

Manila

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

B516239368

FACILITY: XCEL STEEL PICKLING		SRN / ID: B5162
LOCATION: 4343 WYOMING, DEARBORN		DISTRICT: Detroit
CITY: DEARBORN		COUNTY: WAYNE
CONTACT: David Keffer , Plant Manager		ACTIVITY DATE: 04/13/2017
STAFF: Katherine Koster	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Targeted 2017 Inspection		
RESOLVED COMPLAINTS:		

**REASON FOR INSPECTION:** Targeted Inspection

**INSPECTED BY:** Katie Koster, AQD

**PERSO NNEL PRESENT:** Dave Keffer, Plant Manager and VP of Operations

**FACILITY PHONE NUMBER:** 313-846-0442

\*\*\*\*\*

**FACILITY BACKGROUND**

This is a steel service center. The company pickles steel for its customers or it slits and cuts coils to size. The steel mills do not provide slitting services, and it is generally cheaper for the customer to work through the servicer as opposed to directly with the mill for pickling, slitting, and cutting. The facility has undergone several ownership changes in recent history. It was Kasle Steel, then Kerry Steel, and now XCEL Steel Pickling. Facility operates five days per week from 7 a.m. to 3 p.m. Currently the facility employs 23 people. Xcel purchased the facility several years ago. Pickling occurs about 3 days per week and at maximum capacity the facility can pickle 12,000 tons per month.

**COMPLAINT/COMPLIANCE HISTORY**

No complaints have been received against the facility.

**OUTSTANDING CONSENT ORDERS**

None

**OUTSTANDING LOVs**

None

**INSPECTION NARRATIVE**

AQD inspector, Katie Koster, arrived at Xcel Steel Pickling on 3/23/17 at around 10 a.m. This was my first visit to the facility. I met with Mr. Dave Keffer, Plant Manager. He was relatively new to the position. He provided an overview of the process and then he accompanied me about the facility.

Xcel Steel Pickling operates a steel pickling and processing facility. The pickling process involves treating steel coils with hydrochloric acid. The acid treatment removes oxide scale that forms on the steel during hot rolling at the mill. At the entry of the pickle line, a coil is first unwound and flattened. The strip then passes through a three-stage wash tank and then through three granite lined pickling tanks containing various concentrations of HCL. The tanks are all covered. The strip is rinsed in a four-stage rinse tank. Then it is dried and a rust preventative oil is applied. The strip is cut to customer specifications if needed and recoiled. An onsite boiler provides steam to heat the acid pickling tanks and the rinse water. Wastewater is treated on site before being discharged.

There used to be a coating operation which is referenced in the permit. However, this operation no

longer occurs; it has not occurred since Mr. Keffer has been plant manager.

A boiler is used to produce steam for heating the pickling tanks. The boiler has to be started up two hours before actual pickling needs to occur so it is started up every day at 7 a.m. At one time, the boiler could fire No 2 fuel oil and natural gas and this was how the facility was permitted. However, at this time, only natural gas is in use. The size of the boiler is 15 MMBTU/hr which equates to a maximum natural gas burning capacity of 15,000 cf/hour and it was installed in 1991 according to the nameplate. Yearly maintenance is performed by Bulldog Boiler Company. Attached is the most recent maintenance record.

Facility purchases an aqueous HCl solution at 35% concentration and it is stored in one of two tanks. The HCl is then diluted to 7-10% concentration in pickling tank #3. Tank #2 is 4-7% HCl, and Tank #1 is 1-3% HCL. A water scrubber is in use to control HCl fumes from the tanks. One load of acid in equals two loads out. There are 3 spent acid tanks inside of the building.

Process is as follows:

- Prewash: hot steam and water to knock off any scale
- Tank 1 (150F minimum), 174F at time of the inspection
- Tank 2 (162F minimum) , 177 F
- Tank 3 (153F minimum), 164 F
- 4 rinse tanks are all water and a rinse additive which makes the steel shine. The MSDS was presented. The rinse additive is maleic acid at 10-20% concentration. Rainkote Inc, Harry Miller Corp, density is 8.89 lbs/gal.
- All of the operations above are controlled by the scrubber

The scrubber contains 4 trays which are cleaned about once per year. The water flow rate is set to 2.5 gallons per minute. If the tank temperature rises above 185F, it is too hot to discharge waste water to the sewers. We viewed the scrubber. The water flow was 2.5 gpm. We walked outside to view the scrubber stack which appeared to be discharging steam.

After rinsing, the strip is dried with air knives, then a dryer, and then it travels along 30 feet of a rollout table. This is followed by the application of one of three different oils depending on customer specifications. One of the oils is Ferrocoate for AK Steel and the oils are applied by squeegee roll. The strip is recoiled.

According to Mr. Keffer, the company has been averaging at about 60,000 tons of steel per month through the pickle line. Also, the company provides a service of running the strip through the line without pickling which serves to straighten the strip if there is oscillation or they can cut an off spec strip. There are three operating slitters to accommodate different steel thickness. 2 of the slitters are 72-inch-wide and 1 is a 60-inch wide. There is also a 48 inch wide which does not run at all. No coatings or other materials are applied to the steel.

No generators are on site. Company treated the lots and roadways with calcium chloride, and Suburban is the fugitive dust contractor.

#### APPLICABLE RULES/PERMIT CONDITIONS

Xcel Steel appears to be a synthetic minor source as there is an HCl limit in the permit and a requirement to install and maintain a scrubber. Without the scrubber, the PTE for HCL would be above 10 tons. With

the permit, HCl from the pickle line is limited to 0.48 tpy and requires stack testing along with scrubber operation and maintenance conditions.

Back calculating from the stack test results of 0.09 lb/hr and 97% efficiency to arrive at the uncontrolled PTE estimate for HCL is the following:  $.09 \text{ lb/hr} / .03 = 3 \text{ lbs/hr} * 8760 = 26,280 \text{ lbs HCl} / 13.14 \text{ tons HCl}$

There is an active Wayne County permit that was issued in 1991 (C-8708 through 8716). The following equipment is covered by the permit:

2 concentrated HCl storage tanks

3 spent HCL storage tanks

1 continuous HCL pickle line

1 sieve tray water scrubber

1 process boilers (Gas/No 2 oil)

1 continuous coating/drying section

There are no other active permits in the permit cards database. At this time, I am including the rinse tanks as being permitted as part of the "continuous HCL pickle line".

The steel pickling MACT (40 CFR Part 63 CCC) initial compliance date for existing pickle lines was 2001. Facility had the HCL opt out limit in place in 1991 thereby avoiding the applicability of the MACT.

Below is a compliance determination for Special Conditions 16-47 in WC Permit C-8708 -8716:

16. IN COMPLIANCE. HCl emissions are limited to 0.11 lb/hr and 0.48 tpy. Stack test performed in 1991 indicates emissions of 0.09 lbs/hour. Even at 8760 hours of operation, this equates to 0.39 tpy of emissions.

17. IN COMPLIANCE. Scrubber was in operation during the time of the inspection and appears to be in use when the pickling line is in use. Water flow rate of 2.5 gpm was observed during the inspection and during a records review.

18. IN COMPLIANCE. There were no visible emissions from the scrubber stack during the inspection.

19. IN COMPLIANCE. Verification of HCL emission rate and removal efficiency required within 180 days of permit issuance. Permit was issued in April. In August, a stack test was performed by Swanson Environmental. Outlet HCl emissions were 0.09 lb/hr (3 run average). The HCl removal efficiency was 97%. Test was performed within the required time frame.

20. IN COMPLIANCE. Pickling acid in use appears to be the same as that presented in the permit application.

21. IN COMPLIANCE. None of the pickling tank temperatures were above 185F during the onsite inspection or in the records that were reviewed. Example of recordkeeping in place is attached.

22. DID NOT EVALUATE. Did not measure scrubber stack.

23.- 28 NOT APPLICABLE. Coating section no longer in use. No water dispersed coatings have been substituted for those that were presented in the permit application.

29. IN COMPLIANCE. No odors were detected from the pickling process in public areas such as along Wyoming Street.

30. IN COMPLIANCE. Xcel burns only natural gas in the boiler.

31. IN COMPLIANCE. No fuel oil is burned in the boiler.

32. IN COMPLIANCE. NSPS Dc requirements for a natural gas boiler are to maintain records of the fuel usage on a monthly basis and the design capacity of the boiler. This information is being maintained by the facility.

33. NOT APPLICABLE. Fuel oil is not in use.

34. NOT APPLICABLE. Fuel oil is not in use.

35. **IN COMPLIANCE.** Natural gas consumption shall not exceed 15,000 cubic feet per hour nor 131.4 MMCF/year. 15,000 cf/hour is the maximum rating of the boiler. The facility reported 20.881 MMCF usage in 2016 in the MAERS report.
36. **IN COMPLIANCE.** Facility shall maintain a written log of hours of operation, boiler fuel type and consumption. Fuel type and consumption are recorded. See attached log. The only fuel used is natural gas. Hours of operation is not necessary as the hourly limit is based on the maximum capacity of the boiler.
37. **NOT APPLICABLE.** Only natural gas is in use.
38. **IN COMPLIANCE.** NOx emissions reported in the 2016 MAERS report were 1.04 tons. Permit limit is 9.2 tpy.
39. **NOT APPLICABLE.** Xcel only burns natural gas.
40. **IN COMPLIANCE.** CO emissions reported in the 2016 MAERS were 0.88 tpy. Permit limit is 2.32 tpy.
41. **NOT APPLICABLE.** Xcel only burns natural gas.
42. **IN COMPLIANCE.** PM emissions in the 2016 MAERS were 0.08 tpy. Permit limit is 0.35 tpy.
43. **NOT APPLICABLE.** Xcel only burns natural gas.
44. **IN COMPLIANCE.** SO2 emissions in the 2016 MAERS were 0.006 tpy. Permit limit is 0.04 tpy.
45. **DID NOT EVALUATE.** Did not observe the boiler stack
46. **IN COMPLIANCE.** Boiler stack height as reported in MAERS does not meet permit requirement. Company claims there is an error in MAERS and the permit information is correct and that the stack is 66 feet. See attached email.
47. **IN COMPLIANCE.** Facility has a fugitive dust plan. Records of dust suppression application for last year were submitted. No fugitive dust issues were not while on site for the inspection.

#### **NSPS/MACTS/NESHAPS**

Facility obtained an opt out permit before the initial compliance date of the steel pickling MACT which was 2001 for existing pickle lines. Although there is not a facility wide limit on HCl, the pickle line has a limit which is the main source of HCl emissions.

NSPS Dc boiler requires records of fuel combusted per month and the design heat input capacity. Natural gas usage is maintained monthly and design heat input capacity is in the permit file.

#### **EXEMPT EQUIPMENT**

Slitting and cutting equipment appears to be exempt per Rule 285(2) (l)(vi)(b).

Onsite wastewater treatment process appears to be exempt per Rule 285(2)(m); and it is not precluded from the exemption per (l) as the equipment is not being used to treat VOC.

Application of rust preventative oil appears to be exempt per Rule 285(2)(r)(i); surface treatment of metal If process emissions are only released into the in plant environment.

#### **APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS**

The facility has a fugitive dust plan. Dust suppressant is required in spring and then as needed in the summer months. At the time of the inspection in March 2017, dust suppressant had been applied in early June in 2016. Additional information provided (attached) indicates that suppressant was also applied in June 2017.

**MAERS REPORT REVIEW**

Facility is in MAERS because it has an opt out permit and because it is operating an NSPS Dc boiler. Also, it is fee subject because the boiler has/had the capacity to fire No. 2 fuel oil in addition to natural gas.

**FINAL COMPLIANCE DETERMINATION**

At this time, facility appears to be in compliance with applicable state and federal regulations evaluated in this report.

NAME Kate KeaneDATE 7/14/17SUPERVISOR w.m.