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

DATE: NOV 8 2017

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Aleris, Uhrichsville, Ohio

FROM: Cody Yarbrough, Environmental Engineer
AECAB (MN/OH)

THRU: Brian Dickens, Section Chief
AECAB (MN/OH)

TO: File

BASIC INFORMATION

Facility Name: Aleris Rolled Products, Inc.

Facility Location: 7319 Newport Road S.E., Uhrichsville, OH 44683

Date of Inspection: September 12, 2017

EPA Inspector(s):
1. Cody Yarbrough, Environmental Engineer
2. Virginia Galinsky, Environmental Engineer

Other Attendees
1. Chris Edwards, Environmental Superintendent
2. Wendy Hurtubise, HSE Manager

Purpose of Inspection: Compliance with the Clean Air Act

Facility Type: Aluminum recycling and rolling mill

Regulations Central to Inspection: NESHAP RRR – Secondary Aluminum Production

Arrival Time: 9:40am
Departure Time: 2:50pm

Inspection Type:

☒ Unannounced Inspection

☐ Announced Inspection

OPENING CONFERENCE

☒ Credentials Presented

☒ CBI warning to facility provided

The following information was obtained verbally from Mr. Edwards or Ms. Hurtubise unless otherwise noted.

Process Description:

Aleris' facility is split between two buildings: one for recycling aluminum and one for rolling aluminum. For the recycling process, Aleris takes in various types of scrap aluminum via truck, sorts it by type and grade. The holding lots for scrap metal are swept and sprayed with water approximately once per week and the scrap transfer lot between the reverb furnace and pot cleaning/barring room is cleaned approximately twice per week.

Depending on the type of scrap, it might get shredded and delacquered (such as is done for used beverage cans) or it could be charged directly into a rotary furnace (such as with scrap coils). There are two shredders, and their emissions are controlled by a shared baghouse. The two shredders are never run simultaneously. The shredded pieces are put through a delacquering kiln held at 1425°F or greater based on the most recent performance test to remove any volatile aluminum coatings. The emissions from the delacquering kiln are controlled by an afterburner and a lime-injected baghouse equipped with a bag leak detection system.

The shredded aluminum chips are sent to one of five natural gas rotary furnaces or a natural gas reverberatory furnace to be melted. Any dross recovered from the furnaces is either recycled back into the process if it contains ample aluminum or sold. Each rotary furnace is equipped with its own lime-injected baghouse, and emissions from all five are routed to a single stack. The reverberatory furnace is equipped with a lime-injected baghouse. The molten aluminum from each of these furnaces is poured into a transfer pot that is sent either to the rolling mill building for immediate casting and rolling or, if there is an issue in the rolling mill, it can be sent elsewhere within the same building to be cast into bars to be remelted and rolled at a later time. Approximately two of these transfer pots are cleaned each week through a process of torching the inside of the pot for a few hours until it reaches about 1500°F and then scraping off any hardened aluminum or dross waste. All batches of aluminum from the furnaces are weighed and graded for purity before going through the rolling mill.

After being cast into bars or sent directly to the rolling mill, the aluminum from the recycle process is transferred to one of five melting pots inside the rolling mill building to melt the barred aluminum or to keep the aluminum in a molten state before casting it for the rolling process. The emissions from these melting pots are uncontrolled. The rolling mill uses both aluminum from the facility's recycling process and virgin aluminum that is purchased externally in ingot form. Generally, Aleris' rolling mill processes about 70% virgin aluminum and 30% recycled aluminum with 70 million lbs of virgin aluminum and 30 million lbs of recycled aluminum melted and rolled per month. Before casting, chlorine gas is pumped into the molten aluminum through an in-line degassing unit to remove any entrained gases within the molten

aluminum. After the aluminum is degassed, it is cast and sent to a 3-stand rolling hot mill, 2-stand rolling cold mill, annealing furnace, tension leveler and slitter to produce the finished aluminum roll products. The rolling hot mill contains 8 total furnaces or boilers. All emissions from the rolling hot mill are uncontrolled, including evaporative emissions from the liquid coolant used to cool the aluminum rolls. Scraps cut from the slitter are sent back to a small chip melter and ultimately back into one of the five primary melters to be recast.

Staff Interview:

- The facility has been owned by Aleris for greater than 5 years, and operates 24/7, about 360 days per year (downtime for preventive maintenance and Christmas) with about 350 employees.
- Of the 8 total furnaces or boilers within the rolling room, there are three natural-gas fired annealing furnaces that are subject to NESHAP DDDDD and five that are not.
- The bag leak detection system has approximately 25-30 alarms per year for all bags, not all of which are from broken bags. Many alarms may be moisture related or for normal cleaning, but there are generally no issues with the lime injection system plugging up.
- Instead of continuous flow monitors to measure the baghouse flow rates, they do a slow verification test on the fans once per year according to their OM&M plans.

TOUR INFORMATION

EPA toured the facility: Yes

Data Collected and Observations:

- Observed holding lots for scrap aluminum and virgin aluminum ingots.
- Observed visible emissions from multiple paved lots onsite. especially when trucks were driving through the lots. Opacity appeared to go as high as 10% over the few minutes of observation, although a Method 9 reading was not conducted.
- Observed aluminum shredders during operation with no visible emissions.
- Observed tapping of the reverberatory furnace and there were no visible emissions.
- Observed emissions from molten aluminum poured into a transfer pot from rotary furnace 8 (P908). Opacity appeared to go as high as 15% while pouring, although a Method 9 reading was not conducted.
- Observed dross poured into holding bin from rotary furnace with minimal visible emissions.
- Observed visible emissions from the pot cleaning process. Opacity appeared to go as high as 25% during the few minutes of observation, although a Method 9 reading was not conducted.
- Observed charging of molten aluminum to melting furnaces 4 and 5.
- Observed visible emissions from hot rolling mill along with a cloud of emissions overhead within the building. Observed that the walls above the hot rolling mill appeared to have oily material deposited on them.

Photos and/or Videos: were not taken during the inspection.

Field Measurements: were not taken during this inspection.

RECORDS REVIEW

1. Part of the OM&M plans

CLOSING CONFERENCE

Requested documents:

- Safety Data Sheets, flow rates, and usage data for hot mill coolant
- Any historic analysis that was done on VOC emissions from the hot mill (e.g. assumed emission factors)
- Operation, Maintenance, and Monitoring plans for each of the two buildings
- NESHAP RRR reports from the last year
- Any correspondence with OEPA regarding emissions from the pot cleaning process
- When the roadway areas with observed VEs had last been cleaned

Concerns: We communicated concerns regarding visual emissions seen from roadways, visual emissions/VOCs from the rolling hot mill, and visual emissions from the pot cleaning process.

SIGNATURES

Report Author: Cody Yarbrough Date: Nov 3, 2017

Section Chief: [illegible] Date: 11/8/17