directly the adverse health and environmental impacts these facilities have brought to our community. Enough is enough! Legacy pollutants already burden East Chicago, and for decades, city, state, and federal officials have done little to nothing to address the issue. We are an environmental justice community and continue to endure environmental racism through smog, air pollution, water pollution, food deserts, lack of space for recreation, and a long list of consequential health effects. We have cancer survivors in our family, alongside cases of asthma, upper

respiratory issues, autoimmune diseases, mental health disorders, and diabetes, amongst others, all of which have been proven to be linked to air and water pollution. One hundred percent of the water we drink and cook with is bottled because of the lead levels in the water and sensitive immune systems in our family due to past and current facilities dumping toxic pollutants into our drinking water systems. Not only do we understand the impact of this permit renewal on our health, but we're also aware of the significant effects water pollution brings to ecosystems and how it contributes to climate change. We DEMAND that this permit NOT be renewed and will continue to push for equal rights to clean air and water like other wealthier and white communities in Indiana. East Chicago is not a dumping ground; this is our home and our legacy.

Response 13: Please refer to Response 1 and Response 6.

Comment provided by Harshini Ratayaka of Save the Dunes on November 14, 2023:

Comment 14: Save the Dunes, on behalf of itself and its members, respectfully request an extension of the comment period for the draft renewal of the above referenced three NPDES permits. Each of these three permits are major industrial permits discharging to Indiana Harbor and Lake Michigan. Although the Indiana Department of Environmental Management ("IDEM") provided 45 days' notice before the comment deadline on November 16, with 3 permits up for renewal that leaves only 15 days per permit. We respectfully request an additional 30 to 45 days, as more time is required to ensure the public has the opportunity to provide community input.

We would like to express our concerns that many of our non-profit partners including ELPC and GARD have conveyed regarding the public meetings, specifically that there was only one in-person meeting in an Environmental Justice Community that took place on a weekday afternoon during work hours. The unfortunate timing of the meeting did not allow for adequate community input, and we humbly ask that these parameters be addressed and considered when scheduling future public meetings. Our organization is focused on educating and empowering our communities to participate in regulatory processes that directly impact their lives, including water permits that have direct ties to water quality in Lake Michigan. In order for community members to feel empowered to take action, they must be given the opportunity to do so that is equitable and accessible, and we feel this was not the case in this instance. In addition, we respectfully request that IDEM hold a public meeting for each individual NPDES permits to inform the local communities about the current operations of the wastewater treatment plants, the proposed effluent limits, and the volume of effluent and pollutants being discharged from these three facilities.

We understand that the timing of this letter may have come too close to the written comment deadline and thus cannot be changed or altered, however we still ask that you as the regulatory body take these comments into consideration for this and

future NPDES permit comment periods. Thank you so much for your consideration. If you have any questions, please contact Advocacy Coordinator Harshini Ratnayaka at 219-879-3564 ext. 101 or harshini@savedunes.org.

Response 14: Please refer to Response 1.

Comment provided by Tina Segura of Surfrider Foundation on November 15, 2023:

Comment 15: Cleveland Cliffs' history of recent exceedances (ammonia and zinc) should result in increased monitoring frequency requirements. Proposed monitoring frequency seems concerningly low, especially for mercury which is just four grab samples/year. We request the draft permit be modified to increase sampling frequency to monthly.

Response 15: No changes were made in response to this comment. IDEM believes the current sampling frequency is consistent and appropriate.

Comment 16: Part I(A) 1-11: Effluent Limitations and Monitoring Requirements

The Table 2 pH limitations allowed are within a very large range of 6 to 9 (p.2, p.6, p.9, p.16, p.19, p.22, p.26); which is concerning as most aquatic wildlife are highly sensitive to pH changes.

The discharge limitations on charts for the outfalls do not provide a measurable quantity for each of the pollutants listed, and instead some say "report" where others contain a number. For example, Table 1 for outfall 009A (p.5) shows the quantity for Ammonia N as "report", with no specific numeric value or quantity. Numerical values are warranted to achieve compliance with discharge requirements.

Response 16: No changes were made in response to this comment. Limitations for pH meet the more stringent of either the technology-based effluent limitations (40 CFR 420) or water quality-based effluent limitations (327 IAC 2-1.5-8(c)(2)). Effluent limitations have been established in accordance with state and federal NPDES regulations.

Reporting requirements may be included for pollutants that are known to be present in the discharge but in amounts that have not shown a reasonable potential to exceed (RPE) water quality criteria. Reporting requirements are included to monitor variations in the quantity and/or quality of pollutant(s) discharged and may be used to determine the need for future effluent limitations.

Comment 17: Part I(C)(2): Monthly Reporting

Part 1(C)(2) of the draft permit describing the monthly reporting requirements (p.34-35) states that the permittee shall submit federal and state discharge monitoring reports to IDEM and that the Regional Administrator "may" request the permittee to submit monitoring reports to the EPA "If it is deemed necessary

to assure compliance with the permit." Given the history of exceedances by the permittee, we request that the language be modified to say the permittee "shall" submit these reports to the EPA. While Part II of the draft permit contains additional reporting requirements as standard conditions, we do not believe those to be sufficient for this permittee, as the permittee is also subject to a Consent Decree ("CD"), (USDC IN/ND Case No. 22-CV-26, approved in May 2022). Section H(27) of the CD requires Public Notification to various entities in the event of an exceedance of the Permit cyanide effluent limits. Thus, we request the federal and state discharge monitoring reports also be submitted to those same entities in the CD.

Response 17: No changes were made in response to this comment. All permit holders in the state of Indiana that are required by an NPDES or Industrial Wastewater Pretreatment (IWP) permit to submit monitoring results must submit the results using NetDMR. In addition, the Monthly Monitoring Report (MMR) must be electronically attached to the NetDMR submission. NetDMR is a U.S. EPA web-based application for submitting monitoring results for the National Pollutant Discharge Elimination System (NPDES) and Industrial Waste Pretreatment (IWP) permits issued by IDEMs Office of Water Quality. Access to NetDMR is now through EPA's Central Data Exchange (CDX). DMR and MMR data and reports are accessible to the public in Indiana's Virtual File Cabinet IDEM Virtual File Cabinet and the U.S. EPA's Enforcement and Compliance History Online (ECHO) database. Enforcement and Compliance History Online

The Cleveland-Cliffs Indiana Habor West facility (NPDES Permit IN0000094) is not subject to the referenced Consent Decree. USDC IN/ND Case No. 22-CV-26, approved in May 2022, involves the Cleveland-Cliffs Burns Habor facility (NPDES Permit IN0000175).

Comment 18: Part I(D)(4): Technology Based Effluent Limits, Non-Numeric Effluent Limits
Part 1(D)(4)(a) of the draft permit (p.40) states that the permittee shall minimize exposure of waste materials to rain, snow, snowmelt, and runoff. The language in this section requires minimizing the exposure of raw, final, or waste materials "[t]o the extent technologically available and economically practicable and achievable. . . ." This section contains some suggested "areas to pay attention to" but should be written with more enforceable standards.

Response 18: No changes were made in response to this comment. The requirements in Part I.D of the permit are, for the most part, general in nature, and require the permittee to design a site-specific program tailored to its facility.

Permit Part I.D. includes two guidance documents references and links: https://www.in.gov/idem/stormwater/resources/indiana-storm-water-quality-manual/ and https://www.epa.gov/npdes/stormwater-discharges-industrial-activities. Section 5.7 of the Fact Sheet refers EPA guidance document, "Developing your Stormwater

Pollution Prevention Plan – A guide for Industrial Operators (EPA 833-B09-002), February 2009, as well.

Actions taken by the facility to comply with Part I.D of the permit are documented in the Storm Water Pollution Prevention Plan (SWPPP) in accordance with Part I.E of the permit. Compliance with the requirements of Parts I.D and I.E of the permit is determined during on-site inspections by IDEM.

Comment 19: Part I(D)(4)(e) Erosion and Sediment Controls:
The language (p.42) contains some required actions, but says: in selecting, designing, installing, and implementing appropriate control measures, you are "encouraged to check out information" from both the state and EPA websites and links to two websites for guidance. The language could be strengthened by requiring certain BMPs or standards. As written, it seems difficult to enforce.

Response 19: Please refer to Response 18.

Comment 20: Part I(D)(4)(f) Management of Runoff
The draft permit (p.42) Merely states: "Divert, infiltrate, reuse, contain or otherwise reduce stormwater runoff, to minimize pollutants in the discharge." This language is vague and if there are specific measures or BMPs that permittees are required to abide by, those should be included here.

Response 20: Please refer to Response 18.

Comment 21: Part I(D)(4)(k) Dust Generation and Vehicle Tracking of Industrial Materials
The draft permit (p.44) states: You must minimize generation of dust and off-site tracking of raw, final, or waste materials. This is vague and contains no standards or guidance by which to abide If there are BMPs the permittee should adhere to, or other required standards, those should be referenced here.

Response 21: Please refer to Response 18.

Comment 22: Part I(D)(7): Corrective Action Deadlines
This section (p.45) states: "you must document your discovery of any of the [Corrective action conditions requiring review] listed in Part I.D.6 within 30 days of making such discovery." And "within 120 days of such discovery, you must document corrective action(s) to be taken. . . ." We request that these timeframes be shortened to documenting such discovery within 24 hours of the discovery, and documenting corrective action within 60 days.

Response 22: No changes were made in response to this comment. Given the size and complexity of the site, IDEM believes the current timeframes are appropriate and is consistent with other similarly issued NPDES permits in Indiana.

Comment 23: Part I(D)(8) Corrective Action Report

This section (p.46) states, “within 30 days of a discovery of any condition listed in Part I.D.6, you must document [certain] information.” One of the corrective action conditions listed in Part I.D.6(1) includes the unauthorized release or discharge (spill, leak, or discharge of non-stormwater not authorized by the NPDES permit). Occurrence of such spill, leak, or discharge could be harmful to human health and it is important that such conditions be documented immediately and corrective action identified in a much quicker timeframe. As such, we request that the timeframe be shortened to require documentation within 24 hours. Further, there is no requirement that these reports be made available to the public, and dissemination of this information is critical to the health and safety of the public, thus we request that the report documenting the discovery of any condition listed in Part I.D.6 be submitted to the agencies listed in Section (H)(27) of the CD No. 22-CV-26, May 2022, within 48 hours of documentation.

Response 23: Please refer to Response 22.

Comment 24: Part I(D)(9)(a) Quarterly Inspections
The draft permit (p.47) states, “consider monitoring air flow at inlets and outlets (or use equivalent measures) to check for leaks (e.g. particulate deposition) or blockage in ducts.” We are concerned with the use of the word “consider” and request that the word be removed to make this condition more enforceable by *requiring* monitoring of the air flow to check for leaks or blockage.

Response 24: No changes were made in response to this comment. Several Permit conditions applicable to spills, leaks, and unauthorized discharges, including but not limited to Part I.D.4.d., Part II.B.2., and Part II.B.3. Additional 24-hour reporting requirements are included in Permit Part C.3. The language contained in these sections are consistent with other similarly issued NPDES permits in Indiana.

Comment 25: Part I(E)(2)(d) Stormwater Pollution Prevention Plan (SWPPP)
The draft permit as written provides that the permittee is required to revise and update its SWPPP for the facility, and that the plan shall be retained at the facility and be “available for review by a representative of the commissioner upon request.” Further stating that IDEM *may* provide access to portions of your SWPPP to the public (p.55). We request that the SWPPP be required to be made available to the public, either by IDEM or by the permittee directly.

Response 25: Section 5.7 of the Fact Sheet provides additional information on the public availability of this the SWPPP:

“Part I.E.2.d(2) of the permit requires that the permittee retain a copy of the current SWPPP at the facility and make it immediately available, at the time of an onsite inspection or upon request, to IDEM. When submitting the SWPPP to IDEM, if any information in the SWPPP is considered to be confidential, that information shall be submitted in accordance with 327 IAC 12.1. Interested persons can request a copy

of the SWPPP through IDEM. Any information that is confidential pursuant to Indiana law will not be released to the public."

SWPPPs submitted to IDEM are made available to the public in Indiana's Virtual File Cabinet. IDEM Virtual File Cabinet Alternatively, a public records request may be submitted. Details on that process are found here: https://www.in.gov/idem/legal/public-records/.

Comment 26: Part I(F)(1)(e) Whole Effluent Toxicity Testing Requirements and Reporting
The draft permit requires notification of the failure of 2 consecutive tests and implementation of a toxicity reduction evaluation ("TRE"), and states that the notifications and intent to implement a TRE must be submitted in writing to IDEM (p.59). We request the same notifications also be sent to the agencies listed in the CD No. 22-CV-26, Section H(27), dated May 2022.

Response 26: No changes were made in response to this comment. The Cleveland-Cliffs Indiana Habor West facility (NPDES Permit IN0000205) is not subject to USDC IN/ND Case No. 22-CV-26.

Comment 27: Part I(F)(2) Toxicity Reduction Evaluation (TRE) Schedule of Compliance:
The draft permit states that progress reports must be submitted every 90 days beginning six months from the date of 2 consecutive failed toxicity tests (p.64). We request that the first progress report be submitted in a shorter timeframe - within 3 months (90 days) rather than within 6 months. This information is repeated in Part 1(F)(2)(d), the Reporting requirements (p.65), and we request this be shortened to 90 days as well.

Response 27: No changes were made in response to this comment. The time frames contained in this section are consistent with other similarly issued NPDES permits in Indiana.

Comment 28: Part I(F)(2)(e) Compliance Date
The draft permit (p.66) further states the permittee must complete Part I(F)(2)(a)-(d) and reduce toxicity in the effluent discharge to acceptable levels as soon as possible, but no later than 3 years from the date that toxicity is initially demonstrated in 2 consecutive toxicity tests. We request that the three years' timeframe for compliance be reduced to one year.

Response 28: Please refer to Response 27.

Comment 29: Part I(N)(8) Reopening Clause
The draft permit (p.69-70) provides that the permit may be modified, or alternatively, revoked and reissued, after public notice and opportunity for hearing for 8 listed reasons. We request the draft permit be modified to also include a requirement of immediate modification of the facility's NPDES permit to be inclusive of/consistent w/any future consent decrees, court orders, or enforcement actions entered into by Cleveland Cliffs. The draft permit does not

currently reflect that Cleveland Cliffs is subject to a consent decree, and should include a reopening clause for other future legal action including consent decrees.

Response 29: Part I.N.2. states that the permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing for any of the causes listed under 327 IAC 5-2-16. The language found under 327 IAC 5-2-16(b)(1) cites *violation of any term or condition of the permit*. Consent decrees are issued to permittees who are operating in violation of the terms and conditions of their permit. As such, the reopening clause found under Part I.N.2. is sufficient in addressing the above comment/concern.

The recent enforcement history for the Cleveland Cliffs West facility can be found in Section 3.1.3 of the Fact Sheet. This section references Agreed Order (AO) (Case #2020-27619-W) which provides the basis for the consent decree which is currently applied to the facility. This section has been expanded to include the consent decree associated with the AO.

Comment 30: Part II(C)(3) Reporting Requirements
This section (p.81) requires the permittee to orally report noncompliance within 24 hours from the time permittee becomes aware of such noncompliance, listing several instances of noncompliance to be included. Part II(C)(3)(d) includes "violation of a maximum daily discharge limitation for any of the following toxic pollutants: mercury, lead, zinc, and total cyanide. Free Cyanide and Ammonia are not included in this list, and we request that those also be added here or that violations of maximum daily discharge limitations of free cyanide and ammonia be required to be reported within 24 hours elsewhere in this permit.

Response 30: Free Cyanide monitoring/limits are not included in this permit, only Total Cyanide. Therefore, Free Cyanide was not included in the aforementioned section above. However, IDEM will add Ammonia to this section.

Comment 31: Part II(C)(3) also requires that a written submission shall be provided within 5 days of the time the permittee becomes aware of the circumstances (p.82), describing the noncompliance and its cause. We request that the permittee provide a written submission within 24 hours of noncompliance of any of the conditions listed in Part II(C)(3)(a)-(d), rather than in 5 days; and that the same report be provided to the agencies listed in Section (H)(27) of the CD No. 22-CV-26, May 2022.

Response 31: Please refer to Response 27.

Comment 32: Part II(C)(5) Other Information
The draft permit (p.82) states that where the permittee becomes aware of a failure to submit any relevant facts or submitted incorrect information in a permit application or in any report, the permittee shall "promptly submit" such facts or

corrected information to the Commissioner. We request that the permittee be required to report any such facts or information within 24 hours of becoming aware of incorrectly submitted facts or information to the Commissioner.

Response 32: No changes were made in response to this comment. Permit Part II.C.5. complies with 327 IAC 5-2-8(11)(E).

Comment 33: Part II(7) Availability of Reports
The draft permit standard conditions (p.84) state that all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of IDEM and the Regional Administrator. We request that the applicant be required to make all reports prepared in accordance with the terms of the permit available for public inspection on a website. This would help make the information more readily available and accessible to the public beyond those local inhabitants who live nearby the IDEM and Regional Administrator's office

Response 33: No changes were made in response to this comment. Reports and information pertaining to individual NPDES permits may be found of the Virtual File Cabinet (VFC). IDEM Virtual File Cabinet Alternatively, a public records request may be submitted. Details on that process are found here: https://www.in.gov/idem/legal/public-records/.

Comment provided by Christine Glaser on November 16, 2023:

Comment 34: I am writing to express my concerns about the NPDES permit renewals for Cleveland Cliffs steel plants at Indiana harbor.

1. It is my understanding that IDEM can mandate the use of more effective treatment technology for certain pollutants that these steel plants release because these technologies have continued to advance…and are available and affordable.
I urge you to make sure that these latest technologies are mandated as part of the permit renewal - to cut down on pollution as much as technically possible.

2. I miss an environmental justice analysis in the draft permit, including an EJ screen analysis, and urge you to conduct such an analysis as part of the permit renewal - to identify the effects of the permit renewal especially on vulnerable populations, and then to mandate Cleveland Cliffs to cut back on the discharges that undermine the health of the affected populations.

3. In the draft permits, I do not see an analysis of how local residents, many of them BIPOC, are impacted by the pollution that the steel mills release, especially in the light of all the other polluters that are present in the area.

Please conduct a cumulative analysis that includes not just the steel mills, and devise a plan of how to reduce their cumulative burdens of pollution on impacted communities.

I have often marveled at the fact that after half a century of environmental laws that were passed in the 1970s, it is possible that we still have areas, like NW Indiana, that continue to be burdened with heavy loads of pollution of air and soil and water, although, as a country overall, on average, there has been significant progress.

I therefore urge you to hold the permit renewals until a cumulative analysis has been conducted, and then mandate the necessary reductions in emissions so that the results are protective of the local population and the health of Lake Michigan.

4. I am especially disturbed by the fact that IDEM continues to allow the steel mills to release high levels of mercury into Indiana waters, based on a mercury variance, thereby contaminating fish and endangering the health of residents who fish in the area.

I urge IDEM to reveal what federal and state laws/regulations that govern the justification of such variances have been considered, and how IDEM came to the conclusion that the variances are justified.

5. I was disappointed that IDEM did not extend the comment periods for the three Cleveland Cliffs permits and did not hold public meetings, and also did not make an effort to translate the technical language (in the Nov. 1 slide presentation) into something that people can understand even if they are not lawyers, engineers or chemists or technical experts.

I urge IDEM to extend the comment period beyond Nov. 16, hold public in-person meetings (with access through zoom as well) and publicly address the important issues that groups with the necessary legal and technical expertise are bringing up in their comments (in language that can be commonly understood!)

Thank you for giving me the opportunity to comment!

I count on you to make sure that environmental justice prevails in NW Indiana and for all the communities that border on Lake Michigan - providing healthy environments for all people!

Response 34: Please refer to Response1, and Responses 37 through 57.

Comment provided by Dorreen Carey, member of Gary Advocates for Responsible Development (GARD) on November 16, 2023:

Comment 35: I am writing as a resident of Gary and member of Gary Advocates for Responsible Development (GARD). Gary residents, along with millions of residents of the Lake Michigan watershed drink the water of Lake Michigan, a precious resource that should be protected at the highest level today and into the future. Many residents of NW Indiana, including me and other members of Gary Residents for Responsible Development (GARD), previously requested that the IDEM extend the comment period and hold a public meeting that residents could attend to ask questions about

the draft NPDES permits and receive answers from the IDEM and Cleveland-Cliffs. We further requested that information in the public notice and future meetings be translated into Spanish to better inform Spanish speaking residents of our local communities. The IDEM denied these requests. The previously held Public Hearing was not scheduled by the IDEM at a time of day that made it possible for residents to attend and did not allow for resident questions or responses from the IDEM or Cleveland Cliffs. The IDEM should schedule Public Meetings on all major permits issued in NW Indiana. The Public meetings should be held after 5 pm, when working residents would have an opportunity to attend. It is important that residents of this region understand the purpose for and impacts that the current waste-water permits have on our community health and the waters and habitats of Lake Michigan. For this reason, IDEM should have more actively and meaningfully engaged the community in this process. For over one hundred years, the steel mills and other shoreline heavy industries have polluted the air, land, and water of Gary, and NW Indiana environmental justice communities. If residents and communities are to receive the protection of health and environment that should be guaranteed through the responsibility and authority of our government agencies, the IDEM must engage the community upfront in their decision-making process, assess the cumulative impact if legacy and current pollution, and continuously reduce the pollutants discharged by industry, through improved technology, work practices, and strong enforcement. Simply maintaining the status quo is not acceptable. We deserve better, IDEM must do better. With that in mind, I am in support of the following summary of comments and recommendations prepared by the Environmental Integrity Project and the Environmental Law and Policy Center.

Recommendations

1. **Conduct environmental justice analysis** to include analysis of existing demographic and public health data and mitigation available to address adverse effects.
2. **Conduct cumulative impacts analysis** to protect the water quality of receiving streams and the public health of local communities due to the number of other local dischargers.
3. **Greater Public Engagement**: Hold a public meeting, together with Cleveland-Cliffs Steel, to answer questions from the local community. Provide Spanish translation.
4. **Improve treatment** that improves the removal of total suspended solids, including the use of chemical precipitation, that will also reduce the discharge of heavy metals. Improve treatment technology to remove oil and grease and ammonia that reflects the best treatment technology. Specifically, Indiana Harbor Central should install membrane filtration, ion exchange, and/or reverse osmosis to its current treatment system just prior to discharge to Lake Michigan. *See* Table in Attachment A for improved treatment proposals for specific discharges.
5**. Install oil/water separators** for all wastewater and stormwater discharges.
6**. Consider treatment of No. 2 Galvanizing Line** effluent by Indiana Harbor West, thereby eliminating the need for the Central Treatment Facility unless and until U.S. Steel's East Chicago Tubing Operations restart.

7. **Establish site-specific technology-based effluent limits** applying best professional judgment.
8. **Establish measurable and enforceable obligations** of any requirements designed to prevent exceedances of water quality standards.
9. **Add performance metrics** to stormwater portion of permit that are measurable and enforceable.
10. **Include wasteload allocation calculations** for total suspended solids in permit.
11. **Expand the analysis** of permittee's streamlined mercury variance to reflect all applicable federal and state requirements.
12. **Include in Renewal Permit** a copy of permittee's completed application for streamlined mercury variance.
13. **Add requirement to notify IDEM** within a specific time frame prior to restarting operations at U.S. Steel's East Chicago Tubing Operations.
14. **Add to the NPDES Permit** an express prohibition on the discharge of unpermitted pollutants.
15**. Monitor for PFAS contamination**. Specifically, add sampling and monitoring requirements for PFAS in all internal and external outfalls, investigate their source, and mitigate where to the extent feasible.
16**. Require submission of State Form 50000** (Application for Approval to Use Water Treatment Additives) within a prescribed number of days before any water treatment additive is used.

Response 35: Similar comments were submitted by Lori G. Kier, Senior Attorney, Environmental Integrity Project, on behalf of the Environmental Integrity Project ("EIP"). Please refer to Response 1, and Responses 37 through 57. Responses to recommendations which are not covered in the EIP comments have been provided below:

Recommendation No. 5: All wastewater and stormwater at the Cleveland Cliffs West facility comingle prior to discharge via Outfall 002, 009, 010, or 011. In the permit, each of these outfalls includes reporting requirements for Oil and Grease. This data is reviewed with each permit renewal to determine whether excess quantities of Oil and Grease are present which may negatively impact the receiving water quality. Based on a review of available data, IDEM determined that additional treatment for O&G is not required at this time. Additionally, please note that non-stormwater wastestreams are directed through wastewater treatment facilities prior to discharge which are designed to remove settleable materials such as TSS and floatable materials such as Oil and Grease.

Recommendation No. 6: The No. 2 Galvanizing discharge line does not have a physical connection to any of the treatment facilities or outfalls at the Cleveland Cliffs West facility. This discharge line is exclusively connected to the Central Treatment Plant (CTP); therefore, redirection of the wastestream is not currently possible. However, if Cleveland Cliffs decides to cease discharge to the CTP and redirect the No. 2 Galvanizing discharge line, IDEM will issue a permit modification to reflect any changes in process flow.

Recommendation No. 8: The effluent limitations as well as the accompanying requirements included in the permit are measurable and subject to enforcement action by IDEM. Compliance with the terms of the permit are monitored via Monthly Monitoring Reports (MMRs) and in-person site inspections conducted by IDEM. A five-year review of the facility's inspection, compliance, and enforcement history can be found in Section 3.1 of this Fact Sheet. Individual MMRs, complete inspection reports, and compliance actions are publicly available on the Virtual File Cabinet (VFC). IDEM Virtual File Cabinet The EPA ECHO database also provides access to effluent data and inspection/compliance information. Enforcement and Compliance History Online

Additionally, please note that the IDEM compliance section regularly evaluates permittee compliance information to determine what enforcement actions, if any, are necessary. Part II.A. of this permit summarizes the laws and regulations which pertain to enforcement actions taken by IDEM.

Recommendation No. 9: Independent sampling and treatment of stormwater is not conducted due to the size and scale of the Cleveland Cliffs West facility. Instead, the stormwater at the Cleveland Cliffs West facility comingles with and is diluted by treated process wastestreams prior to discharge via Outfall 002, 009, 010, or 011. As such, the water quality-based effluent limits and sampling requirements for all external outfalls apply to stormwater discharges. If future changes are proposed at the facility which redirect stormwater flows, the permit may be modified to impose effluent limits and sampling requirements for individual stormwater discharges.

Recommendation No. 10: No changes were made in response to this comment. The TSS limits included in the permit are technology-based effluent limits derived from 40 CFR 420. These limits are mass-based and included at the internal outfalls (509, 701, and 702). Internal Outfall 509 discharges via Outfall 009, and Internal Outfall 701 and 702 discharge via Outfall 011. Reporting requirements for TSS were retained at all external outfalls to collect additional data which includes stormwater contributions. Indiana has not developed numeric water quality criteria for total suspended solids; therefore, Indiana cannot develop numeric water quality-based effluent limitations for total suspended solids.

However, Indiana's water quality standards contain narrative water quality criteria that prohibit a discharge from containing substances materials, floating debris, oil, scum attributable to municipal, industrial, agricultural, and other land use practices, that will settle to form putrescent or otherwise objectionable deposits or that are in amounts sufficient to be unsightly or deleterious. These narrative water quality criteria were included as narrative permit limits in Part I.B. of the permit.

IDEM believes the permit as drafted meets the requirements of NPDES requirements set forth in the Clean Water Act, federal regulations adopted pursuant thereto, and Indiana Administrative Code Title 327.

Recommendation No.13: This comment does not apply to the Indiana Harbor West facility and will be addressed in the Post Public Notice Addendum for the appropriate permit.

Comment provided by Harshini Ratayaka of Save the Dunes on November 16, 2023:

Comment 36: Save the Dunes, on behalf of its members, would like to respectfully submit these comments pertaining to the draft renewal specifically for NPDES Permit Number: IN0000205. Save the Dunes has long been an advocate for clean and healthy water in our region. Through our collaborative approach with other local non-profit partners, we have worked towards establishing a "culture of pollution prevention" in Northwest Indiana. We would like to express our concerns that many of our non-profit partners, including the Environmental Law and Policy Center and Gary Advocates for Responsible Development, have conveyed regarding the public meetings, specifically that there was only one in-person meeting in an environmental justice community that took place on a weekday afternoon during work hours. We believe that the issue of these specific permits having been expired since August 2022, combined with the unfortunate timing of the meeting, led to a lack of adequate community input, and we ask that these parameters be addressed and considered when scheduling future public meetings. Our organization is focused on educating and empowering our communities to participate in regulatory processes that directly impact their lives, including water permits that have direct ties to water quality in Lake Michigan. In order for community members to feel empowered to take action, they must be given the opportunity to do so that is equitable and accessible, and we feel this was not the case in this instance. In addition, we believe that IDEM should have held a public meeting for each individual NPDES permit to inform the local communities about the current operations of the wastewater treatment plants, the proposed effluent limits, and the volume of effluent and pollutants being discharged from these three facilities. Thank you for your time and consideration in reviewing these comments.

Response 36: Please refer to Response 1.

Comments submitted by Lori G. Kier, Senior Attorney, Environmental Integrity Project, on behalf of the Environmental Integrity Project ("EIP"), Environmental Law and Policy Center ("ELPC"), Surfrider Foundation, Conservation Law Center, Just Transition Northwest Indiana; National Parks Conservation Association, Northwestern University School of Law, Industrious Labs, and Gary Advocates for Responsible Development Project on November 16, 2023:

Comment 37: **Introduction and Overview**

The Environmental Integrity Project, Environmental Law and Policy Center, Surfrider Foundation, Conservation Law Center, Just Transition Northwest Indiana, National Parks Conservation Association, Northwestern University School of Law, Industrious

Labs, and Gary Advocates for Responsible Development (collectively "Commenters") respectfully submit the comments below to the Indiana Department of Environmental Management ("IDEM" or "the Department") on its tentative determination to renew the NPDES Permit for Cleveland-Cliffs LLC West Plant ("the Facility") (NPDES No. IN0000205) ("Draft Permit"). Commenters appreciate the hard work that has gone into drafting the Permit, and have identified the following issues in particular that should be addressed before it is finalized:

- Need to consider environmental justice implications of permit renewal
- Need to develop site-specific technology-based effluent limits and modern water treatment technology specific to these operations
- Need to develop expanded record of review of application for Streamlined Mercury Variance

When the Clean Water Act was enacted in 1972, Congress declared that it was "the national goal that the discharge of pollutants into navigable waters be eliminated by 1985." 33 U.S.C. § 1251(a)(1). This goal was to be reached, in part, by a nationwide permitting system – called the National Pollutant Discharge Elimination System ("NPDES") – that would gradually lower the amount and concentration of pollutants that municipalities and industries discharged into public waters as the technology improved. Much of the CWA, in fact, dealt with promoting and funding research into wastewater treatment technologies. In the 50 years since passage of the CWA, treatment technology has made significant improvements, but we have not come close to eliminating the discharge of pollutants into our public waters because we have not always required the use of the latest treatment technologies.

The renewal of NPDES permits provides IDEM the opportunity to evaluate whether a permitted facility is using the latest treatment technology to reduce its discharge of pollutants. Absent any requests for modification, this chance is presented to the Department only once every five years, so it is incumbent on IDEM – and the public it serves – to rigorously assess the current water quality of the public waters into which pollutants are discharged, the toxicity and amounts of those pollutants, and the treatment systems used to limit those discharges. Fortunately, IDEM has the technical expertise and the analytical tools to conduct this rigorous assessment. The Commenters document here how such a rigorous assessment, consistent with federal and state law, should be performed so that Cleveland-Cliffs is required to install modernized technology to meet lower limits that are justified by the existence of such technology along with the importance of Lake Michigan and the nearby communities.

To be clear, the Commenters do not categorically oppose the renewal of these permits, but ask that they be improved to reflect the real dangers posed by Cleveland-Cliffs' pollutants to the priceless national resource that is Lake Michigan and to the overburdened communities that rely on it for drinking water, food, recreation and enjoyment. Industry can no longer be allowed to despoil our public waters for personal gain when the present and potential future harm is so grave, nor

should it be allowed to rely on outdated technology in controlling these pollutants when more advanced options are available.

Background: Receiving Waters and Neighboring Communities

To understand the impacts of Cleveland-Cliffs Steel's discharges on the environmental justice community, it is important to understand, initially, that this Facility (together with the Cleveland-Cliffs Steel LLC – Indiana Harbor Central Treatment Plant ("Central Facility") and Cleveland-Cliffs Steel LLC – Indiana Harbor East ("East Facility")) is within the Great Lakes Restoration Initiative's ("GLRI") Grand Calumet River Area of Concern. According to the U.S. Environmental Protection Agency ("EPA"):

> The Grand Calumet River is in one of the most heavily industrialized areas in the United States, flowing mainly through northwestern Indiana. Beginning in the 20th century the area began experiencing an influx of steel mills, foundries, chemical plants, oil refineries, meat packing industries, and pharmaceutical industries. Prior to the 1972 Clean Water Act, industries released industrial waste and some nearby cities discharged untreated sewage into the river. In addition, potential nonpoint sources of contaminants, such as industrial and urban runoff may have affected water quality in the river.

To further comprehend the impacts of Cleveland-Cliffs Steel's discharges on the environmental justice community, one must also recognize that there are at least a dozen other active IDEM NPDES permits authorizing discharge to the Indiana Harbor Ship Canal (including the receiving waters of Indiana Harbor Canal, Lake George Canal (a part of the Indiana Harbor Canal), and Lake Michigan via Indiana Harbor Ship Canal), including the three Cleveland-Cliffs facilities currently undergoing permit renewals. Despite being just one of many sources of water pollution in the region, the Cleveland-Cliffs West Facility's discharges are significant when taken together with the nearby East and Central Facilities. Table A below shows the Annual Maximum Environmental Load using daily maximum loads allowed by the Draft Permit, if discharged 365 days/year, for all three facilities. To visualize the size of the loading, the three sites are capable of discharging more than 5,000 tons/year of total suspended solids ("TSS") and oil and grease ("O&G") alone (the heavy metals in Table A will be in the solids).This is more than 350 large dump truck loads each year into the Indiana Harbor Canal and to Lake Michigan.

Table A
Pollutants Discharged by Cleveland-Cliffs Indiana Harbor Facilities Per Year (in pounds)

Annual Maximum Environmental Load Cleveland Cliffs (East, West, Central)	
Lbs/yr	Pollutant
0.97	Mercury
11,348	Lead

111,931	Zinc
7,787,385	TSS
2,258,510.5	O&G
62,050	Total Chrome

As of July 2022, Indiana ranked last among Midwest states in protecting vulnerable communities from pollution, and – if the Draft Permit is issued as proposed – it could become another manifestation of that fact. As currently written, the Draft Permit fails to adequately control contaminants that threaten the health and safety of vulnerable residents in the vicinity of the Facility and receiving waters, such that already overburdened communities would experience disproportionate impacts from this increased pollution.

While we are concerned about the volume and characteristics of pollution entering the water from this Facility, we acknowledge that industry can co-exist with residents – even in the most vulnerable populations–if steps are taken to prevent over-burdening nearby communities. The more industry there is in an area, however, the more precautions that are needed to ensure that local residents are not shouldering a disproportionate burden to serve the needs of all. The West Facility primarily serves the steel industry, which is undeniably important to Lake County, Indiana, and the nation. That importance, however, does not justify its operation without regard to the surrounding communities, which is why environmental laws and regulations exist. Those provisions, designed to protect the environment and public health and welfare, must be rigorously enforced and environmental justice considerations in particular must be taken into account:

- **Environmental Justice Analysis.** IDEM should conduct an environmental justice analysis of appropriate scope to inform the permitting decision, for example by using an Environmental Justice Assessment (before reissuance of the Permit). This analysis should include an EJScreen analysis, input from the affected community to identify their concerns, an evaluation of existing environmental data, and an evaluation of existing demographic and public health data about the community. The analysis should evaluate the effects that the Permit, as renewed, will have on the community, and the degree to which these effects will be disproportionately high and adverse. Furthermore, the analysis should discuss mitigations to be included in the permit that would be expected to address any identified adverse effects.

- **Cumulative Impact Analysis.** IDEM should conduct a cumulative impact analysis to determine the Facility's impact on the affected communities. A cumulative impact analysis could demonstrate that the permit will be protective of health and the environment in those communities. Due to the number of dischargers in the same receiving waters, a cumulative impact analysis is appropriate.

- **Mitigation**. IDEM should consider opportunities to address disproportionately high and adverse effects that extend beyond the scope of the NPDES permitting decision utilizing a whole-of-government approach by working with the permittee and local officials to reduce impacts on the surrounding neighborhood.

- **Greater Public Engagement**. IDEM has indicated publicly that it values environmental stakeholder inclusion. The Department should hold a public meeting in East Chicago – in addition to the November 1, 2023 public hearing which was held specifically on the Draft Permit – to hear and answer questions and comments from local residents regarding the Facility. It is important that the meeting for the public be held at a time and location to make it accessible to the surrounding community, most of whom have jobs during the work day that they cannot afford to miss. Additionally, the meeting announcement should be in both English and Spanish, and Spanish language interpreters should be available at the meeting, since the community in the vicinity of the Facility is more than 50% Hispanic or Latino. Commenters further recommend that responsible officials from Cleveland-Cliffs attend. A public meeting could help dispel some concerns and raise understanding among local residents and apprise the company of its role and impact on the community.

Our remaining comments stand alone from, but are influenced by, our recommendations regarding environmental justice. The additional comments are not, however, exhaustive of the ways in which the Draft Permit could be amended to mitigate the impact to the environment and local residents. We encourage IDEM and Cleveland-Cliffs, based on their superior knowledge of the Facility's operations and emissions, to seek out and implement ways to reduce the Facility's adverse impacts. The comments are organized in numbered sections that correspond with the section in the Facility's Draft Fact Sheet.

Response 37: Background: Receiving Waters and Neighboring Communities

Environmental Justice:

IDEM believes the permit as drafted meets the NPDES requirements set forth in the Clean Water Act, federal regulations adopted pursuant thereto, and Indiana Administrative Code Title 327. Currently, applicable regulations do not require Environmental Justice analyses, nor do they include requirements for implementation in NPDES permits. Water quality standards are established for the entire state. Indiana adopted water quality standards, antidegradation policies, and implementation procedures for waters within the Great Lakes system consistent with U.S. EPA Great Lakes Water Quality Guidance on January 14, 1997. Indiana's water quality standards, antidegradation policies, and antidegradation implementation procedures applicable within the Great

Lakes system are codified at 327 IAC 2-1.5 and 327 IAC 2-1.3, respectively. These standards, policies and procedures are applied to all dischargers and discharges within the Great Lakes system, including, the subject facilities.

Cumulative impacts analysis:

IDEM believes the permit as drafted meets the NPDES requirements set forth in the Clean Water Act, federal regulations adopted pursuant thereto, and Indiana Administrative Code Title 327. IDEM recognizes that conducting a Cumulative Impact Analysis is an evolving science and a subject of current research by EPA. However, applicable regulations do not require a Cumulative Impact Analysis, nor do they include requirements for implementation in NPDES permits. Regardless, the multi-discharger wasteload allocation analysis completed for renewal of these NPDES permits calculated water quality-based effluent limitations which protect the water quality of the receiving stream. The water quality-based effluent limitations are designed to ensure water quality criteria based on the protection of aquatic life, human health, and wildlife are met in the receiving waters. Pollutants contributed by all upstream facilities are considered in the development of water quality-based effluent limits, in the form of background concentrations. Background concentrations of pollutants help determine the assimilative capacity of the receiving water. Assimilative capacity is the amount of pollutant a waterbody may accommodate without causing the concentration of that pollutant to be greater than the water quality criteria for that pollutant.

Additionally, IDEM conducts routine water quality monitoring in the Indiana Harbor Canal, Indiana Harbor and in Lake Michigan at public water system intakes that measures the cumulative impacts from multiple sources. The data provide long-term water quality trends and can be used to assess these waters for compliance with water quality standards for chemical parameters.

Mitigation:

The scope of this permit has been drafted in accordance with the NPDES program and all applicable Federal and State laws/regulations. IDEM will continue to integrate changes into NPDES permits as the applicable laws/regulations are revised.

Greater Public Engagement:

In accordance with 327 IAC 5-3-9, the agency provided an extended public comment period (45 days vs. 30 days) as well as an in-person public hearing on November 1, 2023, to provide expanded participation

opportunities. A copy of the PowerPoint presentation from the public hearing was also posted online: https://www.in.gov/idem/resources/lake-michigan-sites-of-interest/cleveland-cliffs-indiana-harbor-long-carbon/.

IDEM hired a Spanish-speaking interpreter who was present at the Public Hearing on November 1st. IDEM values the importance of offering communication and interpretation services whenever necessary and will continue to strive to meet public communication needs.

Please note that IDEM has an Environmental Stakeholder Inclusion program to ensure that interested stakeholders are included and represented in agency actions. Within IDEM, an environmental stakeholder inclusion coordinator works with the agency's program areas to enhance environmental stakeholder involvement in the regulatory processes administered by the agency. The environmental stakeholder inclusion coordinator assists agency staff with fulfilling requests from external stakeholders for services such as translation and interpretation services. The Permits Branch communicated with the Environmental Stakeholder Program throughout the Public Hearing process. If you would like additional information on the program, or to request assistance, please visit this webpage: https://www.in.gov/idem/health/environmental-stakeholder-inclusion/.

To maximize time to review future public notices, IDEM recommends that concerned citizens sign up for IDEM's notification service to receive SMS and/or email messages whenever a permit action, such as a Public Notice, takes place. You may sign up using the following link: https://www.in.gov/idem/subscribe-to-idem-updates/.

No changes were made in response to this comment.

Comment 38: Outfall Descriptions and Wastewater Treatment – Total Suspended Solids and Oil & Grease

The Draft Permit anticipates a high volume contribution of total suspended solids ("TSS"), Oil and Grease ("O&G") and heavy metals from the three Cleveland Cliffs facilities. To address this potential issue, we recommend that the Facility should be required to focus on improving the removal of TSS and O&G to reduce the load of those contaminants with a focus on zinc and mercury. The removal of these conventional pollutants will also address the removal of heavy metals. (See further discussion about removal of TSS and O&G below under "Overall Recommendations for Improved Treatment Systems").

Response 38: The reporting requirements and effluent limits included in the permit for the above pollutants were developed in accordance with federal regulations and state water quality standards. Tiered limits were introduced into the draft renewal to provide

appropriate limits for the above parameters for discharges under different operating conditions. All technology-based effluent limits (TBELs) and water quality-based effluent limits (WQBELs) are designed to be protective of all existing uses of the receiving stream, which includes the protection of wildlife, aquatic life, and human health. As such, IDEM believes the existing limits are appropriate for these parameters.

Comment 39: Outfall Descriptions and Wastewater Treatment – Discharge of Ammonia

Additional treatment technologies should be considered for Ammonia (as N), for which IDEM has determined – based on information provided by the permit applicant – that there is a reasonable potential for the Facility to exceed its limits. *See* Fact Sheet Appendix B. The Draft Permit includes a reopener clause whereby the Permit can be reopened to modify the 301(g) effluent limitation for ammonia-N and/or total phenols. "At any time during the term of this NPDES permit, the permittee may request modification of Section 301(g) effluent limits. Such modified limits may be applied at Outfalls 009, 010, and 011, or any combination thereof." Draft Permit at p. 70. With regard to Internal Outfall 509, the Draft Fact Sheet indicates that "Section 301(g) of the Clean Water Act provides for variances to BAT limitations. The facility has a previously approved 301(g) variance for ammonia and phenol. That variance approved net limitations for ammonia 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)."

In responding to the variance request for ammonia, IDEM should take into consideration the fact that the No. 4 Blast Furnace is indefinitely idled and the zinc treatment system is also idled, and require the Facility to focus on improved treatment systems for ammonia discharging through the Terminal Lagoon system to Outfall 011. The Terminal Lagoon system currently does not include treatment for ammonia. Adding an ammonia treatment step to the Terminal Lagoon wet well or adding an ion exchange system just prior to discharge to Outfall 011 would also help to reduce the potential to exceed permit limits for ammonia.

Response 39: Based on the results of the 2023 Wasteload Allocation analysis, Outfall 009 is the only outfall which demonstrated a Reasonable Potential to Exceed (RPE) for ammonia. Outfall 010 and Outfall 011 do not show RPE for ammonia. Additionally, the data used in the 2023 WLA analysis was collected *prior* to the idling of the No. 4 Blast Furnace. Given the current idle status of the No. 4 Blast Furnace, RPE for ammonia is not currently expected at Outfall 009. Furthermore, the permit renewal includes tiered limits at all three outfalls (009, 010, and 011) which include ammonia limits. The effluent monitoring/limits for ammonia at Outfall 009A (No. 4 Blast Furnace operating) include both 301(g) limits and water quality-based effluent limits (WQBELs). Additionally, Outfall 010A and Outfall 011A (No. 4 Blast Furnace operating) both include monitoring and 301(g) limits for ammonia.

The 301(g) variance for ammonia incorporated at Outfalls 009, 010, and 011 was approved by the EPA in a letter dated August 24, 2007. As such, any changes to this variance are subject to EPA review. As stated above, a reopener clause was included in the Permit which would allow the future modification of the permit in response to any changes pertaining to the 310(g) variance. At this time, no changes to the 301(g) variance have been proposed by the EPA.

All monitoring requirements/limits for ammonia have been applied in accordance with Federal and State regulations and are therefore appropriate for protecting the existing uses of the receiving stream.

Comment 40: Outfall Descriptions and Wastewater Treatment – Chlorine and Biocide Treatment

The Facility has had issues with Chlorine in its effluent in the past. The IDEM multi-discharger model was used to assess the WQBEL for chlorine and other chemicals of concern (COC) in 2017 and for this draft permit. Monitoring requirements for Total Residual Oxidants (TRO) (bromine + chlorine) are also proposed based on the potential for both bleach (sodium hypochlorite) and Stabrex ST70 to be present in the discharge. Commenters are concerned that periodic treatments like these — because they are not normally metered into the system — are often excessive and can potentially cause significant problems for aquatic life in the receiving water. A case in point is a November 2021 violation where a reddish-brown discoloration was observed at the Cleveland Cliffs East facility Outfall 018. (More information about that discharge is included in our November 16, 2023 comments on the East facility Draft Permit at Section 3.1, “Compliance History”). The East Facility’s preliminary investigation of the root cause was suspected excess addition of the water treatment chemical Ferric Chloride at the Blast Furnace blowdown treatment plant, which discharges through outfall 518 to outfall 018. No fish kill or other wildlife appeared to have been adversely affected because of this incident but the potential remains, and the Facility should be required to put engineered controls in place to avoid future incidents.

We also recommend that IDEM consider requiring the West Facility to install metered systems for additions of all chlorine and biocides to reduce the potential for repeat violations. This is recommended in addition to the onsite lab testing that is already required by the Permit.

Response 40: No changes have been made in response to this comment. The water treatment additives (WTAs) mentioned above have been reviewed and approved for use by IDEM. Prior to WTA approval, IDEM assesses the proposed additive dosage and its potential toxicity to the receiving stream. Based on the application provided by the facility, IDEM has found these additives to be approvable for use at the prescribed dosage. All permittees must comply with the dosage limit which was approved by IDEM. Furthermore, monitoring requirements for TRC and TRO have been applied to all applicable outfalls to ensure that permittees comply with the terms of their

WTA approvals and permit requirements. Any violation of the agreed upon terms is subject to enforcement action by IDEM.

Based on the information above, IDEM believes that all existing WTA approvals and monitoring requirements are appropriate.

Comment 41: Outfall Descriptions and Wastewater Treatment – Overall Recommendations for Improved Treatment Systems

We recognize that the Facility performs various methods of wastewater pretreatment prior to discharging to Indiana Harbor Canal and Lake Michigan. However, based on the amount of Total Suspended Solids, Oil and Grease, heavy metal particulate, and other pollutants that are discharged from all three Cleveland Cliffs facilities, and our expressed concerns in Section 5.2 below (Water Quality-Based Effluent Limits), we are recommending improved and added treatment systems. The table in Attachment A summarizes pertinent information about the Facility's wastewater treatment systems, the pollutants of concern discharged to each outfall, and provides proposed treatment system improvements. We are generally recommending that the addition of membrane filtration, ion exchange, and/or reverse osmosis (RO) to current treatment system just prior to discharge would help to reduce the large volume of TSS, Oil & grease and heavy metals that are currently discharged to Lake Michigan. The addition of RO would also be effective at outfalls where PFAS is potentially discharged. Both RO and granular activated carbon (GAC) systems are effective treatment for PFAS in wastewater discharge.

Response 41: No changes have been made in response to this comment. Neither EPA nor IDEM mandate the use of a specific treatment technology. The Federal Effluent Limitations Guidelines contain standards and limitations that are based on a particular "model" technology; however, permittees are not required to use the technology upon which the standards are based. A permittee can choose any treatment that results in compliance with the limitations. https://www.epa.gov/eg/learn-about-effluent-guidelines.

EPA promulgated the Iron and Steel Effluent Limitation Guidelines (ELG), 40 CFR 420, in 1974. The ELG was amended in 1976, 1982, 1984, 2002 and 2005. https://www.epa.gov/eg/iron-and-steel-manufacturing-effluent-guidelines.

EPA periodically reviews existing ELGs, and updates them, as appropriate. The Effluent Guidelines Program Plan, published every two years, identifies existing industries selected for regulatory revisions and new industries identified for regulation. The Plan provides a rulemaking schedule for any such activities. https://www.epa.gov/eg/effluent-guidelines-plan.

Please note that new/more stringent limits have been included in the permit for multiple pollutants including Total Suspended Solids (TSS), Oil & Grease (O & G), total cyanide, lead, and zinc.

Comment 42: Permit History – Compliance History

The Fact Sheet for the Draft Permit includes a list of four exceedances of the Facility's ammonia limits between 2017 and 2019 and a single exceedance of its zinc limit in 2022. Commenters were unable to locate information about any of the ammonia exceedances, but note that there has not been a recurrence in over four years. The Fact Sheet also identifies 12 inspections over the last five years "for compliance verification," but does not explain the significance of the reviews or how they are considered in renewal of this permit. Commenters request that IDEM include in the Fact Sheet a complete history of noncompliance by the Indiana Harbor West steel mill (including the items listed below), as well as IDEM's efforts to address those violations (*e.g.,* November 22, 2021 Administrative Compliance Order issued by IDEM to West Facility for failure to conduct accelerated testing following the bypass of the zinc treatment system, after 20 bypasses between October 2018 and May 2021), since its last renewal including all bypasses. Doing so can identify recurring compliance issues and the need for additional inspections, monitoring, and reporting.

4/21/23 Oil sheen observed at Outfalls 009/010 and in the sump below No. 8 generator. (VFC #83479636)

3/20/23 Foam observed near Outall 009/010 apparently originating from flume in Powerhouse basement. (VFC #83449557)

7/14/22 Zinc discharge from Outfall 701 of 1.6 lbs, in excess of 1.15 lb/day limit. (VFC #83361398)

<u>Bypasses</u>

12/2/21 Est. 29,300 gallons from slurry Still Well to terminal lagoon. (VFC #83253643)
5/16/21 Est. 12,500 gallons from slurry Still Well to terminal lagoon. (VFC #83182530)
5/13/21 Est. 24,000 gallons from slurry Still Well to terminal lagoon. (VFC #83170634)
10/17/20 Est. 155,000 gallons from slurry Still Well to terminal lagoon. (VFC #83063104)
10/13/20 Est. 36,000 gallons from slurry Still Well to terminal lagoon. (VFC #83063290)
3/16/20 Est. 24,000 gallons from slurry Still Well to terminal lagoon. (VFC #82956678)
2/11/20 Est. 250 gallons from sewer to terminal lagoon. (VFC #82931708)

10/9/19 Est. 85,000 gallons from slurry Still Well to terminal lagoon. (VFC #82962602)
9/5/19 Est. 53,000 gallons from slurry Still Well to terminal lagoon. (VFC #82969469)
7/11/19 Est. 220,000 gallons from slurry Still Well to terminal lagoon. (VFC #82991526)
6/13/19 Est. 450,000 gallons from Outfall 011. (VFC #82992969)
5/2/19 Est. 37,000 gallons from slurry Still Well to terminal lagoon. (VFC #83037790)
5/1/19 Est. 70,000 gallons from slurry Still Well to terminal lagoon. (VFC #83037788)
2/9/19 Unspecified bypass of water from slurry Still Well to terminal lagoon. (VFC #82950964)
12/20/18 Est. 200,000 gallons from slurry Still Well to terminal lagoon. (VFC #82980593)
12/17/18 Est. 144,000 gallons from “ongoing” bypass to Outfall 011. (VFC #82952876)
5/19/18 Est. 125,000 gallons from slurry Still Well to terminal lagoon. (VFC #83056214)

Commenters also request that the Fact Sheet compile a summary of IDEM inspections of the Indiana Harbor West wastewater treatment operations. The Commenters were able to locate the following 14 reports of inspections by IDEM personnel since the last renewal, most of which found problems or violations of its NPDES permit. These inspections identify a number of recurring problems, particularly involving a failure to keep lab samples within the required temperature range, and multiple bypasses. Commenters could not locate reports of any bypasses since 2021, but confirmation and an explanation as to how this has been corrected would better describe the facility’s compliance verification.

10/26/23: Reconnaissance inspection focused on the Powerhouse wastewater contributions to Outfalls 009 and 010 found receiving streams free of notable foam, algae or solids. (VFC #83550684)
9/13/23: Reconnaissance inspection focused on non-contact cooling waters to Outfall 002 found receiving waters, observed from drawbridge adjacent to the outfall, that appeared to be clear. (VFC #83533485)
6/15/23: Reconnaissance inspection found receiving stream at Outfalls 009, 010, and 011 to be clear. (VFC #83489867)
3/20/23: Reconnaissance inspection found unknown material on the receiving stream at Outfall 009/010. (VFC #83450132)
2/1/23: Reconnaissance inspection found effluent clear at Outfalls 009, 010, and 011. (VFC #83426002)
9/12/22: Compliance evaluation inspection found the self-monitoring program marginal for the same reasons identified in June and noted the reported zinc exceedance. (VFC #83370924)

6/27/22: Reconnaissance inspection observed violations due to unsatisfactory maintenance that caused three bypasses and an unsatisfactory self-monitoring program due to samples not kept at proper temperature. (VFC #83337825)

8/3/21: Compliance evaluation inspection rated the maintenance and self-monitoring categories unsatisfactory due to bypasses and failure to maintain samples at the proper temperature. (VFC #83200836)

3/29/21: Reconnaissance inspection found one of the two thickeners at the Zinc Treatment facility was inoperable. (VFC #83139982)

12/21/20: Reconnaissance inspection observed violations, due to three bypasses caused by unsatisfactory maintenance. (VFC #83088384)

1/13/20: Reconnaissance inspection as follow up to Dec. 4 inspection found effluent clear. (VFC #82900181)

12/4/19: Reconnaissance inspection observed violations due to an oil sheen at Outfall 009 and no boom was in place. (VFC #82882795)

10/21/19: Three-day compliance evaluation inspection observed violations referred for enforcement. Key issues included 12 reported bypasses, problems with self- monitoring, flow measurement program, and ammonia exceedances. (VFC #82863531)

5/10/18: Compliance evaluation inspection observed potential problems with ammonia exceedances. (VFC #82542323)

Addressing the violations at the Facility is especially critical given the environmental justice community that has experienced the adverse impacts from its pollution for decades.

Response 42: A summary of this facility's compliance, inspection, and enforcement history between 2017 and 2023 is included in Section 3.1 of the Fact Sheet. The information contained within this section is publicly available and may be found in the Virtual File Cabinet (VFC). IDEM Virtual File Cabinet The VFC provides access to the complete inspection reports, bypass reports, and compliance updates pertaining to any current enforcement actions (i.e. Agreed Orders, Consent Decrees).

Comment 43: Total Maximum Daily Loads

NPDES permit limitations and conditions must be designed to ensure compliance with the narrative and numeric criteria in the WQS and the Total Maximum Daily Load ("TMDL") wasteload allocations ("WLAs") established in any applicable TMDL Permit writers must also consider whether the discharge contributes directly or indirectly to a waterbody that is included on the latest CWA section 303(d) list or designated by IDEM as impaired. According to the draft Fact Sheet, Indiana's List of Impaired Waters for the 2022 cycle included the following impairments for waters to which the permittee discharges, as shown in Table B below:

Table B

Impaired Waterways			
Assessment Unit	***Waterbody***	***Impairments***	***Cleveland-Cliffs West Outfalls***
INC0163_T1001	Indiana Harbor Canal	Biological Integrity, Oil and Grease, *E. coli* and PCBs in Fish Tissue	002, 009 and 010
INC0163G_G1078	Lake Michigan Shoreline (includes Indiana Harbor)	Free Cyanide, Mercury in Fish Tissue and PCBs in Fish Tissue	011
INM00G1000_00	Lake Michigan (beyond the shoreline)	Mercury in Fish Tissue and PCBs in Fish Tissue	None

As discussed above, this Facility is within the GLRI Grand Calumet River Area of Concern. The Calumet River was designated as an Area of Concern ("AOC") under the Great Lakes Water Quality Agreement of 1987, largely due to legacy pollutants. These pollutants remain in the environment for extended periods of time after they are introduced and were found in sediments at the bottom of the Grand River, Indiana Harbor and Ship Canal. These legacy pollutants include:

- Polychlorinated biphenyls ("PCBs")
- Polycyclic aromatic hydrocarbons ("PAHs")
- Heavy metals including but not limited to mercury, cadmium, chromium, and lead
- Oil and grease

Despite the historically impaired status of the receiving waters, neither the Draft Permit nor Fact Sheet appear to include a record that WQS and TMDL wasteload allocations will be achieved. Instead, they simply identify the list of impaired waters (and designations for the Indiana Harbor Ship Canal and Indiana Harbor). The Fact Sheet makes the conclusory statement that "[t]he narrative water quality criteria contained under 327 IAC 2-1.5-8(b)(1) and (2) have been included in this permit to ensure that these minimum water quality conditions are met." Fact Sheet at 5.3.1. That is insufficient.

Therefore, we urge IDEM to include more prescriptive requirements in the Permit based on known information about the permittee's discharges, and to demonstrate in the Fact Sheet how those limits will ensure attainment of WQS. We acknowledge that the process of translating WLAs into NPDES permit limits that are consistent with the assumptions and requirements of TMDLs is not always straightforward, so we suggest that IDEM review EPA's informative web page (including specific examples) on "Permit Limits – Permitting to Meet a Total Maximum Daily Load (TMDL)"13 as the Department attempts to develop a fulsome record connecting the TMDL WLAs for the Facility with the Permit's effluent limitations and conditions.

Response 43: Please review section 5.2 of the Fact Sheet; Water Quality-Based Effluent Limitations. From the Fact Sheet:

A TMDL is not currently planned for the subwatershed, and, based on current IDEM monitoring data, may not be required. Therefore, as was done in the 2017 WLA, the procedures for calculating WLAs under 327 IAC 5-2-11.4 were used to develop preliminary WLAs and WLAs in the absence of a TMDL. Wasteload allocations in the absence of TMDLs are developed to establish water quality-based effluent limitations under 327 IAC 5-2-11.6 and preliminary wasteload allocations are developed to make reasonable potential determinations under 327 IAC 5-2-11.5. The reasonable potential procedures under 327 IAC 5-2-11.5 include provisions for making reasonable potential determinations using best professional judgment (327 IAC 5-2-11.5(a)) and using a statistical procedure (327 IAC 5-2-11.5(b)). The statistical procedure is a screening process in which a projected effluent quality (PEQ) based on effluent data is calculated and compared to a preliminary effluent limitation (PEL) based on the preliminary wasteload allocation. Both the best professional judgment and statistical procedures were used to establish the need for WQBELs to protect the designated uses of the Indiana Harbor Canal, Indiana Harbor, and Lake Michigan.

A TMDL has not been completed for the assessment units in the Indiana Harbor Canal or Indiana Harbor to which the three Cleveland-Cliffs steel mills discharge. Therefore, the permits are not required to comply with any WLAs established in a TMDL. For the pollutants included on the 2022 CWA section 303(d) list with applicable water quality criteria, only free cyanide is a pollutant of concern for the Cleveland-Cliffs discharges, and as noted in the Fact Sheet, routine IDEM monitoring data for the Indiana Harbor Canal and Indiana Harbor indicate that it is no longer impaired. For oil and grease, the permits include either numeric limits or monitoring requirements at all final outfalls that are designed to ensure narrative water quality criteria are met. Since requirements consistent with the Water Quality Guidance for the Great Lakes System in 40 CFR 132 were first adopted into Indiana water quality standards and implementation procedures in 1997, IDEM has incorporated these requirements into the renewal permits for the three Cleveland-Cliffs Indiana Harbor steel mills issued in 2011, 2017 and the current permit renewal. IDEM utilizes facility monitoring data required in permits and Form 2C of the permit renewal application, along with IDEM's own stream monitoring network to identify pollutants of concern with respect to attaining applicable water quality standards. As noted above in Section 5.2 of the Fact Sheet, the result of the analysis required by the Indiana regulations was the establishment of WQBELs for the specific pollutants included in the permits.

Comment 44: Permit Limitations – Unpermitted Discharges Should be Expressly Prohibited

The Clean Water Act prohibits the discharge of unpermitted pollutants. 33 U.S.C. § 1311 (prohibiting "discharge of *any pollutant* by any person" "[e]xcept as in compliance with [the CWA]."). Indiana law provides that "[a]ny discharge of pollutants into waters of the State as a point source discharge . . . is prohibited unless in conformity with a valid NPDES permit obtained prior to discharge." 327 IAC 5-2-2. Despite these general propositions, a broad prohibition against unpermitted discharges does not appear in the Draft Permit. For example, the Draft Permit includes discharge limitations for Outfalls 001A, 001B, 101A, and 101B, but nowhere does the document include a generalized statement that discharges are prohibited other than through those outfalls. Commenters request that IDEM include a general prohibition against the unpermitted discharge of pollutants with a statement similar to the prohibition under Indiana law that any discharges of pollutants into waters of the State as a point source discharge is prohibited unless in compliance with a valid NPDES permit.

Response 44: No changes have been made in response to this comment. The permit cited above is the Central Treatment Plant, not Indiana Harbor West. A specific prohibition is not necessary. Per 327 IAC 5-2-2, any discharge of pollutants into waters of the state as a point source discharge, except for exclusions in 327 IAC 5-2-1.8, is prohibited unless in conformity with a valid NPDES permit obtained prior to the discharge.

Comment 45: Technology-Based Effluent Limitation – Applicability of Effluent Limitation Guidelines

The technology-based effluent limitations ("TBELs") in the Draft Permit are insufficient to address water pollution discharged from the Facility for several reasons: first, the Fact Sheet supporting the Proposed Permit indicates that TBELs are based on EPA's effluent limitation guidelines ("ELGS") for the iron and steel manufacturing point source category, 40 C.F.R. Part 420, and the metal finishing point source category, 40 C.F.R. Part 433. The ELGs for the iron and steel industry were established in 1982 (with certain individual provisions amended about 20 years after that). The ELGs for the metal finishing industry were established in 1983 (with certain individual provisions amended in 1986 at the latest). So, the requirements of the ELGs relied on by the Draft Permit are at least 20 years old, and many are more than 40 years out-of-date. As such, the guidelines in no way represent current best available technology for treating water pollution from steel and metal finishing facilities, and reliance on them is inconsistent with EPA's regulation on technology-based treatment requirements in permits, 40 C.F.R. § 125.3(a)(2) (providing that, for non-POTWs, effluent limitations must reflect best practicable technology ("BPT") currently available)). The BPT requirement in 40 C.F.R. § 125.3 that that standard must be applied should be read in harmony with existing ELGs such that the Permit should include the more stringent of BPT or ELG limitations to ensure that water quality is sufficiently protected.

Response 45: The metal finishing point source category, 40 CFR. Part 433, is not applicable to the Indiana Harbor West permit. The iron and steel manufacturing point source category, 40 CFR. Part 420, is applicable to the discharges from the Indiana Harbor West facility. IDEM believes the permit as drafted meets the requirements of 40 CFR 420.

In its effluent limitations guidelines applicable to the Iron and Steel Manufacturing Point Source Category, EPA has established effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT) and effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT). The effluent limitations guidelines do not require facilities to install the technology used to develop the BPT and BAT requirements; however, the regulations do require facilities to achieve the limitations and other requirements which were developed based on a particular model technology (https://www.epa.gov/eg/learn-about-effluent-guidelines). EPA promulgated the Iron and Steel Manufacturing Point Source Category Effluent Limitations Guidelines (ELG), 40 CFR 420, in 1974. These were amended in 1976, 1982, 1984, 2002 and 2005 (https://www.epa.gov/eg/iron-and-steel-manufacturing-effluent-guidelines).

EPA periodically reviews existing ELGs, and updates them, as appropriate. The Effluent Guidelines Program Plan, published every two years, identifies existing industries selected for regulatory revisions and new industries identified for regulation. The Plan provides a rulemaking schedule for any such activities (https://www.epa.gov/eg/effluent-guidelines-plan).

Additionally, please note that all TBELs included in the permit are further supplemented by water quality-based effluent limits (WQBELs) which are developed in accordance with Indiana Water Quality Standards. As such, these limits, taken together, are deemed sufficient for protecting the existing uses of the receiving stream, which includes the protection of wildlife, aquatic life, and human health.

Comment 46: Technology-Based Effluent Limitation – Need for Site-Specific TBELs

Second, to the extent that certain pollutants are discharged by the permittee but were not contemplated at the time that the now-outdated ELGs were promulgated, IDEM should establish site-specific TBELs for the Facility, applying best professional judgment (“BPJ”). Where EPA has not promulgated technology-based effluent guidelines for a particular class or category of industrial discharger, or where the technology-based effluent guidelines do not address all waste streams or pollutants discharged by the industrial discharger, permit-issuing agencies are required to do the following:

[T]he permitting authority must establish effluent limits using one or more of the following options: . . .
(A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. . . .
(B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information; or
(C) Establish effluent limitations on an indicator parameter for the pollutant of concern. . . .

40 C.F.R. § 122.44.16 It does not appear that IDEM has established TBELs for the Draft Permit that follow the requirements of section 122.44, and we urge the Department to do so, in particular case-by-case effluent limits.

Because Section 301 of the CWA requires technology-based effluent limitations as a minimum level of control, 33 U.S.C. § 1311(b), such case-by-case technology limitations are "necessary to carry out the provision of this chapter" prior to the development of an applicable effluent guidelines and therefore must be included in any NPDES permit issued under section 402(a), as provided in EPA's implementing regulations. See 40 C.F.R. § 125.3(a) ("Technology-based treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under Section 402 of the Act"); see also 40 C.F.R. § 125.3(c) (describing methods of imposing technology-based treatment requirements in permits, including on a case-by-case basis "to the extent that EPA-promulgated effluent limitations are inapplicable."); 40 C.F.R. § 125.3(d) (requiring that, in setting case-by-case limitations, the permit writer must consider factors including BPT, best control technology and best available technology).

Response 46: No changes were made in response to this comment. Indiana Administrative Code (IAC) Title 327 Article 5, Rule 5 (327 IAC 5-5) contains NPDES Criteria and Standards for Technology-Based Treatment Requirements. This rule establishes criteria and standards for the imposition of technology-based treatment requirements in permits under 327 IAC 5-2-10, including the application of EPA-promulgated effluent limitations and standards under sections 301(b) and 306 of the CWA, and case-by-case determinations of effluent limitations under section 402(a)(1) of the CWA. Per 327 IAC 5-5-2(b), technology-based treatment requirements may be imposed through one (1) of the following methods: application of EPA-promulgated effluent limitations developed under section 304 or 306 of the CWA to discharges by category or subcategory, on a case-by-case basis under section 402(a)(1) of the CWA, to the extent that EPA-promulgated effluent limitations are unavailable, or through a combination of these methods. While IDEM has the authority to develop case-by-case limits using best professional judgement if EPA-promulgated effluent limitations are not available, it is not required to do so unless it determines the action is necessary to fulfill the requirements of the CWA.

Currently, IDEM has not determined that development of site-specific TBELs is required.

IDEM believes the permit meets the NPDES requirements set forth in the Clean Water Act, federal regulations adopted pursuant thereto, and Indiana Administrative Code Title 327.

Comment 47: Water Quality-Based Effluent Limits (WQBEL)

We have reviewed the available information for development of the Draft Permit's Water Quality-Based Effluent Limits ("WQBELs") and understand the data that was used, the methodologies that were employed, and the parameters that are included in the multi-discharge model used by IDEM to perform a WLA analysis. "For each pollutant receiving TBELs at an internal outfall, and for which water quality criteria or values exist or can be developed, concentration and corresponding mass-based WQBELs were calculated [by IDEM] at the final outfall." Draft Fact Sheet at Section 5.2. The WQBELs were set equal to the applicable preliminary effluent limitations ("PELs") from the multi-discharger model or the outfall specific spreadsheet. Supplemental Information for WLA at p. 12. IDEM also limits the dilution available for each outfall (the mixing zone) to twenty-five percent (25%) of the stream design flow and accounts for the potential of overlapping mixing zones within a segment by also limited collectively to twenty-five percent (25%) of the stream design flow. *Id.* at p. 5.

While Commenters understand the above-described process that has been followed by IDEM's Office of Water Quality and believe that it meets the state's regulatory guidelines, we do not agree with the final purpose and endpoints that have been determined. Instead, we believe that the Permit must be more protective of the aquatic and human environment than it would be as drafted. IDEM's proposed purpose and endpoints should protect and improve the quality of the receiving waterways and not simply achieve parity. To do that, IDEM must determine applicable limits that will assure ultimate healing of the receiving water bodies. That is, simply continuing to use the same model inputs (except to change flows or add or remove processes) and approving a permit that continues to follow the determinations made five years ago is insufficient for any receiving water, and particularly for such an important waterway as Lake Michigan. To achieve the desired improvements of the receiving water bodies, it is essential that IDEM calculate limits to achieve healing. People fish in these waterways, recreate and swim in these waterways, and drink water that is from these waterways,18 and they deserve an effort by industry and oversight agencies to make progressive improvements. Table B, above (taken from the Draft Fact Sheet) illustrates the current impairments of receiving waters.

IDEM has performed a WLA analysis using the multi-discharge model for all outfalls from the Draft Permit. Pollutants selected for the multi-discharger model were reportedly based on water quality concerns and the application of technology-based

effluent limitations at multiple outfalls. Our calculations indicate that the following annual maximum discharges of pollutants would likely continue if the Draft Permit for the West Facility is approved.

Annual Maximum Environmental Load Cleveland Cliffs West	
Lbs/yr	***Pollutant***
0.70	**Mercury**
3,285.0	**Lead**
65,335	**Zinc**
22,521	**O&G**
486,290	**TSS**

Additionally, our calculations indicate that the following annual maximum discharges of pollutants would continue if all three Cleveland Cliffs draft permits are approved. Commenters are also concerned that IDEM did not include WLA calculations specifically for TSS in this Permit reissuance. This omission is especially glaring because IDEM's own information about Common Watershed Parameters demonstrates the harm that elevated TSS can cause:

Annual Maximum Environmental Load Cleveland Cliffs All	
Lbs/yr	**Pollutant**
0.97	**Mercury**
11,348	**Lead**
111,931	**Zinc**
7,787,385	**TSS**
2,258,510.5	**O&G**
62,050	**Total Chrome**

> Total Suspended Solids (TSS) includes all particles suspended in water that can be trapped by a filter. Although it's commonly collected to estimate the scale of sediment run-off from the watershed, TSS includes much more than just soil. TSS can include inorganic materials like industrial waste, and organic materials like dead plants and animal matter, live organisms and sewage. Large amounts of TSS can reduce water clarity, reduce light availability necessary for plant growth, and harm fish and other aquatic organisms. Sediment can clog fish gills and fill in spawning and other habitat areas. High TSS can also cause an increase in water temperature as the particles trap heat from the sun. Additionally, high TSS measurements can indicate high levels of nutrients, bacteria, metals and other chemicals since many of these pollutants attach to sediment. TSS even has an economic impact, since it has to be filtered out of surface water used as a drinking water source.

Thus, IDEM should either include WLA calculations for TSS in this Permit reissuance (along with other conventional pollutants), or – to the extent that the

Department is relying on prior WLA calculations – those should be explicitly incorporated into the Draft Permit/Fact Sheet.

Response 47: No changes have been made in response to this comment. Indiana has not developed numeric water quality criteria for total suspended solids; therefore, Indiana cannot develop numeric water quality-based effluent limitations for total suspended solids.

However, Indiana's water quality standards contain narrative water quality criteria that prohibit a discharge from containing substances materials, floating debris, oil, scum attributable to municipal, industrial, agricultural, and other land use practices, that will settle to form putrescent or otherwise objectionable deposits or that are in amounts sufficient to be unsightly or deleterious. These narrative water quality criteria were included as narrative permit limits in Part I.B. of the permit.

IDEM believes the permit as drafted meets the requirements of NPDES requirements set forth in the Clean Water Act, federal regulations adopted pursuant thereto, and Indiana Administrative Code Title 327.

Comment 48: Antidegradation – Per-and Polyfluoroalkyl Substances (PFAS)

We recommend adding language to the Fact Sheet reflecting the possibility that PFAS is or was discharged by the Facility and including a corresponding Permit requirement to monitor for PFAS at section I.A. of the Permit. PFAS are a class of synthetic chemicals used since the 1940s to make water-, heat-, adhesive-, and stain-resistant products such as cookware, carpets, clothing, furniture fabrics, paper packaging for food, other resistant materials and aqueous film-forming foam (AFFF). These chemicals are bioaccumulative and persistent in the human body and throughout the environment. For example, EPA considers Perfluorooctane sulfonic acid ("PFOS") – one of many PFAS substances – to be a hazardous substance that "may present a substantial danger to human health" due to its links to cancer and effects on reproductive, developmental, and cardiovascular health. Other PFAS have also been linked to cancer, immune deficiencies, thyroid disease, and other health problems.

Even though not yet regulated in Indiana, there is a significant potential for discharge of PFAS from the Facility because of its possible use of the substances in past and current systems, including the Facility fixed and portable fire protection systems. Fixed fire protection systems are especially prone to accidental releases and minor releases during periodic testing and maintenance activities. Because PFAS are considered "forever chemicals" and are difficult to remove and remediate, it is likely that residuals would remain in Facility fixed fire protection and discharge systems.

Regulatory agencies have recognized the significant potential dangers of PFAS in surface water, rivers and freshwater lakes. In December 2022, EPA Office of Water

sent a memorandum to Regional Water Division Directors on how best to use Clean Water Act authorities to protect the public from the dangers of PFAS. Guidelines included using state NPDES permits to reduce PFAS pollution allowed into waterways and using the most current sampling and analysis methods and pretreatment to identify PFAS sources. In November 2019, the Great Lakes Consortium for Fish Consumption Advisories published a fish advisory titled, “Best Practice for Perfluorooctane Sulfonate (PFOS) Guidelines.” Of note, the Indiana Department of Health has posted this PFOS Advisory to its website.

The West Facility discharges to the Indiana Harbor Canal, the Indiana Harbor, and Lake Michigan. PFAS has been found in fish tissue in Lake Michigan, indicating that monitoring requirements for the substance should be added to the Facility’s Permit requirements. Image 1 below, from EPA’s *How’s My Waterway* website, depicts Michigan’s designation of the eastern half of Lake Michigan as impaired by PFOS in fish tissue. PFOS is one of two widely produced, commonly encountered, and most studied PFAS compounds, is known to be particularly harmful, and is the largest contributor to total PFAS levels found in freshwater fish samples. The contribution and bioaccumulation of PFAS in fish is a nationwide problem and indigenous and tribal communities are particularly at risk due to their dependence on freshwater fish. Especially notable is the fact that the designated PFOS-impaired area of Lake Michigan shown in Image 1 abruptly ends at the border of northwestern Indiana waters, which is highly unlikely.

This obvious omission reflects the need for IDEM to require PFAS monitoring in permits so that information about the extent of PFAS contamination can be fully understood. Northwest Indiana communities, visiting public, and local tribal communities that choose to fish in these waters have a right to know all potential hazards that exist.

Image 1

As proposed, the Draft Permit does restrict new or increased discharges of bioaccumulative pollutants generally. Part II.A.16 of the Facility permit states: "This permit prohibits the permittee from undertaking any 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 regulated pollutant that is not a BCC unless one of the following is completed prior to the commencement of the action. . . . " Draft Permit at p. 77. Consistent with that prohibition, we recommend that the Permit be revised to add sampling and monitoring requirements for potential PFAS in the Permittee's discharge at all external stormwater outfalls where non-point stormwater might carry PFAS from fixed and portable fire protection system use and/or periodic maintenance and testing to determine whether it is present and to have a baseline record available when EPA does impose specific requirements through its various rulemaking activities.29 If PFAS is identified, we further recommend that the Facility should be required to investigate the source(s) and proactively mitigate the sources to the extent feasible.

Response 48: No changes were made in response to this comment. The EPA plans to restrict PFAS discharges from industrial sources through a multi-faceted Effluent Limitations Guidelines (ELG) program and is conducting a PFAS multi-industry study to inform the extent and nature of PFAS discharges. Additionally, the EPA is developing national recommended ambient water quality criteria for PFAS to protect aquatic life and human health.

IDEM's current PFAS policies and activities are found here: https://www.in.gov/idem/resources/nonrule-policies/per-and-polyfluoroalkyl-substances-pfas/#activities

Comment 49: Antidegradation – Mercury and PFAS Atmospheric Deposition

There is evidence that both mercury and PFAS have been found in surface water, groundwater, and drinking water systems from atmospheric deposition where it is manufactured or used. This is in addition to mercury and PFAS possibly being discharged in facility wastewaters. There is further evidence that the primary source of mercury from a steel mill is from blast furnaces emissions to air.

The Michigan TMDL for mercury in Lake Michigan indicates that the impairment is partly due to Atmospheric Deposition. This is also true of PFAS in states that have found it in surface water bodies and in fish tissue. As mentioned, PFAS has been found in residential drinking water as a result of atmospheric deposition. Two examples of PFAS in residential drinking water from industrial atmospheric deposition include emissions from the 3M facility in Cordova, IL where PFAS products were manufactured and the St. Gobain facility in Merrimack, NH33 where PFAS products were used. These situations are heartbreaking for the surrounding exposed communities and costly for the companies because of associated penalties and treatment or replacement of drinking water supplies.

Because of the proven potential for emissions from industrial facilities to deposit to surface water, the Facility must include this potential in review of its overall potential impacts to the Indiana Harbor Ship Canal and to Lake Michigan. If emissions to air are found to be a possible contributor, existing air emissions control devices should be improved, or new emission controls installed. Ultimately, the preferred action is to avoid the use of these harmful BCCs.

Response 49: No changes were made in response to this comment. Atmospheric deposition contributes to background concentrations in receiving streams, which is taken into consideration when establishing water quality-based effluent limitations.

Evaluation of air emissions and air emission control devices is beyond the scope of an NPDES permit.

Comment 50: Stormwater

The Draft Permit presents an opportunity to create clear, specific, measurable and enforceable requirements to reduce polluted industrial stormwater runoff from the Facility, which can be particularly toxic and hazardous to human health and aquatic biota, and that threatens the goal of promoting environmental justice in Indiana. As written, the Draft Permit requires the permittee to “implement the non-numeric permit conditions in this Section of the permit for the entire site as it relates to stormwater associated with industrial activity regardless which outfall the stormwater is discharged from.” Draft Permit at Part I.D. The lack of measurable standards for the required control measures is also evidenced in the Draft Fact Sheet:

The permittee must control its *discharge as necessary to meet applicable water quality standards*. It is expected that compliance with the non-numeric technology-based requirements should ensure compliance with applicable water quality standards. 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 and IDEM may impose additional water quality-based limitations.

Proposed Fact Sheet at section 5.7. Without numeric metrics, though, the Draft Permit includes requirements that are inherently unenforceable. Commenters recommend that the Department establish, and clearly identify, measurable and enforceable obligations in the Permit beyond the general prohibition against causing or contributing to an exceedance of WQS; otherwise, the Permit may be ineffective and unlawful to the extent that the permittee cannot be made to comply. Enforceability would be improved through clearer, more measurable standards and explicit statements of enforceable provisions, avoiding permittee self-regulation, increased monitoring requirements, strengthened corrective action provisions, and improved transparency and public accessibility of information.

For example, the Draft Permit requires the permittee to perform the following "Good Housekeeping" stormwater control measures: "Keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping *at regular intervals*, keeping materials orderly and labeled, and stowing materials in appropriate containers." Draft Permit at Part I.D.4.b (emphasis added). The frequency of sweeping should be prescribed, including so that it ensures that all portions of the Facility receive regularly attention. By way of further example, the Draft Permit requires that the permittee "[e]nclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces." *Id.* at 4.g. However, the Draft Permit does not contain a deadline for covering the salt piles, or provide any specific requirements for doing so. Therefore, IDEM should review the entire "Stormwater" portion of the Draft Permit to add enforceable performance metrics.

Additionally with regard to stormwater, the Draft Permit requires the permittee to consider "use of treatment interceptors (*e.g.* swirl separators and sand filters) [which] may be appropriate in some instances to minimize the discharge of pollutants." Draft Permit at Part I.D.3.g. As discussed above at Section 2.3 (Wastewater Treatment), Commenters recommend installation of oil/water separators for wastewater. Similarly, we suggest using separators for purposes of stormwater as well.

Response 50: No changes were made in response to this comment. The stormwater requirements in the permit are, for the most part, general in nature, and require the permittee to design a site-specific program tailored to its facility, while meeting water quality standards. Neither EPA nor IDEM mandate the use of a specific treatment technology.

Comment 51: Water Treatment Additives

In the event that the permittee decides to use a new water treatment additive that will contribute to the Facility's outfalls (or in the case of certain other changes), the permittee is required to complete and submit State Form 50000 (Application for Approval to Use Water Treatment Additives) "prior to such discharge." Permit at Part I.A.1 n. 1. The Fact Sheet cites several provisions of Indiana law which require advance notice of planned changes "as soon as possible," or "as soon as the discharger knows or has reason to know" that it has begun or expects to use such additives. Fact Sheet at Section 5.8. We submit that the Permit should require submission of State Form 50000 within a prescribed number of days before an additive begins usage, rather than "as soon as possible." Permit at Part I.A.1. If the permittee is unable to comply with the required number of days, IDEM could consider using enforcement discretion on a case-by-case basis to determine whether to address any such lateness.

Response 51: No changes were made in response to this comment. The current provision is appropriate and in accordance with other similarly issued NPDES permits in Indiana. If a new water treatment additive is to be used that will contribute to an Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Non-compliance with this requirement will be a violation of the permit.

Comment 52: Permit Draft Discussion – Streamlined Mercury Variance

The Draft Permit proposes to apply a variance to otherwise-applicable WQSs for mercury through a "Streamlined Mercury Variance" ("SMV"), simply because the discharger is unable to attain the WQS for that pollutant. The information in the Draft Permit and Fact Sheet is insufficient to show consistency with federal and Indiana law on variances, such that the SMV should be denied until and unless the permit applicant is able to provide necessary support for its request as explained below.

Indiana's streamlined mercury variance, 327 IAC 5–3.5, requires compliance with the federal variance regulation, 40 C.F.R. § 131.14. *See* 327 IAC 5-3.5-2(b); IC § 13-14-8-9(b)(1). The federal regulations require that a discharger-specific WQS variance "represent the highest attainable condition of the water body or waterbody segment applicable throughout the term of the WQS variance." 40 C.F.R. § 131.14(b)(1)(ii). When an impairment is human-caused, like mercury, the permittee must also demonstrate that "[h]uman caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place." 40 C.F.R. § 131.14; 40 C.F.R. § 131.10(g).

Where a discharge is to occur within the Great Lakes System, like here, it must also meet the requirements of 40 C.F.R. Part 132. IC § 13-14-8-9(b)(2). The following

conditions (among others) apply to WQS variances granted to Great Lakes dischargers:

1. A variance to a WQS shall not be granted that would likely jeopardize the continued existence of any endangered or threatened species listed under Section 4 of the Endangered Species Act . . . or result in the destruction or adverse modification of such species' critical habitat.
2. A WQS variance shall not be granted if standards will be attained by implementing effluent limits required under sections 301(b) and 306 of the Clean Water Act (CWA) and by the permittee implementing cost-effective and reasonable best management practices for nonpoint source control.

. . .

A variance may be granted if:

1. The permittee demonstrates to the State that attaining the WQS is not feasible because:

. . .

c. Human-caused conditions or sources of pollution prevent the attainment of the WQS and cannot be remedied, or would cause more environmental damage to correct than to leave in place;

. . .

2. In addition to the requirements of C.1, above, the permittee shall also:

a. Show that the variance requested conforms to the requirements of the State's or Tribe's antidegradation procedures; and

b. Characterize the extent of any increased risk to human health and the environment associated with granting the variance compared with compliance with WQS absent the variance, such that the State or Tribe is able to conclude that any such increased risk is consistent with the protection of the public health, safety and welfare.

40 C.F.R. Part 132, Appendix F, Procedure 2. To the extent that the federal criteria are more stringent than the state criteria, they must also be considered. 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. § 123.1(f); (i)(1).

Indiana regulations also contain criteria for variances from WQS. Among other requirements, the state requires that, in order for a variance to be granted, a permit applicant must “demonstrate[ ] that implementing a proposed methodology, which includes any production process(es), wastewater treatment technology, or combination thereof used to reduce pollutants discharged in the wastewater from a facility, as identified pursuant to 327 IAC 5-3-4.1(b)(2)(A), will cause an undue hardship or burden upon the applicant.” 327 IAC 2-1.5.

Further, in making a determination on a variance application, the Department “shall balance the increased risk to human health and the environment if the variance is granted against the hardship or burden upon the applicant if the variance is not granted so the commissioner is able to conclude that any increased risk is *consistent with the protection of the public health, safety and welfare.* In balancing these

factors, the commissioner shall consider the following to determine if the hardship or burden upon the applicant is undue:

(1) The cost and cost effectiveness of pollutant removal by implementing the methodologies proposed by the applicant and the methodology capable of attaining the WQBEL.
(2) The reduction in concentrations and loadings of pollutants attainable by the methodologies proposed by the applicant as compared with the reduction attainable by use of the methodology capable of attaining the WQBEL.
(3) The impact of the proposed methodologies and the methodology capable of attaining the WQBEL on the price of the goods or services provided by the applicant.
(4) Information on the relative price of goods or services in the same market as the applicant.
(5) The overall impact of attaining the WQBEL and implementing the proposed methodologies on employment at the facility.
(6) Information on the type and magnitude of adverse or beneficial environmental impacts, including the net impact on the receiving water, resulting from the proposed methodologies that could be applied to the control of the substance for which a variance is applied.
(7) Other relevant information requested by the commissioner or supplied by the applicant or the public."

327 IAC 2-1.5-17(c) (emphasis added). As with the federal requirements, the Draft Permit does not include any discussion of how it considered each of the criteria for granting variances — particularly protection of the public health, safety and welfare — so approval of the variance request is premature. If IDEM obtains the necessary information to grant the variance, the Fact Sheet should be revised to include such an explanation. Fortunately, IDEM has developed a form for industrial facilities to use when applying for the SMV, State Form 52111, so gathering the required information should not be burdensome. We also strongly recommend that the fully-completed form should be included in the permit renewal package if at some point the permit applicant has submitted sufficient information supporting its variance request.

As drafted, the Draft Fact Sheet does not yet demonstrate how any of the criteria in Appendix F apply to the proposed SMV for the Facility. Commenters request that IDEM identify precisely in the Fact Sheet and Draft Permit which, if any, of the qualifying conditions set forth in 40 C.F.R. Appendix F to Part 132, Procedure 2, Section C.1 IDEM has concluded justifies issuance of the SMV. With respect to each such C.1 condition, the Fact Sheet or Permit should include or describe in detail "[a]ll relevant information demonstrating that attaining the applicable WQS is not feasible" as required by Appendix F at Section D.1. If IDEM is unable to comply with this request because the applicant has failed to submit information sufficient to make the required demonstration, then the requirements for the SMV have not been satisfied and the application should be rejected. It is essential that IDEM develop a record

about all impacts of the variance, but especially the extent of any increased risk to human health and the environment associated with granting the variance compared with compliance with WQS absent the variance, given the vulnerable population surrounding the Facility. IDEM must be able to conclude, after a thorough review, that any such increased risk is consistent with the protection of the public health, safety and welfare. *Id.* at Subsection (C)(2)(b).

With regard to 40 C.F.R. Appendix F to Part 132, Procedure 2, Sections C.2(a) and C.2(b), Commenters request that IDEM indicate whether the applicant has complied with both demonstration and characterization requirements. If IDEM believes the applicant has complied with each of those requirements, we request that the Fact Sheet and Permit include " [a]ll of the relevant information demonstrating compliance with the conditions in section C.2 of this procedure," as required by the regulation at Section D. 2. If IDEM is unable to comply with this request because the applicant has failed to submit information sufficient to make the required demonstration, then the requirements for the SMV have not been satisfied and the application should be rejected.

Response 52: A streamlined mercury variance (SMV) has been developed for Outfall 009 and Outfall 010 in accordance with all state and federal regulations; these regulations are outlined in Part IV of the permit and Section 6.5 of the Fact Sheet. The U.S. EPA approved Indiana's Streamlined Mercury Variance Rule, 327 IAC 5-3.5, on December 21, 2005.
https://www.in.gov/idem/cleanwater/files/wqs_epa_approval_smv_20051221.pdf
Indiana submitted supporting documentation demonstrating the widespread social and economic impacts of compliance with mercury limits derived from Indiana's existing water quality criteria, as well as documentation showing compliance with the requirements of 40 CFR 132, Appendix F, Procedure 2.

The U.S. EPA determined that the rule and supporting documentation met the substantive requirements for a variance from water quality standards consistent with Section 303 of the Clean Water Act and Federal regulations at 40 CFR 131 and, for portions of Indiana within the Great Lakes Basin, 40 CFR 132. The U.S. EPA also determined that Indiana's rule complied with the procedural requirements of Federal regulations at 40 CFR 131.20 for a complete submission.

Comment 53: Permit Draft Discussion – Mercury Discharge Limits Under SMV

The Draft Permit indicates that the SMV is intended to establish a simplified process for "obtaining a variance from a water quality criterion used to establish a WQBEL for mercury in an NPDES permit." Draft Permit at p. 94. The interim effluent limitation for mercury proposed by the Draft Permit with the SMV at Outfalls 009A and 009B are a monthly average loading of 0.00039 lbs/day, daily maximum amount of 0.00096 lbs/day and concentration limits of 1/3 ng/l (interim discharge limit of 1.8 ng/l) and daily maximum of 3.2 ng/l. Draft Permit at pp. 5, 9. The Draft Permit also provides that "Compliance with the interim discharge limit will

demonstrate compliance with mercury discharge limitations of this permit for this outfall." Draft Permit at p. 8. As a basis for the SMV, the Draft Permit indicates that, "[b]ased on a review of the SMV application, IDEM has determined the application to be complete as outlined in 327 IAC 5- 3.5-4(e)." *Id.* As a technical basis for approving the SMV, the Fact Sheet explains that:

The interim discharge limit was developed in accordance with 327 IAC 5-3.5-7 and with 327 IAC 5-3.5-8. Specifically, the interim discharge limit shall be based upon available, valid, and representative data of the effluent mercury levels collected and analyzed over the most recent two (2) year period from the facility. The interim limit of 8.7 ng/L represents the highest daily value for mercury from the most recent two (2) years of the permittee's effluent data. This Office received a complete SMV application on April 4, 2022. Therefore, mercury data two (2) years prior to April 4, 2022, were utilized in determining the mercury interim discharge limit (see Appendix C of this fact sheet to view the SMV dataset).

Draft Fact Sheet at p. 27. In other words, *the limit is based on the highest daily value of mercury actually discharged over the prior two years,* consistent with 327 IAC 5-3.5-8. However, simply relying on that provision — and ignoring the other federal and state requirements for approval of variances — is insufficient as a basis for approving the SMV. As such, we recommend that IDEM review the federal and state requirements identified above and expand its analysis of the SMV application to reflect that information.

Further, we recommend that IDEM include the entire SMV application in the permit renewal package to ensure transparency, given the environmental impacts of mercury. Currently, the package only includes the data set of highest mercury discharge concentrations from April 2020 – February 2022. Draft Fact Sheet, Appendix C.

Response 53: Please refer to Response 52, above.

Additionally, please note that more stringent interim discharge limits for mercury were determined in accordance with 327 IAC 5-3.5 and included at Outfall 009 and Outfall 010. Mercury showed no Reasonable Potential to Exceed (RPE) water quality limits at Outfall 011 and was therefore removed at this outfall. The mercury data collected at each of these outfalls will be re-evaluated during the next permit renewal in consideration of new/updated limits for mercury.

The entire permit renewal application package, including the SMV application, will be uploaded to Indiana's Virtual File Cabinet as part of the public record. IDEM Virtual File Cabinet

Comment 54: Permit Draft Discussion – Additional Challenges Presented By SMV – Reliance on PMPP is Misplaced

In support of the proposed SMV, the Fact Sheet provides that "[t]he goal of the SMV is to reduce the effluent levels of mercury towards, and achieve as soon as practicable, compliance with the mercury WQBELs through implementation of a pollutant minimization program plan (PMPP)." Draft Fact Sheet at section 6.5. However, the bulk of the requirements to be imposed on a permittee that has been granted an SMV is development of an annual Pollutant Minimization Program Plan ("PMPP"). Draft Permit at Part IV; 327 IAC 5-3.5-9.

However, Cleveland-Cliffs has not developed PMPPs annually, even though that has been a requirement of the existing permits. For example, at the East facility, the permittee was required to include a plan in its PMPP to monitor mercury at internal outfalls 518 and 618, which discharge to outfalls 011 and 014. However, the current status stated in the 2022 PMPP list, as shown in Attachment 1 to the 2022 PMPP, was "Not conducted. Outfall 009 and 010 mercury results from August 2019 to June 2020 have been below SMV limits. Source characterization/ monitoring at internal outfalls is not warranted." Yet, we submit that source characterization is precisely what the permittee must do or it will never ultimately reduce mercury discharges.

Response 54: Please refer to Response 52 and Response 53.

The permittee must identify and eliminate sources of contaminants addressed in the PMPP. As such, permittees are responsible for selecting monitoring points (such as internal processes and outfalls) which are most appropriate for eliminating contaminants. The internal outfalls referenced in the above comment are not expected to discharge due to the current idle status of the No. 4 Blast Furnace. Therefore, mercury contributions from these outfalls are not anticipated at this time. IDEM may request revisions to the PMPP to include monitoring for mercury at internal outfalls if No. 4 Blast Furnace operations are resumed.

Comment 55: Permit Draft Discussion – Additional Challenges Presented By SMV – Receiving Waters Cannot Tolerate Higher Concentrations of Mercury

Finally with regard to the proposed SMV variance, allowing additional mercury discharges to the receiving waters of the Cleveland-Cliffs permits is not appropriate, given the current impaired status of Lake Michigan, Cleveland Cliff's contribution, and the need to heal the receiving waterbodies.

Response 55: Please refer to Response 52 and Response 53.

Comment 56: Permit Draft Discussion – Additional Challenges Presented By SMV – Deposition of Mercury from Air Emissions Unregulated

The Lake County Shoreline, including the East Chicago shoreline (Incorporated Area), is listed by IDEM as impaired by mercury in fish tissue. Michigan and Wisconsin have listed Lake Michigan as impaired by mercury. Consideration should be given to this fact in any assessment regarding a variance for higher mercury discharge criteria. Atmospheric deposition of mercury from Facility operations should also be considered and factored into any decision for a variance and for setting discharge criteria.

Response 56: No changes were made in response to this comment. Atmospheric deposition is taken into consideration in the form of background concentrations which are incorporated into Wasteload Allocation analyses that are used to establish water quality-based effluent limitations (WQBELs).

Evaluation of air emissions and air emission control devices is beyond the scope of an NPDES permit.

Comment 57: Summary of Recommendations

Based on the foregoing discussion, Commenters recommend that the Permit and Fact Sheet be revised as follows:

1. **Conduct environmental justice analysis** to include analysis of existing demographic and public health data and mitigation available to address adverse effects.
2. **Conduct cumulative impacts analysis** to protect the water quality of receiving streams and the public health of local communities due to the number of other local dischargers.
3. **Greater Public Engagement**: Hold a public meeting, together with Cleveland-Cliffs Steel, to answer questions from the local community. Provide Spanish translation.
4. **Improve treatment** that improves the removal of total suspended solids, including the use of chemical precipitation, that will also reduce the discharge of heavy metals. Improve treatment technology to remove oil and grease and ammonia that reflects the best treatment technology. Specifically, Indiana Harbor West should install membrane filtration, ion exchange, and/or reverse osmosis to its current treatment system just prior to discharge to Lake Michigan. *See* Table in Attachment A for improved treatment proposals for specific discharges.
5. **Install oil/water separators** for all wastewater and stormwater discharges.
6. **Establish site-specific technology-based effluent limits** applying best professional judgment.
7. **Establish measurable and enforceable obligations** of any requirements designed to prevent exceedances of water quality standards.

8. **Add performance metrics** to stormwater portion of permit that are measurable and enforceable.
9. **Include wasteload allocation calculations** for total suspended solids in permit.
10. **Add to the NPDES Permit** an express prohibition on the discharge of unpermitted pollutants.
11. **Monitor for PFAS contamination.** Specifically, add sampling and monitoring requirements for PFAS in all internal and external outfalls, investigate their source, and mitigate where to the extent feasible.
12. **Require submission of State Form 50000** (Application for Approval to Use Water Treatment Additives) within a prescribed number of days before any water treatment additive is used.
13. **Reject the Streamlined Mercury Variance** unless and until the applicant's publicly-available supporting documentation satisfies all applicable federal and state requirements. If IDEM determines that it has sufficient information to consider the SMV request, **include in renewal permit package** a copy of permittee's completed application for streamlined mercury variance.

Response 57: Please refer to Responses 37-56.

Please refer to the comment letter to see footnotes included throughout the letter, as well as the commenters' "Attachment A".

Comments provided by Cleveland Cliffs on November 16, 2023.

Comment 58: Subject: Outfall 011A Footnotes [18] and [19] and Outfall 011B Footnotes [16] and [17] Prohibition on discharge of process waters

The water transport language should be amended. Cliffs requests that the maximum volume of 25,000 gallons transported "per event" be replaced with 250,000 gallons transported per year. This would not increase the maximum allowable gallons to be transported per year. Limiting the amount transported per event could significantly damage infrastructure and cause significant health and safety incidents.

Response 58: No changes have been made in response to this comment. The 25,000 gallon per event limit was included in the letter issued by IDEM on January 15, 2015 establishing the terms under which IDEM would exercise its enforcement discretion with respect to this wastestream . As such, the language in the footnote(s) was written to reflect these requirements. Further, the permittee has not provided any additional evidence which would justify this change or an amendment to this requirement.

Comment 59: Subject: Outfall 701 Vacuum Degasser

The sample type for Outfall 701 should be changed to "grab" from "24-hour

composite". Cliffs requests that the Outfall 701 sample type be changed to Grab from 24-Hour Composite. Treated process water from the Vacuum Degasser is typically reused at 3SP for operation of the wet electrostatic precipitators. As outlined in the email that was sent to IDEM on 9/8/23, the median discharge duration over the last five-year period for this outfall is 3 minutes and the mean is 105 minutes. In addition, by the nature of the Outfall 701 treatment system, effluent quality is not highly variable. Consequently, grab samples should be representative of the discharge.

Response 59: No changes have been made in response to this comment. A review of the discharge spreadsheet submitted on 9/8/23 reveals significant fluctuations in the duration and volume of discharges from Outfall 701. Between 2017-2023, the average discharge duration was 147 minutes and the average discharge volume was 15,833 gallons. However, on 4/25/2017, the discharge duration was 1,140 minutes and the discharge volume was 114,000 gallons. There were several other discharges between 2017 – 2023 which fluctuated in duration and volume. As such, IDEM has determined that 24-hour composite sampling will retained in order to capture potential fluctuations in the discharge. No changes have been made in the permit.

Comment 60: Subject: Outfall 000 and Part IV.B.6 and 7. Intake flow monitoring / Instantaneous Velocity

If actual through screen velocity is the impingement mortality BTA alternative at the No. 2 Intake, the calculated velocity should be "daily" instead of hourly, consistent with the regulation.

For the No. 2 Intake, should "actual through screen velocity" be the chosen method of compliance, the draft permit contains an "hourly maximum" limit of 0.5 ft/s, using the hourly daily maximum flow recorded throughout the day. Cliffs objects to the use of " hourly maximum" as the monitoring frequency and compliance determination because the regulation does not require "hourly" monitoring.

The CWIS regulation at 40 CFR 125.94(c)(3), for the "actual through-screen velocity" BTA option is as follows (emphasis added):

…The maximum velocity must be achieved under all conditions, including during minimum ambient source water surface elevations (based on best professional judgment using hydrological data) and during periods of maximum head loss across the screens or other devices during normal operation of the intake structure. The Director may authorize the owner or operator of the facility to exceed the 0.5 fps velocity at an intake for brief periods for the purpose of maintaining the cooling water intake system, such as backwashing the screen face. In addition, you must monitor the velocity at the screen at a minimum frequency daily. In lieu of velocity monitoring at the screen face, you may

calculate the through-screen velocity using water flow, water depth, and the screen open areas.

Response 60: No changes have been made in response to this comment. The CWIS regulation at 40 CFR 125.94(c)(3), for the "actual through-screen velocity" requires that 'velocity be met "under all conditions". The 0.5 ft/s velocity is a not-to-exceed requirement. To assure that the velocity is met under all conditions, IDEM has determined that hourly velocity determinations were needed in order to capture potential fluctuations in intake flow which would otherwise be obscured by a daily average calculation. Calculating intake velocity on an hourly basis provides a more accurate measure of short-term fluctuations in velocity which will allow IDEM and facility operators to more adequately determine whether compliance with the 0.5 ft/s velocity limit is achieved. The regulation found in 40 CFR 125.94(c)(3) states that the velocity must be calculated at a <u>minimum</u> frequency of daily; this does not negate IDEM's authority to apply more precise monitoring to reflect site-specific operating conditions at a facility (See 40 CFR 125.96(a)).

Comment 61: Subject: Part IV.B.8 Velocity Monitoring requirements

Cleveland-Cliffs objects to the requirement to conduct intake velocity studies at the No. 1 and No. 2 Intakes and requests that such requirements be removed from the draft permit.

For the No. 1 Intake, Cliffs previously submitted corrections to the No. 1 Intake screen open area that demonstrate that a maximum through screen velocity of 0.5 fps or less is met at design pumping capacity at low source water elevation. Impingement mortality BTA at this intake is "0.5 ft/s Through Screen Design Velocity" (see above and permit page 86). EPA expressly states in the CWIS regulation preamble that additional monitoring for this compliance alternative is not required:

"First, an intake with a maximum design intake velocity less than or equal to 0.5 fps is pre-approved BTA for impingement mortality and does not require further monitoring." FR 08/15/2014, 48352

Regarding the No. 2 Intake, information must be submitted with the 12-month compliance schedule report, that will detail how the through-screen velocity standard will be achieved. Accordingly, an intake velocity study at the No. 2 Intake will likewise be unnecessary.

Please be advised that the probability of conducting a velocity study at low Lake Michigan levels and at design pumping capacity is exceedingly low and that there are practical difficulties in measuring velocity (e.g., proper suspension and orientation of velocity meters at substantial water depths). In addition, actual "through-screen velocity" cannot typically be measured, as acknowledged by EPA

(see May 2014 TDD Sec. 6.6.2.), and therefore any study results would still rely on calculation of through-screen velocity.

Based on the considerations above, Cliffs believes that any such studies would not be a good use of resources for both Cliffs and IDEM. Therefore, Cliffs requests that velocity study requirements be removed from the draft permit.

IDEM proposes in the draft permit that the permit can be modified based on the results of these studies. Cleveland-Cliffs believes that the NPDES permit cannot be issued without the opportunity to review and comment on the specifics of how the velocity data will be interpreted by IDEM in relation to the 0.5 ft/s standard.

Notwithstanding, as explained above, Cleveland-Cliffs believes that the velocity study requirements should be removed from the permit.

Response 61: No changes were made in response to this comment. As explained in the Fact Sheet, these one-time velocity studies are being required at these intakes due to the inconsistent information that has been provided for the permittee's intakes. The velocity monitoring study results will be compared to calculated velocities.

This information will be used by IDEM to validate the estimates provided by the permittee on pump flow rates and through screen velocity.

The estimated pump flows at these intakes are calculated based on pressure within the service water system, the known water uses for these intakes and measured outfall flow rates. Uncertainty in estimated pump flows increases as the number of estimated parameters increases.

IDEM also believes that the velocity study will provide assurance on the accuracy of design criteria provided by the permittee to calculate through screen velocity. For example, open area of relevant intake screens.

IDEM therefore concludes that the velocity study is warranted to address possible uncertainty in estimated pump flow rates and intake design parameters and that the study will remain in the permit.

Per 40 CFR 125.96(a), IDEM may establish monitoring requirements in addition to those specified at § 125.94(c), including, for example, biological monitoring, intake velocity and flow measurements. If IDEM establishes such monitoring, the specific protocols will be determined by IDEM.

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
PUBLIC NOTICE NO. 20231229 – IN0000205 - F
DATE OF NOTICE: DECEMBER 29, 2023

The IDEM Office of Water Quality has issued the following NPDES Final permit:

MAJOR– RENEWAL

Cleveland-Cliffs Steel LLC – Indiana Harbor West Plant, NPDES Permit No. IN0000205, 3001 Dickey Rd, East Chicago, IN, LAKE COUNTY. This industrial facility is a steel mill that discharges to the Indiana Harbor Canal, the Indiana Harbor, and Lake Michigan via existing permitted outfalls. The discharges consist of process and non-process wastewaters from multiple operations and stormwater. The facility withdraws its water from Lake Michigan. In addition to renewal of the NPDES permit, IDEM has granted the permittee's request to continue its 301(g) variance limits and has renewed its streamlined mercury variance pursuant to 327 IAC 5-3.5. This variance will remain in effect until the NPDES permit expires, pursuant to IC 13-14-8-9. The following are the permitted outfall locations:

Outfall	Latitude	Longitude	Waterbody
002	41° 39' 19"	- 87° 27' 37"	Indiana Harbor Ship Canal
009	41° 39' 40"	- 87° 27' 10"	Indiana Harbor Ship Canal
509	41° 39' 60"	- 87° 26' 56"	Indiana Harbor Ship Canal via Outfall 009
010	41° 39' 40"	- 87° 27' 05"	Indiana Harbor Ship Canal
011	41° 40' 20"	- 87° 26' 35"	Indiana Harbor Ship Canal
701	41° 40' 37"	- 87° 27' 21"	Indiana Harbor Ship Canal via Outfall 011
702	41° 40' 34"	- 87° 27' 34"	Indiana Harbor Ship Canal via Outfall 011

Permit Manager: Matt Warrener, IDEM, Office of Water Quality, Industrial NPDES Permits Section, 100 N Senate Ave, Indianapolis, IN 46204-2251; 317-233-0798, mwarrene@idem.in.gov. Posted online at https://www.in.gov/idem/public-notices/.

Notice of Right to Administrative Review

If you wish to challenge this permit, you must file a Petition for Administrative Review with the Office of Environmental Adjudication (OEA) and serve a copy of the petition upon IDEM. The requirements for filing a Petition for Administrative Review are found in IC 4-21.5-3-7, IC 13-15-6-1 and 315 IAC 1-3-2. A summary of the requirements of these laws is provided below.

A Petition for Administrative Review must be filed with the Office of Environmental Adjudication (OEA) within fifteen (15) days of the issuance of this notice (eighteen (18) days if you received this notice by U.S. Mail), and a copy must be served upon IDEM. Addresses are:

Director
Office of Environmental Adjudication
Indiana Government Center North
Room N103
100 North Senate Avenue
Indianapolis, Indiana 46204

Commissioner
Indiana Department of Environmental Management
Indiana Government Center North
Room 1301
100 North Senate Avenue
Indianapolis, Indiana 46204

The petition must contain the following information:

1. The name, address and telephone number of each petitioner.
2. A description of each petitioner's interest in the permit.

3. A statement of facts demonstrating that each petitioner is:
   a) a person to whom the order is directed;
   b) aggrieved or adversely affected by the permit; or
   c) entitled to administrative review under any law.
4. The reasons for the request for administrative review.
5. The particular legal issues proposed for review.
6. The alleged environmental concerns or technical deficiencies of the permit.
7. The permit terms and conditions that the petitioner believes would be appropriate and would comply with the law.
8. The identity of any persons represented by the petitioner.
9. The identity of the person against whom administrative review is sought.
10. A copy of the permit that is the basis of the petition.
11. A statement identifying petitioner's attorney or other representative, if any.

Failure to meet the requirements of the law with respect to a Petition for Administrative Review may result in a waiver of your right to seek administrative review of the permit. Examples are:

1. Failure to file a Petition by the applicable deadline;
2. Failure to serve a copy of the Petition upon IDEM when it is filed; or
3. Failure to include the information required by law.

If you seek to have a permit stayed during the administrative review, you may need to file a Petition for a Stay of Effectiveness. The specific requirements for such a Petition can be found in 315 IAC 1-3-2 and 315 IAC 1-3-2.1.

Pursuant to IC 4-21.5-3-17, OEA will provide all parties with notice of any pre-hearing conferences, preliminary hearings, hearings, stays, or orders disposing of the review of this action. If you are entitled to notice under IC 4-21.5-3-5(b) and would like to obtain notices of any pre-hearing conferences, preliminary hearings, hearings, stays, or orders disposing of the review of this action without intervening in the proceeding you must submit a written request to OEA at the address above.

If you have procedural or scheduling questions regarding your Petition for Administrative Review, please refer to OEA's website at https://www.in.gov/oea/.