

RCRA Inspection Report

1) Inspector and Author of Report

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U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, S.W.
Atlanta, GA 30303

2) Facility Information

Nucor Steel Jackson, Inc.
3630 Fourth Street
Flowood, Mississippi 39232
Rankin County

EPA ID: MSD008158685
NAICS: 331110 - Iron and Steel Mills and
Ferroalloy Manufacturing

3) Responsible Official

Clay Burton
Environmental Manager
Nucor Steel Jackson, Inc.
3630 Fourth Street
Flowood, Mississippi 39232
clay.burton@nucor.com

4) Inspection Participants

Clay Burton	Nucor Steel Jackson, Inc.
Brandon Wynn	Nucor Steel Jackson, Inc.
Alex Patrick	Nucor Steel Jackson, Inc.
Brad Justice	MDEQ
Paula Whiting	US EPA Region 4 Atlanta

5) Date and Time of Inspection

February 14, 2024, at 8:00 a.m. CST

6) Applicable Regulations¹

Resource Conservation and Recovery Act (RCRA) Sections 3002, 3005 and 3007 (42 U.S.C. §§ 6922, 6925 and 6927), and the regulations promulgated pursuant thereto at 40 Code of Federal Regulations (C.F.R.) Parts 260-270, 273 and 279.

Mississippi Hazardous Waste Management Regulations (MHWMR), 11 Miss. Admin. Code Pt. 3, R. 1.1-1.24 Section 17-17-1 et seq. of the Mississippi Code of 1972, Miss. Code Ann. § 17-17-1 et seq.; Section 17-17-27 of the Mississippi Code of 1972, Miss. Code Ann. § 17-17-27.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.17]], a Large Quantity Generator (LQG) of hazardous waste may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by Section 17-17-27(4) of the Mississippi Code of 1972, Miss. Code Ann. § 17-17-27(4) [Section 3005 of RCRA, 42 U.S.C. §6925], provided that the generator complies with the conditions listed in 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.17] (hereinafter referred to as the “LQG Permit Exemption”).

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.15(a)], a generator may accumulate as much as 55 gallons of non-acute hazardous waste in containers at or near the point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or without having interim status, as required by Section 17-17-27(4) of the Mississippi Code of 1972, Miss. Code Ann. § 17-17-27(4), and without complying with 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.16(b) or § 262.17(a)], except as required in 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in 11 Miss. Admin. Code Pt. 3, R. 1.3 [40 C.F.R. § 262.15(a)] (hereinafter referred to as the “SAA Permit Exemption”).

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.21 [40 C.F.R. § 273.9], a “Small Quantity Handler of Universal Waste” (SQHUW) is a Universal Waste handler who does not accumulate 5,000 kilograms or more of Universal Waste (batteries, pesticides, mercury-containing equipment, or lamps, calculated collectively) at any time.

Pursuant to 11 Miss. Admin. Code Pt. 3, R. 1.2 [40 C.F.R. § 261.4(b)(18)], solvent-contaminated wipes, except for wipes that are hazardous waste due to the presence of trichloroethylene, that are sent for disposal are not hazardous wastes from the point of generation, provided that the conditions listed in 11 Miss. Admin. Code Pt. 3, R. 1.2 [40 C.F.R. § 261.4(b)(18)] are met (hereinafter referred to as the “Solvent-Contaminated Disposable Wipe Exclusion”).

¹ As the State’s authorized hazardous waste program operates in lieu of the federal RCRA program, the citations of those authorized provisions will be to the authorized State program. However, for ease of reference, the federal citations will follow in brackets.

7) **Purpose of Inspection**

The purpose of the inspection was to conduct an unannounced RCRA compliance evaluation inspection (CEI) to determine the compliance of Nucor Steel Jackson, Inc., EPA ID Number: MSD008158685 with the applicable regulations.

8) **Facility Description**

Nucor Steel Jackson, Inc. (NSJAK) is a mini-steel mill located in Flowood, Mississippi that produces merchant and reinforcing bar products such as rebar, angle iron, flats, rounds and squares from recycled scrap steel and iron. The NSJAK facility brings in ferrous scrap metal from industries and non-ferrous scrap metals from the public. The non-ferrous scrap metal is received, sorted, shredded, and shipped out by General Recycling, Inc. which is owned by NSJAK and located within a mile of the facility.

The facility melts recycled steel scrap and other metals in the electric arc furnace (EAF) and pours the molten metal into continuous casting systems. The Roll Mill converts the billets, blooms, and slabs into rebar, angles, rounds, channels, flats, and squares. The electric arc furnace and the billet continuous caster have baghouses that collect the EAF generated dust. The EAF dust is conveyed to a single silo which is loaded onto railcars. Toxic Characteristic Leaching Procedure (TCLP) analyses of the dust revealed hazardous constituents of lead and cadmium. The baghouse dust has been listed as a K061 waste.

The NSJAX facility consists of business offices, scrap metal and slag processing areas, Melt Shop, Roll Mill, and shops for the maintenance of machinery and vehicles. NSJAX is approximately 180 acres and operates 24 hours per day, 7 days per week in three shifts. NSJAX employs approximately 313 full time employees with 6 employees handling hazardous waste.

The NSJAK's most recent Hazardous Waste Generator Notification (EPA Form 8700-12) dated February 21, 2023, characterized the facility as a large quantity generator (LQG) of hazardous waste. Waste codes from the EPA Form 8700-12 include D001 (ignitable), D002 (corrosive), D005 (barium), D006 (cadmium), D007 (chromium), D008 (lead), D035 (methyl ethyl ketone), D040 (trichloroethylene), F003 and F005 (non-halogenated solvents), and K061 (iron and metal dust). The facility also generates used oil and universal waste (lamps and aerosol cans).

9) **Previous Inspection History**

This facility was previously inspected on June 18, 2020, by the Mississippi Department of Environmental Quality (MDEQ). No violations were found.

10) Opening Conference

On February 14, 2024, EPA inspector Paula Whiting, accompanied by MDEQ inspector Brad Justice arrived at Nucor Steel Jackson, Inc. at approximately 8:00 a.m. CST. Mr. Clay Burton, Environmental Manager received the inspectors. The inspectors introduced themselves, showed their credentials to Mr. Burton, and explained the purpose of the visit. The inspectors described the anticipated use of a digital camera during the inspection and provided a request for records.

Mr. Burton, Mr. Brandon Wynn, Environmental Supervisor, and Mr. Alex Patrick, Environmental Specialist, provided an overview of the facility's history and current operations during the opening conference. The inspection participants also discussed health and safety protocols and required personal protective equipment before facility representative led the inspectors on a tour of the facility operations. Below is a description of the observations made during the inspection.

11) Inspection Observations

Roll Mill Used Oil Tanks

The tour began at the Roll Mill used oil tanks. The area contained two 1,000-gallon tanks sitting on a drain structure that feeds the water back into the pond with an oil skimmer (Pictures 1-2). Mr. Burton explained that process water from the mill enters the pond, is skimmed of oil, and the skimmed oil is pumped to the tanks. The oily water feeds into an oil water separator and then a water treatment system before being placed back as process water in the plant. The tanks separate any excess water from the oil and drains it back into the pond via the attached tray. The tanks were observed labeled. No issues were noted in this area.

Melt Shop EAF Pulpit

The inspectors were allowed to observe the furnace in operation from the main control room (pulpit). Here the various grades of metal are blended and melted and sent to the Caster to be poured into dies. The gases and the EAF dust from the furnace are sent to the Furnace Baghouse for collection and storage. When asked, Mr. Burton did explain that the spent refractory bricks from the furnace are sent to the Chemical Waste Management hazardous waste landfill in Emelle, Alabama. No issues were observed from pulpit.

Scrap Yard

Mr. Burton explained the metal is separated into different grades and sizes. The inspectors observed piles of shredded, cut grade and turning steel (Picture 3). No issues were observed in this area.

EAF Silo and Baghouses

The inspectors then walked to the baghouses where the EAF dust is collected and stored until shipped off site for recycling or disposal. The Caster Baghouse and the Furnace Baghouse are separate buildings that share a silo (Pictures 4-10). The EAF dust is sent to either baghouse then

sent by auger into the silo. Inside the silo is a railcar with a magnetic hazardous waste label on the side that receives the EAF dust. The label was dated February 1, 2024, with the EPA hazardous waste code K061, and had a toxic placard. The railcar is shipped to Steel Dust Recycling in Millport, Alabama to reclaim the zinc. An eyewash and a spill kit were also observed in the Silo building.

The Caster Baghouse has twelve hoppers that receive the EAF dust. The hoppers contain polyester filter bags that capture the EAF dust. The Furnace Baghouse has eight hoppers that contain fiberglass membrane filter bags. These bags allow for low drag which uses less energy to get the air through the filter bags. This baghouse is connected directly to the furnace and runs hotter, which requires a filter bag that can take the intense heat. Both baghouses were observed having good housekeeping, were regularly vacuumed and no spills were noted on the floor.

The Furnace Baghouse was also used as central accumulation area for storage of hazardous waste. However, at the time of the inspection no hazardous waste containers were observed in the area. The inspectors did observe a black 55-gallon container used to collect radioactive debris waste. The container was noted to be mostly empty.

Between the Silo building and the Furnace Baghouse is a 20-cubic yard roll-off used to collect miscellaneous K061 clean up material and debris (Pictures 11-12). The roll-off was observed closed, labeled, and dated February 7, 2024. This roll-off will be shipped to Chemical Waste Management in Emelle, Alabama.

Melt Shop Used Oil Storage

Outside of the Melt Shop was a used oil storage area with two 1,000-gallon double walled used oil storage tanks (Picture 13). The tanks sit inside a secondary containment area. The tanks have red funnels to add used oil and a gravity feed via piping connected to two 275-gallon totes. The tanks and totes were closed and labeled. No releases were noted in the secondary containment.

Near the used oil storage area was an oily waste dumpster that is used to collect oily debris, spent filters, and used personal protective equipment (Pictures 14-15). No free liquids are allowed in this 20-cubic yard roll-off. The inspectors observed that the roll-off was labeled and closed. No releases were noted around the roll-off.

Melt Shop Maintenance

The maintenance area had a satellite accumulation area (SAA) with the following (Pictures 16-19):

- a spent aerosol can puncture station connected to a blue 55-gallon container;
- a 55-gallon container of punctured aerosol cans;
- a 55-gallon container of discarded Great Stuff aerosol cans;
- a 55-gallon container of excluded solvent contaminated wipes; and
- discarded used oil filters being drained on a secondary containment system grate.

The containers were observed closed and labeled. At the time of the inspection, the secondary containment grate for draining used oil filters was not labeled 'Used Oil'. Mr. Wynn immediately applied a label to the secondary containment and took a picture.

Universal Waste Storage Area

The inspectors toured the production areas in the Melt Shop, the Caster Mill, and the Rolling Mill where the billets are cut to order (Pictures 20-23). The inspectors were then taken to the universal waste storage area, a separate building outside of the Caster Mill. The inspectors observed two fiberboard boxes of spent lamps, the oldest container dated December 11, 2023; electronic waste consisting of monitors, computer equipment, etc. with the oldest date of December 9, 2023; and a box of spent ballasts with the date of December 7, 2023. All containers and discarded equipment were observed closed if applicable, labeled, and dated.

Rolling Mill Maintenance

The maintenance area had a SAA with the following (Pictures 24-28):

- a spent aerosol can puncture station connected to a black 55-gallon container inside a secondary containment;
- a 55-gallon container of punctured aerosol cans;
- a 55-gallon container of discarded Great Stuff aerosol cans;
- a 55-gallon container of excluded solvent contaminated wipes; and
- a 55-gallon container of spent paint filters.

The containers were observed closed and labeled.

Warehouse

The warehouse is a separate building used for equipment and supply storage for the facility. The inspectors observed a spent aerosol can puncture station connected to a black 55-gallon container inside a secondary containment and a blue trash can have punctured aerosol cans to be recycled (Pictures 29-30). The container was observed labeled and closed.

11) Records Review

The inspectors requested the training records, the contingency plan, the weekly inspection records, the waste minimization plan, the 2023 hazardous, non-hazardous, and used oil manifests. The generator status notification (EPA Form 8700-12) was last updated February 21, 2023.

The inspectors requested the training records for the employees handling hazardous waste. Training certificates for Brian Adcock, Roger Bolls, Alex Patrick, Andrew Rainey, Brandon Wynn, and Clay Burton were provided. They received Hazmat Technician 8-hour refresher from Elite Safety Training LLC on February 2, 2023. Due to an unexpected event the refresher training for 2024 was rescheduled for February 29, 2024. Job titles and descriptions were provided and reviewed.

The inspectors requested the Combined Emergency Response Prevention Plan revised January 3, 2024, for review. The plan included an emergency contact list, an evacuation map, a fire extinguisher inspection list, a list of emergency response equipment, the Quick Reference Guide and, documentation (i.e., green return receipt cards, emails) that copies of the current contingency plan were provided to the local emergency response agencies (i.e., fire, police, hospital).

The weekly inspection records for 2021-2023 were reviewed. The records included the hazardous waste rail car, the spark box material to Steel Dust Recycling, the clam box material to Chemical Waste Management and the walk behind water scrubber zamboni.

The Annual Waste Minimization Plan dated April 17, 2023, was reviewed.

K061 EAF dust is manifested as a hazardous waste and shipped to Steel Dust Recycling, LLC (SDR) (EPA ID ALR000042754) in Millport, AL as raw feed material. In 2023, NSJAK had several shipments of the K061 EAF dust via rail to Steel Dust Recycling LLC's parent company Zinc Nacional SA in Monterrey, N.L., México. The EAF dust was shipped via Canadian National Railways (EPA ID ILD000804443).

Hazardous and non-hazardous manifests were reviewed for 2021-2023. Hazardous waste solids were shipped to Chemical Waste Management (EPA ID ALD000622464) in Emelle, AL.

Non-hazardous waste refractory brick, casting, scale, and slag were shipped to Waste Management Clearview Landfill (EPA ID ILR000130062) in Lake, MS.

Non-hazardous waste used oil and oily water were shipped to Heritage Crystal Clean (EPA ID ILR000130062) in Elgin, IL.

Universal wastes were shipped to Lamp Environmental Industries. (EPA ID LAR000055467) in Independence, LA. The land disposal restriction forms were reviewed.

12) Closing Conference

The inspectors conducted the exit meeting with Mr. Burton, Mr. Wynn, and Mr. Patrick. During this meeting, the EPA and MDEQ presented the preliminary results of the inspection. The Nucor Steel Jackson, Inc. was inspected as a LQG of hazardous waste.

13) List of Attachments

Attachment A – Photo Log

14) **Signed**

PAULA WHITING

Digitally signed by PAULA
WHITING
Date: 2024.05.02 16:02:19 -04'00'

Paula A. Whiting
Environmental Engineer

15) **Concurrence**

ALAN NEWMAN

Digitally signed by ALAN NEWMAN
Date: 2024.05.06 04:52:02 -04'00'

Alan R. Newman
Acting Chief
RCRA Enforcement Section

ATTACHMENT A

NUCOR STEEL JACKSON, INC.

FLOWOOD, MISSISSIPPI

COMPLIANCE EVALUATION INSPECTION PHOTOGRAPHS

February 14, 2024

**Photos taken by Paula A. Whiting
Camera Type: Olympus Tough
Serial Number: SC7374**



Picture 1 – Roll Mill Used Oil Tanks



Picture 4 – Furnace Baghouse and Silo



Picture 2 – Roll Mill Used Oil Tank drain structure to skimmer



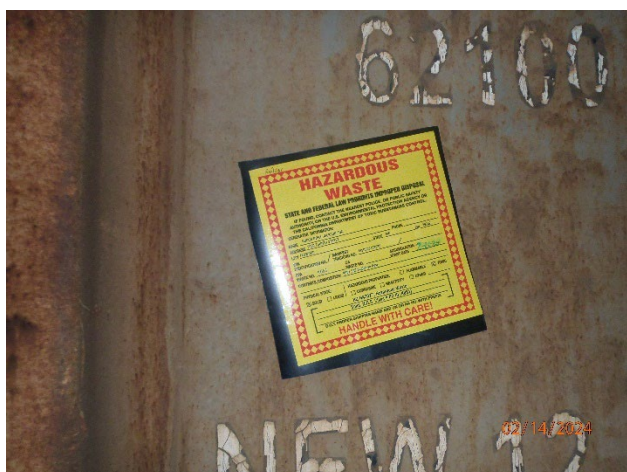
Picture 5 – Caster Baghouse



Picture 3 – Scrap Yard



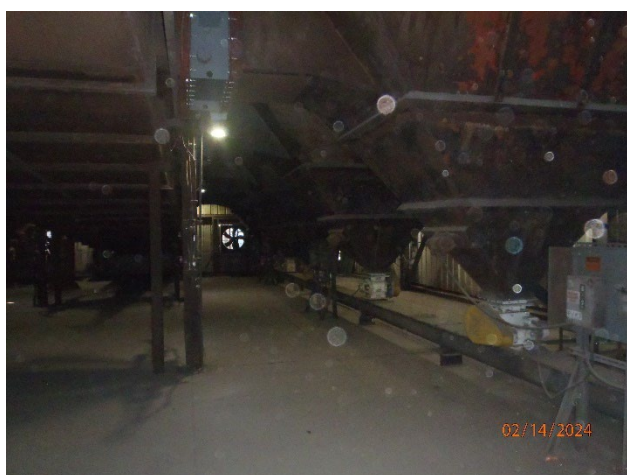
Picture 6 – Silo Railcar CAA



Picture 7 – Silo Railcar CAA label



Picture 10 – Furnace Baghouse interior and hoppers



Picture 8 – Caster Baghouse interior and hoppers



Picture 11 – Silo CAA Roll-off



Picture 9 – Furnace Baghouse CAA and radioactive container



Picture 12 – Silo CAA Roll-off



Picture 13 – Melt Shop Used Oil Storage



Picture 16 – Melt Shop Maintenance SAA



Picture 14 – Melt Shop Oily Waste Roll-off



Picture 17 – Melt Shop Maintenance SAA spent aerosol cans.



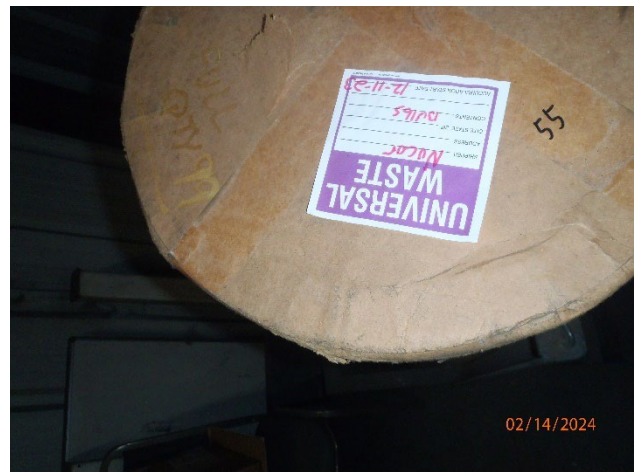
Picture 15 – Melt Shop Oily Waste Roll-off interior



Picture 18 – Melt Shop Maintenance SAA punctured aerosol cans



Picture 19 – Melt Shop Maintenance SAA aerosol puncture system label



Picture 22 – Universal Waste Storage lamps label



Picture 20 – Universal Waste Storage



Picture 23 – Universal Waste Storage spent ballasts



Picture 21 – Universal Waste Storage electronic waste



Picture 24 – Roll Mill Maintenance SAA



Picture 25 – Roll Mill Maintenance SAA spent aerosol cans



Picture 28 – Roll Mill Maintenance SAA



Picture 26 – Roll Mill Maintenance SAA aerosol puncture system



Picture 29 – Warehouse Aerosol Puncture System SAA



Picture 27 – Roll Mill Maintenance SAA solvent contaminated wipes



Picture 30 – Warehouse Aerosol Puncture System SAA label