CWA COMPLIANCE EVALUATION INSPECTION REPORT
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5

Purpose:
Compliance Evaluation Reconnaissance Inspection

Facility:
Cleveland Cliffs Burns Harbor, LLC
250 US-12
Burns Harbor, Indiana 46304
Porter County
41.625, -87.117

NPDES Permit Number:
IN0000175

Date of Inspection:
June 23, 2022

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Report Prepared by:
Joan Rogers

Inspector Signature/Date: JOAN ROGERS Digitally signed by JOAN ROGERS Date: 2022.07.15 11:39:41 -05'00'

Approver Name and Title: Ryan Bahr, Supervisor, Section 2, WECAB

Approver Signature/Date: Bahr, Ryan Digitally signed by Bahr, Ryan Date: 2022.07.19 14:39:11 -05'00'

1. BACKGROUND

The purpose of this report is to describe and document the reconnaissance inspection at the Cleveland Cliffs Burns Harbor facility on June 23, 2022. This inspection was performed pursuant to Section 308(a) of the Federal Water Pollution Control Act, as amended. This was a joint inspection by EPA and the Indiana Department of Environmental Management (IDEM).

The Cleveland Cliffs Burns Harbor (CCBH) facility is one of the largest fully integrated steel mills in North America, with the capacity to produce approximately 5 million tons of raw steel per year. They operate under NPDES Permit No. IN0000175, which was issued on May 27, 2016 and expires on June 30, 2021. A permit renewal application has been submitted to IDEM. The facility was previously owned by ArcelorMittal and was known as ArcelorMittal Burns Harbor.

The inspection on June 23, 2022 was a Compliance Evaluation Reconnaissance Inspection to discuss and observe the Deerfield Pond. The inspectors also wanted to observe the new ammonia treatment process, and the outfalls while on site.

2. SITE INSPECTION

Site Entry and Opening Conference

Arrival Time:	9:00 A.M.
Presented credentials?	Yes.
Credentials presented to whom and at what time?	9:15 A.M. to Tom Maicher, Joyce Casillas, Morgan Swanson, and Vinod Barot.
Was an opening conference held? With whom?	Yes. Ms. Swanson, Mr. Maicher, Ms. Casillas, and Mr. Barot.

If photographs or documents were taken, does the facility consider any to be Confidential Business Information (CBI)?	No.
Which information does the facility consider to be CBI?	None.
EPA vehicle parked in approved location?	Yes.
Location where EPA vehicle was parked?	Environmental Services Building.

EPA inspector, Ms. Joan Rogers, and IDEM inspectors Mr. Nick Ream, Mr. Ramelito Biscocho, Ms. Margaret (Maggie) Hayes, and Ms. Kelly Paulson, followed Ms. Swanson to the Environmental Services Building conference room from the main office where EPA and IDEM inspectors received their visitor badges. The inspection team explained that the focus of the inspection was to discuss the Deerfield Pond, but other areas would also be discussed and observed, including the Ammonia Treatment, since it was now required to be operational as of June 1, 2022.

Storm Water Pollution Prevention Plan (SWPPP)

The conversation began with a discussion about the SWPPP. Per the Consent Decree (CD), the SWPPP was supposed to be updated within 30 days of the entry of the CD. The CD was entered on May 6, 2022. Ms. Swanson and Ms. Casillas provided documentation that the SWPPP was revised in May 2022. The SWPPP revision document stated that there were no substantial changes.

EPA and IDEM inspectors also reviewed the SWPPP Annual Review which was dated February 28, 2022. In the SWPPP Annual Review, the inspection team noted that there were references to Corrective Preventive Action Requests (CPARs) for issues observed during the SWPPP inspections. EPA and IDEM requested that Ms. Swanson send the SWPPP, the list of CPARs, and the SWPPP Annual Review electronically. Ms. Swanson sent those items after the inspection on June 23, 2022.

Deerfield Pond

CCBH representatives stated that the Deerfield Pond had not been used for Blast Furnace Once-Through water yet. The Deerfield Landfill leachate is still routed to the Deerfield Pond, but as Phase 1 of the landfill was being capped, the amount of leachate had diminished. CCBH still intends to lower the pumps in the Deerfield Pond to be able to pump more out of it, but that work had not been completed yet. CCBH is still working with IDEM on changes to the permitting of the Deerfield Pond.

Influent Channel to the Lagoons

CCBH personnel have been exploring options to remove sediment from the influent channel to the Lagoons. Over the years, capacity in the influent channel has been reduced due to sedimentation. Facility personnel have concerns over the way to remove the sediment from a flowing channel without causing TSS permit violations, but they believe that they may begin this work in the fall.

Ammonia Treatment

CCBH representatives stated that the ammonia treatment system is doing well. They have been able to get approximately 95% reduction in ammonia with an average of 300 GPM of blowdown.

Water Quality Testing

In the CD, CCBH agreed to conduct water quality testing in two locations in the East Branch of the Little Calumet River and two locations in Lake Michigan as part of an Environmentally Beneficial Project. The sampling parameters are ammonia-n and cyanide, and the sampling is to be performed weekly from June 1st through September 30th, in 2022 and 2023. Reports of the sample analysis are to be submitted by the 15th day of the following month. Ms. Swanson stated that the sampling did start on June 1st. The first report is not due until July 15, 2022.

Facility Walkthrough

See Attachment A for the photolog of the photos taken during the facility walkthrough. EPA and IDEM concluded the interview portion of the inspection at 10:20 A.M. and stated that they would like to observe Ammonia Treatment System, the Deerfield Pond, Outfall 002, Outfall 003, Outfall 011, and Outfall 001.

Ammonia Treatment System

EPA and IDEM arrived at the Ammonia Treatment System at 10:26 A.M. Mr. Dave Whaley, Site Supervisor, explained the tanks and their functions. Mr. Whaley described these operations:

1. The blowdown flows into Tank 1A, where acid is introduced to bring the pH down to 3.5.
2. Ferric chloride is then added to reduce the iron and give the cyanide something to attach to.
3. The pH is then increased to 5.5.
4. Ferric chloride is only added if the facility expects there to be cyanide in the system. If chlorine dioxide is added for additional cyanide reduction, there are four warning lights and a horn to alert facility personnel.
5. The flow then goes to clarifiers named 2A and 2B.
6. Solids from the clarifiers goes to Tank 5A, the sludge holding tank. Sludge is recirculated to Tank 1A with any extra going to the sinter plant.
7. Tank 1B is used to soften the water with soda ash and bring the pH up to 10.5-11.
8. Additional sludge removal happens in clarifiers 2C and 2D.
9. The flow moves to Tank 3, where the water is heated to 120°F.
10. The flow is then lifted to cooling towers. Approximately 15-20% of the ammonia removal happens in the cooling towers.
11. Breakpoint chlorination occurs in Tank 4 and acid is introduced to bring pH down to 7.

12. The flow is then directed to Cells 6, 5, and 4 before flowing to the Secondary Wastewater Treatment Plant. At Cell 4, the ammonia removal is at least 85%.

On June 23, 2022, Ms. Swanson sent two photos via email that show the ammonia treatment system in 2021 and 2022. The photos show how the footprint of the ammonia treatment has increased since the pilot program was installed in 2021.

Outfall 002

The inspectors followed the facility personnel to Outfall 002 and arrived at 11:01 A.M. On the day of the inspection there was foam by the outfall wall and smaller amounts at the boom within the outfall structure. There was foam on the outside of the boom, but that foam appeared to be different than the foam inside the boom.

Facility personnel stated that they observe this outfall every day and they will send a vac truck to suck out the foam from the outfall. They stated that they would send photos after removing the foam.

On June 23, 2022, Ms. Swanson sent photos of the foam being removed.

Outfall 003

The inspectors followed the facility personnel to Outfall 003 and arrived at 11:22 A.M. The inspectors did not observe any issues with Outfall 003 on the day of the inspection.

Deerfield Pond

EPA and IDEM arrived at the Deerfield Pond at 11:40 A.M. The pond was holding 48" of water. The inspection team observed workers applying the cap to the Deerfield Landfill. The inspectors also noted that the water in the pond was a sandy color. The facility personnel stated that there was runoff from the tan clay that went on top of the landfill before the polyurethane cap.

Outfall 011

The inspection team arrived at Outfall 011 with the facility personnel at 11:55 A.M. While passing the weirs of the lagoons, EPA observed that there was a large branch caught on, and vegetation growing on the weirs. EPA asked if there was a cleaning schedule for the weirs and facility personnel stated that they would have to look into it.

EPA and IDEM inspectors observed the composite sampler. The temperature on the inside, as read from a thermometer in water, was 4.0°C. The tubing was last changed on June 1, 2022. The tube was not discolored on the day of the inspection, but the intake end of the tube was caught in the stream vegetation. The water by Outfall 011 was clear on the day of the inspection.

The inspectors observed the reagent for the daily Total Residual Chlorine monitoring, Phenylarsine Oxide Solution. The reagent expires on July 31, 2022.

EPA, IDEM and the facility representatives discussed the progress to move the flow monitor for Outfall 011 to the sample location. Facility representatives stated that the bridge over the stream near the sample location so the flow measurements would be taken at the same location as the samples was being worked on.

Outfall 001

At 12:12 P.M., the inspection team arrived at Outfall 001. EPA did not observe a sheen in the receiving waterbody on the day of the inspection. EPA observed that the temperature in the auto-sampler was 2°C. The tube was not discolored on the day of the inspection and was last changed on June 1, 2022.

EPA and IDEM provided a brief closing conference at Outfall 001 and then exited the area at 1:15 P.M.

3. DOCUMENTS RECEIVED FROM FACILITY

- May 2022 Certification and Revision History pages from the SWPPP.
- List of February 28, 2022 revisions to SWPPP.
- February 28, 2022 Annual Review of Storm Water Monitoring and Non-numeric Conditions.
- Stormwater Inspections – CEBOS Excel Spreadsheet (via email 6/23/22).
- SWP3 Plan 2022 annual (paper version and via email 6/23/22).
- 2021 and 2022 photos of the ammonia treatment system (via email 6/23/22).
- Two photos of the foam being vacuumed out of Outfall 002 (via email 6/23/22).

4. AREAS OF CONCERN

A. Foam was observed inside and outside the boom of Outfall 002.
B. In a comparison between the SWPPP Annual Review and the list of CPARs, the SWPPP Annual Review lists a CPAR 600 for deficiencies with the Storm Ditch booms located near the Plate Mill. This CPAR is not in the spreadsheet list of CPARs.
C. From the SWPPP Annual Review, during an inspection on 6/16/2021, there were two plates covering the storm sewer grates under C Furnace and D Furnace were found moved with the storm sewer exposed. The annual review states that this issue will be continued to be followed up on in 2022, but there is no CPAR assigned to it. A previous CPAR, CPAR 533, for similar issue was opened on 11/21/19 and verified (closed) on 9/30/20.
D. From the spreadsheet of CPARs, three CPARs (451, 581, 715) have expected completion dates that have already passed. CPAR 451's expected completion date was 12/15/21, CPAR 581's expected completion date was 4/30/22, and CPAR 715's expected completion date was 1/15/22.
E. From the spreadsheet of CPARs, three CPARs were listed (631,709, 748) that had verification dates in 2021, but were not listed in the SWPPP Annual Review. CPAR 631 was verified on 5/6/21, CPAR 709 was verified on 1/8/21, and CPAR 748 was verified on 3/15/21.

F. From the spreadsheet of CPARs, two CPARs (631, 791) had descriptions by Rob Rogers that said that the work was complete but was later listed as incomplete.

From CPAR 631 (read from bottom to top):

5/6/2021 Verified for closure per meeting with EPT

4/15/2021- Rob Rogers notified that both tankers are gone and Sydney field verified

3/25/2021- One tanker has been removed but one is still on site. Due date for the other is 4/15/2021

3/22/2021- Rob Rogers said the task is done- needs to be verified

2/2/2021- Per meeting with Rob Rogers tankers have not been moved, Scott Bloom has to get trailer to haul them offsite since they are not qualified to be taken on the road. Current due date is 3/15/2021

1/19/2021- Per email with Rob Rogers, the tankers are gone

12/9/2020- Per email with rob rogers the tanks belong to Advance. They used to contain calcium chloride but are now empty. They were instructed to remove the tankers from site. Due 2/15/2021

From CPAR 791:

10/22/2021: Verified for closure per phone call with Joyce Casillas.

6/22/2021: EPT Update Oil has been cleaned and new stone placed where substantial oil was found in the railroad tracks north of storage tank MS 02021 (GPS 41.642446,-87.147214).

7/28/2021- Emailed R Rogers for updates and about putting the dock wall track mats on a schedule to be changed

6/12/2021- Rob Rogers stated that all track mats were replaced but the one by the dock wall gets covered in water/oil after barges come in so they will re-evaluate if it needs to be replaced again. Check back 7/30/2021

6/11/2021- Per meeting with EPT, not all the track mats have been placed.

5/21/2021- Per Rob Rogers all track mats have been replaced

4/15/2021- Per Rob Rogers they began replacing track mats around the plant. Due date to finish is 6/1/2021

Due date is 6/1/2021

G. A review of the dates that the CPAR was opened and then was verified/closed shows many issues that take more than a year to complete. The table below shows the CPAR number, the date it was opened, the date it was verified/closed, and the approximate number of months that the CPAR was open. The CPARs that were or have been open longer than one year are highlighted.

CPAR Number	Date Opened	Date Verified	Number of Months CPAR was Open
185	03/12/18	11/13/18	8
226	05/31/18	04/06/20	23
562	01/10/20	02/27/20	1
588	02/04/20	04/30/20	2
625	05/11/20	12/04/20	7
630	05/11/20	07/28/20	2
631	05/11/20	05/06/21	12
632	05/11/20	11/12/20	6
633	05/11/20	07/28/20	2
655	07/06/20	11/20/20	4
709	10/08/20	01/08/21	3
748	01/13/21	03/15/21	2
715	10/20/20	Expected completion 01/15/22	15
905	12/28/21	Expected completion 07/30/22	7
676	07/29/20	10/22/21	15
Unknown number	06/16/21	Unknown	13
533	11/21/19	09/30/20	10
587	02/14/20	02/02/21	12
704	10/05/20	12/16/21	14
600	Unknown	Unknown	
581	05/05/20	Expected completion 04/30/22	26
451	06/18/19	Expected completion 12/15/21	30
906	12/28/21	01/05/22	<1
791	03/05/21	10/22/21	7
704	10/05/20	12/16/21	14
575	01/30/20	05/13/22	28

5. LIST OF ATTACHMENTS

A) Photolog