DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B436425745

FACILITY: EDW C LEVY CO PLANT 3		**SRN / ID:** B4364
LOCATION: 100 WESTFIELD, ECORSE		**DISTRICT:** Detroit
CITY: ECORSE		**COUNTY:** WAYNE
CONTACT: Joe Stachurski , Plant Manager		**ACTIVITY DATE:** 06/27/2014
STAFF: Katherine Koster	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Targeted FY2014 Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Targeted Inspection
INSPECTED BY: Katie Koster, AQD
PERSONNEL PRESENT: Joe Stachurski, Plant 3 Manager
FACILITY PHONE NUMBER: (313) 383-7775
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FACILITY BACKGROUND

Edward C. Levy Co. Plant 3 is a support facility for U.S. Steel – Great Lakes Works (USSGLW) operations. All of the plant operations are entirely dependent on US Steel. It operates 24 hours a day, 7 days a week, and handles and processes slag such as BOF slag, desulfurization byproduct (kish) slag, runway/pit slag, caster slag, and other miscellaneous slag and debris generated by the mill. Blast furnace slag is not processed here; it is loaded into Levy trucks on Zug Island and transported to Levy Plant 1. All metallics are separated, crushed, and screened and returned to USS. The non metallic portion of the slag is screened and separated into different sizes and sold by Levy.

REGULATORY ANALYSIS

Although this site is a support facility and AQD considers it part of the same stationary source with USSGLW, it was negotiated through a court order that the facility be issued its own ROP. Below is an excerpt from the MI-ROP-B4364-2009 ROP staff report:

"For the purpose of applicability to the Title V Renewable Operating Program (ROP), Edw. C. Levy Co., Plant 3 (Plant 3) was determined by the AQD to meet the criteria under Rule 336.1119(r) of a facility to be aggregated into a single stationary source with United States Steel Great Lakes Works (USSGLW). Plant 3 is located on contiguous and adjacent properties of United States Steel Great Lakes Works (USSGLW). Plant 3 is wholly dependent upon USSGLW's slag for its raw material. The AQD believes that the two facilities should be considered in the same industrial grouping regardless of whether the first two digits of the SIC codes for the two entities are the same because Plant 3 is considered a support facility for USSGLW. As indicated in the August 7, 1980, Federal Register (45 FR 52695), "one source classification encompasses both primary and support facilities, even when the latter includes units with a different two-digit SIC code. Support facilities are typically those which convey, store, or otherwise assist in the production of the principal product." Plant 3 is the sole recipient of USSGLW's BOF steel slag. Since removal of slag is essential to USSGLW's lawful production process, Plant 3 assists in the production of steel at USSGLW. Therefore, Edw. C. Levy Co., Plant 3 is a support facility and together with USSGLW constitutes a single source.

While the two facilities are considered the same source for Title V applicability, individual Title V permits are issued to Edw. C. Levy Co., Plant 3 and USSGLW separately. Edw. C, Levy Co., Plant 3 was originally intended to be aggregated in the USSGLW's Title V permit as a Section. 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 Severstal North America, Inc. (use to be Rouge Steel Company) ROP, Edward C. Levy Company agreed to submit a separate ROP application for Edward C. Levy Company Plant 3 and was issued an ROP of its own."

The facility is operating under its own Wayne County fugitive dust SIP consent order No. 17-1993 revised September 9, 1994.

There is currently an ROP renewal application in house which was received on March 25, 2014. The facility has also submitted a request to revise the fugitive dust consent order which requires approval from EPA and a SIP change. AQD has not yet initiated this process.

New Source Performance Standards (NSPS)

It appears that the facility is not subject to Subpart OOO. Slag is not considered a non metallic mineral. See attached applicability determination.

However, there is a stipulation in the permit under EUFEBENEFICATION that the facility not process more than 50% non-metallic minerals in order to avoid Subpart OOO applicability. This is for the kish processing portion of the operations.

I reviewed the list of the NSPS source categories. No other source categories seem relevant. The regulation for metallic mineral processors (Subpart LL) relates to mining and recovery of materials from ore which is not the situation at Plant 3.

NESHAP/MACT

In the current ROP renewal application received on March 25, 2014, three generators are listed as being subject to the RICE MACT and applicable requirements will be incorporated into the ROP renewal.

PROCESS OVERVIEW

Edw. C. Levy Co., Plant 3 consists of the following major operations (descriptions are from the current ROP renewal application):

The slag processing plant (EUSLAGPLANT) is a 350 ton per hour slag processing operation including one grizzly feeder, four screens, two crushers and up to twenty conveyors and stackers. It is equipped with water spray systems for air pollution control.

The scrap benefication processing plant (EUFEBENEFICATION) is a 150 ton per hour operation where the desulfurization slag (kish) is separated into metallics and non metallics and screened into two main sizes for USS. Processing equipment includes one grizzly feeder, three screens, and up to eleven conveyors and stackers. It is equipped with water spray systems for air pollution control. Formerly referred to as the kish debris plant in the SIP consent order No. 17-1993.

At the kish wetting station (EUKISHPOTDUMP), kish pots are transferred from USSGLW's No. 2 BOP iron skimming station to Levy's watering station where pots are quenched with water for a minimum of 24 hours to cool the kish and control particulate matter when kish pots are dumped and emptied at the kish pot dump station. There are a total of 10 watering stations that comprise the kish wetting station. USSGLW was issued a permit to install for the kish wetting station but it is installed at Levy Plant 3. Also, the day-to-day operation and maintenance of this station is handled by Levy. USSGLW claims that compliance responsibility of this station with all the applicable air pollution regulations lies with Levy Plant No. 3.

There are two basic oxygen furnace (BOF) slag pits (EUBOFSLAGPIT), with water spray systems for air pollution control. A skull knocking station is in between the two pits. Dust boss misters are installed at the knock station as well as one for each pit at the stockpile while loading into the grizzly feeder.

The following processes are sources of air emissions that meet R336.1290 exemption criteria according to the facility:

The drop ball crane process (EUDROPBALLCRANE) consists of dropping a large steel ball from a crane onto scrap steel to break it into small pieces to be reused at the USSGLW steel mill. There are two pits; one for BOF skull breaking and the other for kish skull breaking.

The debris plant (EUDEBRISPLANT) is made up of 1-200 ton per hour hopper, 1-200 ton per hour grizzly feeder, and 1-200 ton per hour conveyor with 4 transfer points. The material is watered at the Euclid watering station prior to being fed into the debris plant for fugitive dust control. This is formerly referred to as the mill scale plant in the SIP consent order.

The recycle material operation (EURECYCLEMATOPERATION) is made up of 1-100 ton per hour hopper, and 1 -100 ton per hour conveyor with 2 transfer points (aka the pot slagger). Levy puts seven tons of slag in the bottom of the pot for protection. The slag acts as a cushion as molten steel can burn a hole right through the pot.

The material transfer conveyor system (EUMATRANSFERCONVEYOR) is made up of 1-200 ton per hour conveyor with 4 transfer points.

Cold cleaners that meet the applicable requirements of R336.1281(h) are installed.

Also, three generators were included in the current ROP renewal application as well as a portable screen. The portable process has a maximum throughput of 1500 tons per day material and consists of 1 grizzly feeder, up to four conveyors, and 1 screen. This process produces agricultural products of varying particle diameters. It is equipped with water sprays to be used as needed. This process is also reportedly exempt under Rule 290.

INSPECTION NARRATIVE

AQD inspector, Katie Koster, arrived at Levy Plant 3 around 10 a.m. on June 27 and met with Mr. Joe Stachurski, Plant Manager. Mr. Stachurski drove me around the site and provided a tour. While waiting for Mr. Stachurski outside of the office, I observed a water truck circling the property and spraying water onto the roadways (paved and unpaved). The entrance to the plant was wet and the truck wheel wash station was spraying water although no trucks were present.

Plant 3 exists to provide a service to USSGLW; all metallics are returned to the mill for reuse.
Tall berms in and around the site, visible from West Jefferson, are iron and steel fines for which there is no market. According to Levy, some of the material has been stockpiled for 20-30 years. The piles have developed a hard crust layer and some have vegetation growing on them. Based on my observations, they do not appear to be a fugitive dust source.

First, we viewed the BOF slag pits. Levy refers to one pit as the "American" pit and the other as the "Canadian" pit depending on the direction the pit faces. Each pit takes about 20 pots of slag before it is "full." Once full, each pit is watered for a minimum of 8 hours before digging commences. Watering of the pits was not occurring at the time of the inspection. In between the two pits is the skull knocking station where empty slag pots are turned upside down and hit/knocked against a concrete wall to dislodge the hardened mass at the bottom of the pot (aka a "skull"). Every pot is knocked. All of the skulls contain a residual amount of steel that can be reused in the process. Sometimes the outer layer of a skull appears to be entirely slag, but it could break open during the knocking process (to dislodge it from the base of the pot) and release molten steel. This could cause an explosion if water is present.

Once cooled, the slag is moved to a holding pile and then fed into the grizzly at the start of the EUBOFSLAGPLANT. I observed a front-end loader moving material from the holding pile to the slag plant and a dust boss mister was in use. The slag processing plant separates metallic material from non metallic and screens it into the following sizes: 6X12 in., fines (non usable material stockpiles), chips (¾ - ¼ in), and B scrap (6 in – ¾ in). B scrap is used in the blast furnaces. The non-metallic material is crushed and screened into different sizes for use as a protective liner in the bottom of the slag pots, in the basic oxygen process, or sold by Levy as ASP9 which is used in asphalt or in agricultural products due to the high lime content. Sizes are 3x (¾–4 in.), chip (½ - ¾ in), asphalt (½ by zero), and softball size for cushion in the slag pots or in the blast furnace. Water sprays are present in the conveyors of the BOFSLAGPLANT for the control of fugitive dust. The plant was in operation at the time of inspection. I observed some steam from various points along the process indicating the presence of water sprays. I did not observe any visible emissions. I asked Mr. Stachurski if the water sprays were always on during processing. He stated that they were used on an as-needed basis as too much water will "mud it out" and clog up the slag plant.

The EUFEBENEFICATION plant processes kish material. Two sizes of metallics are produced for USS. One size is this fines that are stockpiled. Non metallics are landfilled at USS expense. The process was not operating during the inspection.

At the kish pot watering station, there are 10 stations available but only 8 were in use. According to Levy, the kish pots are used slag pots (unlike at Severstal where the slag and kish pots have separate unique designs). Since the pots are reused for kish, they are already "banged up" by the time that Levy begins using them. Potassium permanganate is added to the water spray for odor control. Water sprays were operational on all 8 stations even though there were not 8 pots in the station. I did not observe any visible emissions. Approximately two to three kish pots are dumped every 24 hours. To the west of the pot watering station, are two Euclid watering stations (north and south) for watering pit slag and debris hauled from the plant. Mr. Stachurski stated that the "PT cruiser boxes" were watered for about 20 minutes and processed at the slag plant. The material cannot be too wet or it will gum up the processing plant. Later during the inspection, I observed a PT cruiser box being dumped into the slag holding pile at EUBOFSLAGPLANT. It appeared to be thoroughly quenched as I observed the presence of standing water in the bottom of the box.

Next kish pots are dumped at one of two pits. Mr. Stachurski stated that at this point, the material is loose and wet. He described the steel slag as being liquid-like where the kish flows in clumps or patties of material. Since the water cools the kish, it contracts and makes it easier to fully empty the pot including the skull. No watering occurs at the kish dump because the material is already saturated. However, the kish skulls need to be broken by a drop ball crane in the breaking pit. No activity was occurring at the kish dumping area during the inspection.

Two breaking pits exist on site. One is designated for kish skulls and the other for BOF slag and caster slag skulls. The reason for the separation is to eliminate the chance that kish is present in the broken down steel skulls which are reused in the steel making process. Kish would reintroduce sulfur into the steel which is undesirable. There are no water sprays in the breaking pits. A C90 type crane is used for the kish, and C80 crane for other pit. Activity was occurring in one of the pits. I observed the drop ball fall two times. This activity did not generate any visible emissions. Pieces returned to the mill have to be below a certain size specified by the mill. Even if a piece can fit into the BOF vessel, if it does not meet the size requirement, there is a chance that it would not fully melt during a heat and could block the tap hole.

The debris plant was not in operation. Mr. Stachurski showed me the various piles of debris such as mill scale, tundish debris, and scarfing scale.

We observed the pot slagger which was not in use at the time. Mr. Stachurski also pointed to a new slag pot that was full of hot slag to preheat it and protect the integrity of the pot before returning it to the mill. Hot steel can burn a hole through the pot. There are six slag pots in use and typically, seven tons of slag are put in the bottom of the slag pot as a cushion.

Overall, fugitive dust did not appear to be an issue while on site as everything was pretty wet. I did not observe any truck traffic or load out operations while on site.

I did not observe the cold cleaners at this time.

I explained to Mr. Stachurski that I would follow up via email with a records request.

APPLICABLE RULES/PERMIT CONDITIONS EVALUATED

Facility is operating under MI-ROP-B4364-2009. This ROP includes conditions from fugitive dust SIP Consent Order 17-1993 revised 9/9/94.

I requested and reviewed the following records (see attached email):
1. All visible emissions readings (the actual Method 9/9D sheets) for 2014. **NOT IN COMPLIANCE.** S.C. EUSLAGPLANT VI.1, EUFEBENFICATION VI.1, EUKISHPOTDUMP VI.2, EUBOFSLAGPIT VI.1

Facility reported that the required frequency was not met and that they will be updating the deviation report. Based on my review, there is not enough information on the VE sheets to demonstrate compliance with the requirement to read a "representative part" of each process and I have requested additional information. Based on my phone conversation with Tom Green on 8/4/14, the VE reader reads the entire emission unit unless and until visible emissions are observed from a particular portion of the unit. In that case, he will focus on the area generating the VE's. Mr. Green stated that they will request that the VE reader note on the form what is being observed. See files on CD.

2. A summary of the 3 and 6 minute average values observed during the visible emissions readings for 2013 (not the actual individual readings as described in Item 1 above)
NOT IN COMPLIANCE. Based on a review of the spreadsheet provided (attached), the slag pits have exceeded the 5% opacity limit. These instances need to be reported as deviations. AQD has informed the facility. Facility disagrees that the slag pits are subject to a 5% opacity limit.

3. Monthly water spray inspections for 2014. **IN COMPLIANCE.** EUFEBENFICATION VI.2, EUKISHPOTDUMP VI.3, EUBOFSLAGPIT VI.2. The monthly inspection frequency appears to be met. However, a review of the inspection records (attached) indicates that the sprays are either classified as "normal" or "abnormal." I do not understand these terms and requested additional information from the facility. Based on a phone conversation with Tom Green on 8/4/14, sprays are checked weekly and normal means that they are operational, and the volume and spread of water exiting the spray is adequate and consistent with prior observations. Mr. Green agreed to make a note of this on the inspection form. This is sufficient.

4. Kish watering records for the week of June 22, 2014. **IN COMPLIANCE**. EUKISHPOTDUMP III.1 Kish watering records provided show that the minimum duration of 24 hours of watering was met. See attached.

5. Records demonstrating compliance with all hourly throughput limits in the ROP for 2014. **IN COMPLIANCE**. EUFEBENEFICATION II.1 and 2. The only throughput limit in the ROP is 150 tons/hr for EUFEBENEFICATION. However, there is no associated recordkeeping condition in the original permit that specifies the acceptable time period for determining compliance with the hourly limits. It appears that the facility determines compliance based on varying averaging times. AQD will be addressing this in the ROP renewal.

Based on a year to date calculation, the hourly throughput is as follows:
From January through June 2014, a total of 28,401 tons of kish were processed (see 2014 Kish Production Totals.xls.) This amount of material was processed in 691.75 operating hours, which results in an average production rate of 41 tons/hr. The operating hours data is in the attached
2014 Kish Production Hours.pdf.

Based on the monthly production data and hours of operation, throughput values are as follows:
Jan – 88.25 hrs 3965 tons = 44.9 lb/hr
Feb – 173.25 hrs 7351 tons = 42 lb/hr
March – 137.75 hrs 5486 tons = 39 lb/hr
April – 39.5 hrs 2171 tons = 54.9 lb/hr
May – 119.75 hrs 2370 tons = 19.8 lb/hr
June – 133.25 hrs 7058 tons = 53 lb/hr

(Note: Throughput data in the production totals spreadsheet is more precise than totals in the operating hours data)

6. Monthly emissions records for the R290 sources on site for 2014 (EUDEBRISPLANT, EURECYCLEMATOPERATION, EUMATERIALTRANSFERCONVEOYR, EUPORTBIV)

PENDING – Information was requested and has not been received.

7. Records indicating compliance with EUFEBENEFICATION S.C. III.3 (shall not process more than 50% non-metallic minerals) for 2013 and 2014 YTD. **PENDING.** I am awaiting 2013 throughput records. Additionally, there is no associated recordkeeping condition in the original permit that specifies the acceptable time period for evaluating whether the 50% limit has been met (is this to be evaluated on a daily, monthly, or yearly basis?)

The only material processed through emission unit EUFEBENEFICATION is kish. According to the facility, three of the four products produced by EUFEBENEFICATION are either reused or sold as iron. These three products represent over 57% of the materials produced by emission unit EUFEBENEFICATION when evaluated on a year to date throughput total. (See 2014 Kish Production Totals.xls). According to my phone conversation with Mr. Green on 8/4/14, the ¼ to 0 kish is not sold as iron. Therefore, it may count as a "non metallic mineral."

8. Watering records for paved roads for 2014. **NOT IN COMPLIANCE.** SOURCEWIDE CONDITIONS III.C.1.a. Watering is required on a daily basis for paved roads per condition C.1.a. Additionally, the attached email from Tom Green in 2012, indicated that the facility would be watering the roads every day regardless. Based on a review of the records (on CD), it does not appear that roads are watered daily as required. Regardless of the reason for not watering, these instances should be reported as deviations. AQD has informed the facility (see attached email).

9. Dust suppressant application records for unpaved roads for 2014. **PENDING.** SOURCEWIDE CONDITIONS III.C.2. Facility is not using the dust suppressant specified in the fugitive dust consent order and the application frequency of once every three weeks does not appear to be met. This was discussed with the facility during the prior inspection. A modification to the SIP consent order has been submitted by Levy which is why this condition is shown as pending.

10. A review of 2013 MAERS indicated compliance with the following conditions:

EUSLAGPLANT I.1 – PM10 emissions are limited to rate in Table 32. **IN COMPLIANCE**

According to the 2013 MAERS, PM10 emissions were 449 lbs for 2013 and the plant operated for 2040 hours (8 hours per day * 255 days/year). This results in an actual emission rate of 0.22 lb/hr. Note: last year facility submitted information revising 2010, 2011, and 2012 MAERS emissions methodology.

The process weight rate was 253,814 tons for 2013 (As reported in MAERS)/2040 hours operated/year which equals 124 tons/hr. According to Table 32, this corresponds to an allowed emission rate of roughly 51.2 lb/hr.

EUFEBENEFICATION
II.1 and 2 – Material throughput limited to 150 tons per hour and 624, 000 tons per 12 month rolling.
III.1. The permittee shall not operate the scrap benefication plant for more than 4160 hours per year based on a 12 month rolling time period.

IN COMPLIANCE. According to the 2013 MAERS, for the 12 month rolling time period ending in December 2013, throughput was 96,291 tons and hour of operation were 2040.

EXEMPT EMISSION UNITS

According to the ROP renewal application submitted in 2014, the following emission units are subject to Rule 290:

Drop Ball Crane
Debris Plant
Recycle Materials Operation
Material Transfer Conveyors
Portable process

PENDING – Rule 290 demonstration has been requested. AQD is awaiting additional information.

Also, three generators are operating under the 285(g) exemption: size of 25, 44, and 300 hp.

COMPLIANCE DETERMINATION

At this time, it appears that the facility is in non-compliance with some of the applicable regulations that were evaluated in this report. The facility did not meet the required frequency for visible emissions readings, did not water paved roads daily as required in the SIP CO, and did not apply the required dust suppressant at the required frequency outlined in the SIP CO. Opacity from the slag pits has exceeded 5% on a three minute average on several occasions.

According to a July 17, 2014 email from Mr. Green, corrective action has already been taken to address the missed readings and an amended deviation report will be submitted. As such, no further action is required at this time. On April 9, 2014, the facility has submitted a request to modify the Consent Order. AQD is using discretion as it relates to the watering schedule and type of dust suppressant as no fugitive dust violations have been noted from the roads and a modification request for the CO has been submitted. In the existing ROP, the opacity limit for the slag pits is listed incorrectly. As such, AQD is using discretion in citing a violation but has informed the facility of this inaccuracy. However, all of these items are deviations and need to be included in the Title V deviation report. I have expressed this to Mr. Tom Green, Levy Environmental Manager via email and phone on July 17, 2014.

NAME Katie Kaa DATE 8/4/14 SUPERVISOR N. M.