



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604**

DATE: JUN 19 2019

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Scepter, Inc., Bicknell, Indiana

FROM: Sarah Clark, Environmental Engineer
AECAB (IL/IN)

THRU: Nathan Frank, Section Chief
AECAB (IL/IN)

TO: File

BASIC INFORMATION

Facility Name: Scepter, Inc. (Scepter)

Facility Location: 6467 N Scepter Road, Bicknell, Indiana, 47512

Date of Inspection: April 30, 2019

EPA Inspector(s):

1. Sarah Clark, Environmental Engineer
2. Linda Rosen, Environmental Engineer

Other Attendees

1. Tim Venderley, Plant Manager, Scepter
2. Tammy Haug, Senior Environmental Manager, Indiana Department of Environmental Management (IDEM)

Contact Email Address: tvenderley@scepterinc.com

Purpose of Inspection: Assess compliance with the Clean Air Act

Facility Type: Secondary aluminum production facility

Regulations Central to Inspection: National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production, Federally Enforceable State Operating Permit (FESOP), Indiana State Implementation Plan

Arrival Time: 8:16 AM

Departure Time: 11:15 AM

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Credentials Presented
- ☒ CBI warning to facility provided

The following information was obtained verbally from Mr. Venderley unless otherwise noted.

Process Description:

Scepter receives aluminum scrap and dross, consisting of 10-80% aluminum, from commercial customers and processes this aluminum in one of three natural gas-fired rotary furnaces to produce 'recycled melt ingots' or RSIs, also referred to as sows. Aluminum scrap includes turnings, siding, auto shred, and bailed used beverage cans. Salt (sodium chloride) and potash (potassium chloride) solid fluxes and chlorine gaseous flux are added to the melt to remove impurities. The top layer of the melt is skimmed and returned to the process for further processing. Leftover settled impurities or 'salt cake' are cleaned out of the furnace and processed in a salt cake cooling system, a water-cooled rotary barrel device that cools and breaks apart the salt cake. Scepter owns an aluminum can shredder, but Scepter has not operated the shredder since 2017 because Scepter now only accepts bailed cans. Each furnace and the salt cake cooling system are controlled by dedicated baghouses. Ammonia gas is injected into the hood of each furnace to neutralize the pH of the exhaust; then, the exhaust passes through a cooling tower; after the cooling tower, but before the baghouse, lime can be injected into the exhaust stream. Waste salt cake and baghouse dust are sent to a Scepter-owned landfill for disposal.

Staff Interview:

Scepter operates 24 hours per day, seven days per week. 71 hourly and salaried employees work at this facility. Scepter functions as a toll processor, where, usually, incoming material is returned to the same customer after processing. Scepter may, for example, handle the oily scrap that their customers cannot handle. Scepter currently has approximately 20 regular customers.

The following parameters are monitored for each furnace baghouse: inlet temperature, differential pressure (dP) across each module, bag leak detection system (BLDS), ammonia injection rate in standard cubic feet per hour (scfh), and pH. The inlet temperature setpoints, which are based on the latest dioxin/furan (D/F) testing, are 237 degrees Fahrenheit (°F) for the Furnace F3 baghouse, 272°F for the Furnace F4 baghouse, and 257°F for the Furnace F5 baghouse. The baghouses operate under positive pressure. The dP is automatically continuously monitored, automatically recorded every 10 seconds, and manually monitored and recorded once per day. The dP range is 3-10 inches of water column (in H₂O). The BLDS system experiences

some false alarms; there is a 15 minute-delay after an alarm begins sounding before the furnaces are shut down and the cause of the alarm is investigated. The ammonia is injected at 50 scfh. The pH is read upstream of the baghouse and is compared to the city water pH. Lime may be injected intermittently. Lime usage is not monitored, but Scepter can estimate lime usage based on the weight of the lime silo. Hood velocity studies are conducted annually.

TOUR INFORMATION

EPA toured the facility: Yes

Data Collected and Observations:

We observed an example RSI (Photo 1) and incoming aluminum materials, including dross, turnings, rims, drive shafts, auto shred, and shredded foil (Photos 2-5).

Next, we observed the salt cake cooling system (Photos 6-13). Here, hot salt cake is fed into the right side of the cooling system and cool salt cake exits the left side, sorted by size. This cooling system has two exhaust ventilation pick-up points: a hood with heat resistant curtains on the right (over the inlet) and a duct which draws from the partially enclosed outlet, where the cool salt cake is sorted into three size grades. While the salt cake tumbles inside the system, cool water circulates around the outside without contacting the salt cake. EPA observed particulate emissions which were not captured by the hood on the inlet side.

At the time of our inspection, Furnace 3 was down for cleaning. EPA asked Mr. Venderley if any furnaces would be charging soon, and he responded “probably not.” We observed Furnace 4 in operation, where Mr. Venderley explained the process was ‘almost done,’ with ‘maybe just a reheat left’ (Photos 14-19; contains confidential business information (CBI)). The hood was constructed of both heat resistant curtains and metal. Later we observed Furnace 4 tap (Photos 24-28; CBI).

We observed the scale used to weigh aluminum scrap and dross (Photo 20) and the salt/potash blender, where salt and potash are situated on load cells and a hopper is used to dispense precise amounts of potash and salt fluxes (Photo 21). We observed the furnace label for Furnace 3 while it was down for cleaning (Photo 22); however, because Furnace 4 was operating and the area was hot, we observed the furnace label for Furnace 4 from a distance (Photo 23).

We observed Furnace 5 as it had just finished tapping (Photo 29; CBI), and, behind the furnace, we observed the furnace label for Furnace 5 (Photos 30). Here, we observed that the area was dusty, and we observed a tear in the heat resistant curtain (Photo 31, CBI).

Outside, we observed the salt cake cooling system baghouse, exhaust duct, and steam vent (Photos 32-33). Mr. Venderley informed EPA that the dP gauge was located at the top of the baghouse.

We observed two tanks of anhydrous ammonia and the associated ammonia flow meters (Photos 34-35), which read 86 scfh for Furnace 3, 116 scfh for Furnace 4, and 80 for Furnace 5. EPA asked Mr. Venderley why ammonia was injected while Furnace 3 was down for cleaning; he

later informed EPA that Furnace 3 was undergoing fan balancing work during which the ammonia to was turned on temporarily. He said that safeguards are in place to prevent the injection of ammonia unless the baghouse is drawing exhaust. Inside a control room for Furnaces 3 and 4, we observed a laminated sheet of instructions for checking the pH and reviewed an ammonia system calibration check sheet which had data for April 29 and 30 (Photos 37-39). We observed the following values on the pH monitors: city water was measured at 6.93 pH, Furnace 4 was operating at 8.78 pH, and Furnace 3 was operating at 9.04 pH.

For the baghouses controlling Furnaces 3 and 4, we observed that the super sacs felt very full. Additionally, we observed that the stacks on the baghouse associated with Furnace 4 appeared corroded compared to the stacks on the baghouse associated with Furnace 3. At the base of the cooling tower, we observed a duct for 'blender air,' which Mr. Venderley explained is used to cool the exhaust stream (Photos 36, 40-47). He said that the damper has a maximum range of 50%, but that the damper only opens to approximately 35%.

Inside, we returned to Furnace 4. We were too late to observe flux addition, but, after Mr. Venderley spoke with the operators in the control room, we were able to observe the charging of dross (Photos 48-58). At this time, while inspector Rosen photographed dross charging, inspector Mr. Venderley showed inspector Clark the Furnace 4 and Furnace 5 baghouse dP values, which he had captured on his phone while in the control room. The Furnace 4 baghouse modules were operating at 5.8, 5.6, 3.5, and 4.1 in H₂O and the Furnace 5 baghouse modules were operating at 6.1, 6.4, 6.5, 6.4, 6.4, and 6.0 in H₂O.

Photos and/or Videos: were taken during the inspection.

Photos of the furnaces and furnace hoods were claimed as confidential business information (CBI). These photos are identified accordingly in Appendix A.

Field Measurements: were not taken during this inspection.

RECORDS REVIEW

1. Ammonia system calibration check sheet

CLOSING CONFERENCE

Requested documents:

- Most recent PM/HCl/D/F stack test (full report) for each furnace
- Most recent D/F stack test (full report) for each furnace (if not included above)
- From January 1, 2019 until April 30, 2019, for each furnace baghouse:
 - inlet temperature, 3-hour average;
 - BLDS, alarms and output;
 - dP reading, daily and data lot output;
 - Ammonia flow rate, 3-hour average; and
 - pH reading, daily

- Copies of corrective actions (e.g., malfunction sheets) from January 1, 2019 to April 30, 2019
- Latest operation, monitoring, and maintenance plan (Mr. Venderley confirmed that there is only one plan)
- Quarterly FESOP reports from January 1, 2018 through April 30, 2019
- Semiannual "MACT" reports for 2018
- Safety data sheets for all fluxes
- Most current ventilation study (CBI, will include in mailing)

SIGNATURES

Report Author: Sarah Clark Date: 6/18/2019

Acting
Section Chief: Tom Pryor Date: 6/19/2019

Facility Name: Scepter, Inc.

Facility Location: 6467 N Scepter Road, Bicknell, Indiana

Date of Inspection: April 30, 2019

APPENDICES AND ATTACHMENTS

1. Appendix A: Digital Image Log

Facility Name: Scepter, Inc.

Facility Location: 6467 N Scepter Road, Bicknell, Indiana

Date of Inspection: April 30, 2019

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Linda Rosen and Sarah Clark	2. Date(s) of Inspection: April 30, 2019
3. Company/Facility Name: Scepter, Inc.	4. Street Address, City, State: 6467 N Scepter Road, Bicknell, Indiana
5. Number of Images: 58	6. Archival Record Location: CD-R labeled as "Scepter, Inc. Bicknell, IN, Inspection Photos, 4/30/2019"

Image Number	File Name	Date and Time (EDT)	Latitude and Longitude	Description of Image
1	P4300039.JPG	4/30/2019 9:22	38.771107, -87.328908	RSI
2	P4300040.JPG	4/30/2019 9:22	38.771152, -87.32884	Incoming dross
3	P4300041.JPG	4/30/2019 9:23	38.771152, -87.32884	Incoming turnings
4	P4300042.JPG	4/30/2019 9:26	38.771333, -87.33036	Incoming aluminum pipe
5	P4300043.JPG	4/30/2019 9:26	38.771352, -87.330355	Incoming siding
6	P4300044.JPG	4/30/2019 9:31	38.772218, -87.330203	Salt Cake Cooling System
7	P4300045.JPG	4/30/2019 9:31	38.772013, -87.330167	Salt Cake Cooling System
8	P4300046.JPG	4/30/2019 9:34	38.771833, -87.330443	Salt Cake Cooling System
9	P4300047.JPG	4/30/2019 9:35	38.771833, -87.330443	Salt Cake Cooling System
10	P4300048.JPG	4/30/2019 9:35	38.77128, -87.330342	Salt Cake Cooling System
11	P4300049.JPG	4/30/2019 9:36	38.771435, -87.330155	Salt Cake Cooling System
12	P4300050.JPG	4/30/2019 9:37	38.771462, -87.330345	Salt Cake Cooling System
13	P4300051.MOV	4/30/2019 9:38	N/A	Salt Cake Cooling System
14	P4300052.JPG	4/30/2019 9:39	38.771462, -87.330345	Furnace 4 (CBI)

Facility Name: Scepter, Inc.

Facility Location: 6467 N Scepter Road, Bicknell, Indiana

Date of Inspection: April 30, 2019

15	P4300053.JPG	4/30/2019 9:40	38.771945, -87.33003	Furnace 4 (CBI)
16	P4300054.JPG	4/30/2019 9:41	38.771992, -87.329982	Furnace 4 (CBI)
17	P4300055.JPG	4/30/2019 9:41	38.771992, -87.329982	Furnace 4 (CBI)
18	P4300056.JPG	4/30/2019 9:42	38.772112, -87.329832	Furnace 4 (CBI)
19	P4300057.JPG	4/30/2019 9:43	38.771918, -87.329657	Furnace 4 (CBI)
20	P4300058.JPG	4/30/2019 9:45	38.771573, -87.33021	Scale
21	P4300059.JPG	4/30/2019 9:48	38.771637, -87.330273	Potash and flux scale loader
22	P4300060.JPG	4/30/2019 9:49	38.771717, -87.330222	Furnace 3 label
23	P4300061.JPG	4/30/2019 9:50	38.771717, -87.330222	Furnace 4 label
24	P4300062.JPG	4/30/2019 9:53	38.772038, -87.329847	Furnace 4 (CBI)
25	P4300063.JPG	4/30/2019 9:54	38.772038, -87.329847	Furnace 4 (CBI)
26	P4300064.JPG	4/30/2019 9:54	38.772038, -87.329847	Furnace 4 (CBI)
27	P4300065.JPG	4/30/2019 9:56	38.772038, -87.329847	Furnaces 3 and 4 (CBI)
28	P4300066.JPG	4/30/2019 9:56	38.772038, -87.329847	Furnaces 3 and 4 (CBI)
29	P4300067.JPG	4/30/2019 9:58	38.772038, -87.329847	Furnace 5 (CBI)
30	P4300068.JPG	4/30/2019 9:59	38.772038, -87.329847	Furnace 5 label
31	P4300069.JPG	4/30/2019 10:00	38.772038, -87.329847	Furnace 5 (CBI)
32	P4300070.JPG	4/30/2019 10:01	38.772038, -87.329847	Salt Cake Cooling System baghouse
33	P4300071.JPG	4/30/2019 10:05	38.77186, -87.330535	Salt Cake Cooling System exhaust duct and steam vent
34	P4300072.JPG	4/30/2019 10:09	38.772093, -87.330353	Anhydrous ammonia tanks

Facility Name: Scepter, Inc.

Facility Location: 6467 N Scepter Road, Bicknell, Indiana

Date of Inspection: April 30, 2019

35	P4300073.JPG	4/30/2019 10:10	38.772085, -87.33037	Anhydrous ammonia gauges
36	P4300074.JPG	4/30/2019 10:13	38.772068, -87.330473	Furnace 3 baghouse
37	P4300075.JPG	4/30/2019 10:16	38.772107, -87.330355	pH procedures
38	P4300076.JPG	4/30/2019 10:16	38.772107, -87.330355	pH procedures
39	P4300077.JPG	4/30/2019 10:17	38.772107, -87.330355	Ammonia System Calibration Check Sheet
40	P4300078.JPG	4/30/2019 10:18	38.772165, -87.330198	Furnace 3 baghouse super sacs
41	P4300079.JPG	4/30/2019 10:18	38.77218, -87.33024	Cooling tower for Furnace 4 Baghouse
42	P4300080.JPG	4/30/2019 10:19	38.772197, -87.330267	Furnace 4 baghouse
43	P4300081.JPG	4/30/2019 10:19	38.772202, -87.330288	Furnace 4 baghouse stacks
44	P4300082.JPG	4/30/2019 10:20	38.772217, -87.330323	Furnace 3 baghouse stacks
45	P4300083.JPG	4/30/2019 10:21	38.772222, -87.33033	Furnace 3 and 4 baghouses/super sacs
46	P4300084.JPG	4/30/2019 10:21	38.772222, -87.330332	Furnace 4 baghouse blender air
47	P4300085.JPG	4/30/2019 10:25	38.772228, -87.330223	Furnace 4 baghouse blender air
48	P4300086.JPG	4/30/2019 10:29	38.77179, -87.32951	Furnace 4 charging dross (CBI)
49	P4300087.JPG	4/30/2019 10:29	38.771832, -87.329492	Furnace 4 charging dross (CBI)
50	P4300088.JPG	4/30/2019 10:30	38.77197, -87.329522	Furnace 4 charging dross (CBI)
51	P4300089.JPG	4/30/2019 10:31	38.771915, -87.329442	Furnace 4 charging dross (CBI)
52	P4300090.JPG	4/30/2019 10:31	38.77192, -87.329643	Furnace 4 charging dross (CBI)
53	P4300091.JPG	4/30/2019 10:31	38.77192, -87.329643	Furnace 4 charging dross (CBI)
54	P4300092.JPG	4/30/2019 10:32	38.771907, -87.329518	Furnace 4 charging dross (CBI)

Facility Name: Scepter, Inc.

Facility Location: 6467 N Scepter Road, Bicknell, Indiana

Date of Inspection: April 30, 2019

55	P4300093.JPG	4/30/2019 10:32	38.771907, -87.329518	Furnace 4 charging dross (CBI)
56	P4300094.JPG	4/30/2019 10:35	38.771865, -87.329465	Opening to warehouse by Furnace 4
57	P4300095.JPG	4/30/2019 10:35	38.771865, -87.329465	Opening to warehouse by Furnace 4 (CBI)
58	P4300096.JPG	4/30/2019 10:36	38.77186, -87.329473	Opening to warehouse by Furnace 4