DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

B424368068

FACILITY: EDW C LEVY CO PLANT 6		**SRN / ID:** B4243
LOCATION: 13800 MELLON AVE, DETROIT		**DISTRICT:** Detroit
CITY: DETROIT		**COUNTY:** WAYNE
CONTACT:		**ACTIVITY DATE:** 07/10/2023
STAFF: Katherine Koster	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Targeted Inspection - FY23		
RESOLVED COMPLAINTS:		

Reason for Inspection: Targeted Inspection
Level of Inspection: PCE
Inspected by: Katie Koster, AQD; April Wendling, AQD, Erin Moran, AQD
Personnel Present: Dan Deaton, Corporate Environmental Engineer; Tom Green, Corporate Director EHS
Facility phone number: 313-820-4057

FACILITY BACKGROUND
Edw C. Levy Co. Plant 6 is a support facility for Cleveland Cliffs (formerly, AK Steel – Dearborn Works and Severstal Dearborn, LLC). All of the plant operations are entirely dependent on AK Steel. The plant operates 24 hours a day, 7 days a week, and handles and processes steel slag such as BOF slag, runway/pit slag, caster/tundish slag, and other miscellaneous slag generated by the steel mill. Blast furnace (BF) slag is not processed here; it is processed at the BF slag pits at Miller and Dix by Levy and desulfurization slag is processed at the desulfurization slag/kish pot watering station (PTI 70-13) near Plant 6. The blast furnace slag pits and kish watering station are not considered part of Plant 6; they are included in Section 2 of the Cliffs/AK Steel ROP. Historically at Plant 6, all metallics are separated from the slag, crushed, screened, and returned to Cliffs. The nonmetallic portion of the slag is conveyed across the Rouge River to Mellon Street. On the Mellon Street side of the operations, the non-metallics are separated into different sizes by screening and sold by Levy.

COMPLAINT/COMPLIANCE HISTORY
There are ongoing complaints about fallout from this process.

OUTSTANDING CONSENT ORDERS
Facility is current in enforcement action regarding fallout.

OUTSTANDING VNs
There are outstanding VN's related to alleged fallout.

REGULATORY ANALYSIS
Although this site is a support facility to Cleveland Cliffs, it was negotiated through a court order that the facility be issued its own ROP. Below is an excerpt from the existing ROP staff report (the Severstal name is used because that was the owner of the facility when this was decided):
"Under Rule 336.1119(r), Edw. C. Levy Co. Plant 6 and the Severstal North America, Inc. are determined and treated as a single stationary source and therefore Edw. C. Levy Co., Plant 6 was originally aggregated in the Severstal North America, Inc.'s Title V permit as Section 2. However, through negotiations that arose from the court judgment of the suit filed by the company against the AQD contesting the aggregation of the Levy Plant 6 with the Severstal ROP, Edw. C. Levy Co., Plant 6 agreed to submit a separate ROP application and will be issued its own ROP." As such, the facility has its own ROP. Plant 6 reports annual emissions under MAERS but it only pays emissions fees and not the facility fee.

Facility is operating under its own Wayne County fugitive dust SIP consent order 18-1993 revised 9/9/94 which is included in the ROP. The ROP was renewed in 2016. A renewal application for the 2016 ROP has been submitted and the application shield was granted.

New Source Performance Standards (NSPS)
The facility is not subject to Subpart OOO. Slag is not considered a non metallic mineral. See file for EPA applicability determination. I reviewed the list of source categories for NSPS and no other NSPS appear to apply. The regulation for metallic mineral processors (Subpart LL) relates to mining and recovery of materials from ore which is not the situation at Plant 6.

NESHAP/MACT
Facility did not include any MACT subject equipment, such as generators, in the 2016 ROP application. I did not observe this type of equipment while on site.

PROCESS OVERVIEW
The Levy Plant 6 operation handles all of Cleveland Cliffs steel slag. The steel slag is collected in slag pots from Cliffs Basic Oxygen Facility (BOF). The slag is conveyed by Levy using motorized pot carriers to the EUBOFSLAGPIT where it is poured into one of three pits for air and water cooling before processing. Historically, there has been a fourth pit designated for caster slag. After a pit is full, it is quenched with water sprays for about 16-24 hours. It is very important that during the dumping of molten slag, the area is free of water due to the potential for a thermal explosion. The temperature of the slag and molten steel causes any standing water to instantly expand into steam and the water-slag mixture will "explode". During normal routine steel making operations at the Cliffs BOF Shop, Levy collects and dumps 12 to 16 slag pots per 8-hour shift and digs this dumped slag after 16-24 hours. From the pit, slag is moved by front end loader to another area (aka the watering hole) where it is sprayed with more water. Previously, the cooled slag was then moved to the staging area for loading into the screening/crushing process. Slag moved through a series of conveyors and screens to remove the metallics on the "Dearborn side" of the plant. Anything metallic from 6 to 60 inches is returned to the mill for reuse. The non metallic portion of the slag was conveyed across the river in the "bridge conveyor" for crushing and separation into various sizes. However, since the plant shutdown from approximately April – July 2020, the screening equipment on the Dearborn side, and the screening and crushing equipment on the Mellon Street side has all been removed. Now, cooled BOF slag is either dug with a front end loader and loaded into trucks for transport off site or conveyed across the river into stockpiles.

After the pot it dumped, it is carried to the pot knocking station. Slag pots usually contain some steel as it is impossible to get a complete separation of steel and slag when tapping a heat at the BOF. After dumping the molten slag out of the pot, a hard accumulation of cooled steel mixed with slag usually remains at the bottom and sides of the pot which is called a "skull". To remove this accumulation, the pot carrier moves to the skull knocking station, tips the pot, and bangs it on the wall of the pit. During the banging, the red-hot skull dislodges from the pot and falls into the pit. This can create a cloud of fugitive emissions. A partial enclosure was constructed at the skull knocking pit at least 10 years ago for dust control. In addition, currently, two dust boss misters are also in operation inside of the enclosure during knocking. Dislodged skulls are watered and moved to the EUDROPBALLCRANE operation located near the slag pits. The skulls are cracked and broken into smaller pieces by dropping a heavy steel ball with an electromagnetic crane onto the skulls. The broken skulls are returned to Cliffs Steel's BOF for remelting.

Levy Plant 6 consists of the following emission units as described in the ROP:
1. EULEVYPLANT6 - Processing equipment associated with Levy Plant 6, including a grizzly feeder, seven conveyors, two screens and a crusher. Equipped with water spray system for air pollution control. **STILL OPERATING. However, parts of the EU have been removed such as: Crusher / Screen Tower (611/606) and Water sprays ,Conveyor 609, Uncovered Conveyor 610 A, #3 Uncovered FE Conveyor 614, #10 Uncovered FE Screen Uncovered**
2. EUDEISTERSCREEN - A 350 ton per hour Deister Screen designed to separate slag and related materials into various finished product sizes. This emission unit includes nine conveyors and four knuckle conveyors. All but two conveyors are located downstream of the screen. Equipped with water spray system and adjustable stacker height mechanism for air pollution control. **HAS BEEN REMOVED.**
3. EUCONVEYORSYSTEM - Five conveyors, located downstream of the Deister Screen (EUDEISTERSCREEN), designed to transfer slag and related materials to finished product stockpiles. Equipped with water spray system for air pollution control. Additional conveyors located downstream of the Deister Screen are not part of this emission unit. **HAS BEEN REMOVED.**
4. EUBOFSLAGPIT - This emission unit comprises the BOF steel slag dumping area with a water spray quench system for slag cooling and fugitive dust control. Also includes a partial enclosure of the pot knocking station for emission control. **OPERATING.**
5. EUPROCESSNO2 - 1-100 tons per hour hopper and 2-100 tons per hour conveyor used for recycling slag materials back into the screening portion of the existing slag processing plant. **HAS BEEN REMOVED.**
6. EUCOLDCLEANERS – Cold cleaners that meet the applicable requirements of R336.1281(h). **STATUS UNKNOWN.**
7. EUDROPBALLCRANE - This process consists of dropping a large steel ball from a crane onto scrap steel to break it into small pieces to be reused by adjacent steel mill, Cleveland Cliffs. **OPERATING.**
8. EUMATRANSCONVEY - 1-200 tons per hour hopper and one conveyor (Pot Slagger). **OPERATING**.

INSPECTION NARRATIVE

On 7/10/23, AQD inspector, Katie Koster and staff Erin Moran and April Wendling, met Levy staff in the Gate 2 lot around 1:30 p.m. After obtaining passes, we were driven around the premises by Mr. Dan Deaton and Mr. Tom Green, from the Levy corporate office.

First, we drove to the blast furnace slag pits. Slag is "air cooled" slag except for one pit known as "levy lite". Slag is placed in a bathtub of water where it is instantly solidified. Other traditional slag has had increased water on it starting about four years ago. There was a sulfur odor when we were near the pits. This process is not part of Levy Plant 6. Next we went to the kish watering station. Again, a sulfur odor was present near the station. We discussed the process. Water sprays were on. Odor control is used in this system. Fresh water is in use the first four hours then recycled water after that. Finally, we viewed the Plant 6 operations starting with the slag pits. There was a dust boss outside of the pot knock station (on the entrance side). I was unable to view dust boss(es) inside the station. We watched a pot knock. I did not observe fugitive emissions. Facility is working on adjustments to the caster/ladle slag process. It appears that dust suppressant had recently been applied to unpaved areas as required. The road has a wet appearance after the suppressant is applied. Roads: Pot carrier road, loader road to crane pit, truck road internal loading. Next, we drove to the Mellon Side of the operation. Large piles of slag are present. Bridge conveyor over river to other conveyors is in place. We did not observe any loading into trucks or slag coming off of conveyors.

APPLICABLE RULES/PERMIT CONDITIONS

Company was operating under PTI 5-19 EULEVYPLANT6 during the last inspection but that permit expired in March 2021. PTI 5-19 was a temporary reconstruction of the EULEVYPLANT6 slag processing plant using a portable aggregate processing plant, due to safety concerns with the existing equipment. The temporary reconstruction would allow Levy to continue processing slag while designing and constructing a permanent replacement plant.

This portable equipment has been removed from the site. As such, conditions from the ROP were evaluated for this inspection. Note, parts of the Plant 6 EU have also been removed.

EULEVYPLANT 6 – MI-ROP-B4243-2016

DESCRIPTION Processing equipment associated with Levy Plant 6, including a grizzly feeder, seven conveyors including the bridge conveyor, two screens and a crusher. It does not include equipment associated with EUCONVEYORSYSTEM and EUDEISTERSCREEN.

OPERATING. However, parts of the EU have been removed such as: Crusher / Screen Tower (611/606) Water sprays Conveyor 609 Uncovered Conveyor 610 A #3 Uncovered FE Conveyor 614 #10 Uncovered FE Screen Uncovered

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EUCONVEYORSYSTEM: Five conveyors, located downstream of the Deister Screen (EUDEISTERSCREEN), designed to transfer slag and related materials to finished product stockpiles. Additional conveyors located downstream of the Deister Screen are not part of this emission unit.

NOT OPERATING. Equipment has been removed.

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EUDEISTERSCREEN 350 TON PER HOUR Deister Screen designed to separate slag and related materials into various finished product sizes. This emission unit includes seven conveyors and four knuckle conveyors- all but one conveyor is located downstream of the screen.

NOT OPERATING. Equipment has been removed.

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EUBOFSLAGPIT. This is still operating. Conditions evaluated below.

DESCRIPTION: Basic Oxygen Furnace (BOF) slag pit with water spray system for fugitive dust emission control. Also includes a partial enclosure of the pot knocking station for emission control.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: Water sprays

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/Testing Method
1. Fugitive Dust	5% opacity[2]	3-minute average[a,b]	Fugitive dust from any road, lot, storage pile, or material handling activity at a storage pile	SC VI.1,2&3
2. Fugitive Dust	20% opacity[2]	3-minute average		SC VI.1,2&3

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/Testing Method
			Fugitive dust from any other source	

I. EMISSION LIMIT(S). IN COMPLIANCE. Facility has not reported any deviations from the opacity limits based on their interpretation of the slag pits being subject to 20% 3-minute average limit. This is based on applying 20% 3-minute average opacity limit to the slag pits and not treating them as "storage piles". This interpretation has been approved by AQD management related to consent order terms with US Steel regarding their slag pits.

II. MATERIAL LIMIT(S) NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1.The permittee shall quench the dumped slag by water sprays before digging. **IN COMPLIANCE. Water sprays in use as evidenced during the inspection.**

2. The permittee shall operate and maintain a partial enclosure with water misting at the pot knocking station. **IN COMPLIANCE. Enclosure with water misting (dust bosses) is installed and appears to be in good condition.**

IV. DESIGN/EQUIPMENT PARAMETER(S) and V. TESTING/SAMPLING NA

VI. MONITORING/RECORDKEEPING

1. The permittee shall perform a Method 9D certified visible emission observation of slag dumping or digging operation at least once every calendar week for a minimum of 15 minutes during representative dumping or digging operations. Both operations shall be observed within a month. The permittee shall initiate corrective action upon observation of visible emissions in excess of the applicable visible emission limitation and shall keep a written or electronic record of each required observation and corrective action taken.
IN COMPLIANCE. See attached log.

2. The permittee shall perform a Method 9D certified visible emission observation of the pot knocking station during representative pot knocking operations at least once every calendar week for a minimum of 15 minutes. The permittee shall initiate corrective action upon observation of visible emissions in excess of the applicable visible emission limitation and shall keep a written or electronic record of each required observation and corrective action taken.
IN COMPLIANCE. See attached log.

3. The permittee shall conduct periodic inspections for the purpose of determining the operational condition of the water spray systems on the slag pit dumping areas and the pot knocking station, and if necessary record the reasons for malfunction or failure noted from the inspection. These inspections shall be conducted during scheduled outages or downtimes, and immediately after observing visible emissions, but not less frequently than at least once every calendar week and permittee shall keep a written or electronic record of each inspection and corrective action taken if any.
IN COMPLIANCE. See attached log. Inspections are conducted at the required frequency.

B. SOURCE-WIDE CONDITIONS

POLLUTION CONTROL EQUIPMENT: Water sprays, side shields

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method
1. Fugitive Dust	5% opacity[2]	3-minute average[a,b]	Fugitive dust from any road, lot, storage pile, or material handling activity at a storage pile	SC VI.1&2
2. Fugitive Dust	20% opacity[2]	3-minute average[a]	Fugitive dust from any other source	SC VI.1&2

IN COMPLIANCE. Compliance is based on self reported visible emissions observations. Additionally, I did not observe fugitive dust while on site during the inspection.

II. MATERIAL LIMIT(S) NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

A. PROCESS CONTROL MEASURES

1. Control on Process Equipment shall be as follows:

Grizzly / Feeder (601 A) Material watered before feeding
Conveyor #1 (604) Uncovered, Material still wet - REMOVED
Crusher / Screen Tower (611/606) Water sprays – REMOVED
Conveyor 609 Uncovered - REMOVED
Conveyor 610 #2 Uncovered
Conveyor 610 A #3 Uncovered - REMOVED
Conveyor 612 #9 Uncovered
FE Conveyor 614 #10 Uncovered - REMOVED
FE Screen Uncovered - REMOVED
Bridge conveyor (BC) Side shields

To minimize the fugitive emissions from the loading of trucks and the transporting of material off-site, the following operating practices shall be adhered to:

a. All trucks transporting finished product shall be tarped before leaving the property.
b. Drop heights of the front end loader bucket will be no more than two (2) feet above sideboard of the trucks.

DID NOT EVALUATE. No loading was occurring during the time of the inspection.

2. Control of emissions due to vehicle movement about the stockpiles shall be accomplished by applying lignosulfonate or an equivalent or more effective material to the traveled areas among the piles. When lignosulfonate is used, the application rate of 5 gal/100 sq. ft. shall be used. The diluted ratio shall be 3:1, and the application frequency shall be once per month. The actual square footage to be controlled shall be dependent upon the amount of material in storage. If a dust suppressant other than lignosulfonate is used, facility shall submit the demonstration required in IX.1.B.1.

IN COMPLIANCE. Facility is applying calcium chloride. See attached log. Also, it is being applied more frequently than one per month in most cases.

3. Spilled material under conveyors shall be attended to on an ongoing basis. Spillage on roadways shall be removed daily. A truck operator who has spilled material onto the road shall be notified so that appropriate action can be taken to prevent future incidences.

IN COMPLIANCE. Did not observe spillage on roadways or conveyors.

B. STOCKPILE AREAS and ACTIVITIES.

1. Raw slag shall be watered prior to transfer by front end loader to the grizzly/feeder at the beginning of the process plant. Water is added to the material at a rate of 4.0 gallons per ton of slag processed.

UNABLE TO DETERMINE.

2. Load-out emissions shall be controlled by limiting drop height of the bucket to a maximum of two (2) feet above the sideboard of the truck.

DID NOT EVALUATE. No loading was occurring during the time of the inspection.

C. ROADWAYS AND PARKING LOTS

1. Paved Roads

a. Paved roads shall be cleaned daily during operating hours, weather permitting, with a power flush or wet/vacuum truck.
b. Track-out shall be cleaned up daily when it occurs.
c. Speed limit on paved roads is 15 MPH.

IN COMPLIANCE. Sweeper is in use daily outside of entrances/exits onto paved public roads. See attached log.

2. Unpaved Roads
   a. Unpaved roads shall be treated with a lignosulfonate (or equivalent) dust suppressant. If lignosulfate is used, the application rate shall be no less than 0.45 gallons of solution per square yard with dilution ratio of 3:1. If a dust suppressant other than lignosulfonate is used, facility shall submit the demonstration required in IX.1.B.1.
   b. Speed limit on unpaved roads is 5 MPH.

IN COMPLIANCE. Facility is applying calcium chloride. See attached log. Also, it is being applied more frequently than one per month in most cases. Note, frequency is not specified in this condition.

D. PROCESS EMISSIONS (Crushing, Screening, Conveying, and Transfer)

1. Crushing / Screening operations shall be equipped with water sprays for fugitive dust control. Materials shall be wetted with water sprays prior to entering the crushing/screening operations.

NOT APPLICABLE. No crushing or screening is occurring on site at this time.

2. Conveying and transferring for those conveyors and transfer points covered under III.A.1 shall be equipped with covered conveyors, water sprays, side shields, or scope for fugitive dust control as described under III.A.1.

IN COMPLIANCE. Water sprays, side shields are present.

3. Load-out emission shall be controlled by limited drop height to a maximum of two (2) feet above the sideboard of the truck. All trucks shall be tarped.

DID NOT EVALUATE. Did not observe any load out occurring during the inspection.

IV. DESIGN/EQUIPMENT PARAMETER(S) NA

V. TESTING/SAMPLING NA

VI. MONITORING/RECORDKEEPING

1. The permittee shall record the data and information specified in Appendix 4, Section 4.1- Required Records for Fugitive Dust Sources and shall keep the records for a period of at least two years. Records shall be made available to AQD upon written or verbal request. The permittee may use alternate formats with the approval by the AQD District Supervisor for recording equivalent information without the need to modify or amend this permit.

IN COMPLIANCE. See attached log.

2. The permittee shall perform a non-certified visible emission observation of the fugitive dust sources in III.A,B,C,&D at least 5 days per week during representative operations, excluding non-operating days, during March through October. The permittee shall initiate corrective action upon observation of visible emissions and shall keep a written or electronic record of each required observation and corrective action taken.

IN COMPLIANCE. See attached log.

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A.
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by May 15 for reporting period July 1 to December 31 and November 15 for reporting period January 1 to June 30.
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by May 15 for the previous calendar year.

IN COMPLIANCE. Conditions 1-3 above.
4. A quarterly report shall be submitted by the permittee to AQD identifying each day in which an emission limit, operational requirement, or recording requirement, as specified in SIP No. 18-1993 (Revised 9/9/94) Exhibit A (Fugitive Dust Control Plan, Edward C. Levy Co. – Plant #6), was not met. This report shall, for each instance, explain the reason that the emission limit, operational requirement, or recordkeeping requirement was not met, the duration of the event, the remedial action taken, and a description of the steps which were taken to prevent a recurrence. These reports shall be submitted within 30 days following the end of the calendar quarter in which the data was collected.
UNKNOWN. AQD has not received any reports recently. However, not sure if this is attributable to compliance or new environmental staff. Will follow up with Levy.

VIII. STACK/VENT RESTRICTION(S) NA
IX. OTHER REQUIREMENT(S) DID NOT EVALUATE. This section is related to the process for making changes to the SIP CO.

GENERAL CONDITIONS
G.C. 12 of ROP No MI-ROP-B4243-2016 The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:

b. Unreasonable interference with the comfortable enjoyment of life and property.[1] **(R 336.1901(b))**

NON COMPLIANCE. Facility is the source of ongoing fallout complaints and has been referred to the enforcement unit.

FGR290. I did not review the records at this time.
FGCOLDCLEANERS. I did not observe cold cleaners while on site.

COMPLIANCE DETERMINATION
At this time, non compliance was chosen as facility has ongoing fallout issues and is currently in an enforcement action.

NAME Kevin DATE 10/6/23 SUPERVISOR April L. Wadley 10/10/23