

RCRA Inspection Report

1) Inspector and Author of Report

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Enforcement and Compliance Assurance Division
Chemical Safety and Land Enforcement Branch
RCRA Enforcement Section
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2) Facility Information

Befesa Zinc US Inc. (Befesa)
199 Truck Route
Rockwood, Tennessee 37854
Roane County

EPA ID#: TND982144099
NAICS #: 331492 - Secondary smelting,
refining, and alloying of nonferrous metal
(except copper and aluminum)

3) Responsible Officials

Don Norton
Director of Operations – West
(865) 463 - 4600
Don.norton@befesa.com

4) Inspection Participants

Don Norton, Befesa
Chad Tarwater, Befesa
Jim Taylor, Befesa
Eric Hunsberger, Befesa
Bruce Morgan, Befesa

Jennifer McClellan, Tennessee Department of
Environmental Control (TDEC) - Nashville
Pam Rudd, TDEC - Knoxville
Alan Newman, USEPA

5) Date of Inspection

November 29, 2023; 9:25 am – 6:00 pm and November 30, 2023; 8:30 am – 11:00 am.

6) Applicable Regulations¹

Resource Conservation and Recovery Act (RCRA) Sections 3002 (42 U.S. Code – Annotated U.S.C.A. 6925 and 6927), and 40 Code of Federal Regulation (C.F.R.) Parts 260 - 270, 273, 278, & 279; [State Code (see below)] and Hazardous Waste Permit TNHW-148.

Tennessee Hazardous Waste Management Act of 1977, Tennessee Code Annotated (Tenn. Code Ann.) § 68-212-101 et seq., and Chapter 0400-12-01 of the Rules and Regulations of the State of Tennessee (Tenn. Comp. R. & Regs.).

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.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.01(2)(a) [40 C.F.R. § 262.10], a large quantity generator (LQG) is a generator who generates greater than or equal to 1,000 kilograms (2,200 lbs) of non-acute hazardous waste in a calendar month.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.12(1)(i) [40 C.F.R. § 273.9], a small quantity handler of universal waste (SQHUW) is a universal waste handler who accumulates less than 5,000 kilograms total of universal waste (batteries, pesticides, mercury-containing equipment, lamps, or aerosol cans, calculated collectively) at any time.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(4)(e)5.(i) [40 C.F.R. § 262.34(c)(1)], a generator may accumulate as much as 55 gallons of 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 68-212-108 of the THWMA, Tenn. Code Ann. § 68-212-108 [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with Tenn. Comp. R. & Regs. 0400-12-01-.03(4)(e)2. [40 C.F.R. § 262.34(a) (2016)], provided that the generator complies with the satellite accumulation area (SAA) conditions listed in Tenn. Comp. R. & Regs. 0400-12-01-.03(4)(e)5.(i)(I)-(II) [40 C.F.R. § 262.34(c)(I)(i)-(ii)] (hereinafter referred to as the "SAA Permit Exemption").

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(4)(e)2. [40 C.F.R. § 262.34(a) (2016)], a large quantity generator (LQG) may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by Section 68-212-108 of the THWMA, Tenn. Code Ann. § 68-212-108 [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in Tenn. Comp. R. & Regs. 0400-12-01-.03(4)(e)2.(i)-(v) [40 C.F.R. § 262.34(a)(1)-(4) (2016)] (hereinafter referred to as the "LQG Permit Exemption").

TDEC issued a RCRA hazardous waste permit (TNHW-177) to Befesa for storage of electric arc furnace (EAF) dust (K061) hazardous waste in railcars that are incoming to the facility. The permit was issued on September 24, 2019, and expires on September 24, 2029. The permit was modified on August 28, 2023, to increase the number of rail cars permitted to be stored onsite from 38 to 110 rail cars.

7) Purpose of Inspection

The purpose of this inspection was to conduct an unannounced compliance evaluation inspection to determine Befesa's compliance with the conditions of its RCRA Hazardous Waste Facility Operating Permit TNHW-177, the applicable requirements of RCRA, and the corresponding Tennessee regulations. This was an EPA lead inspection.

8) Facility Description

Befesa is an international company focused on management and recycling of hazardous residues from the steel and aluminum industries. The Befesa facility is on a 45-acre site at 199 Truck Route on the outskirts of Rockwood, Tennessee (Figure 1) and is one of four similar

facilities operated by Befesa in the United States utilizing the Waeltz process to recover Zinc and other metals. The other facilities are located in Pennsylvania, Illinois, and South Carolina.

This facility has been in operation since 1989. Although the facility has capability to operate two rotary kilns for high-temperature recovery of zinc from electric arc furnace (EAF) dust; the facility was curtailed in March 2023. EAF dust is K061 listed hazardous waste generated from the primary production of steel in electric furnaces. Approximately 10 employees currently staff the facility seven days per week, 24 hours per day.

Typically, Befesa receives EAF dust via rail or truck and must be contained and handled as hazardous waste at least until it enters the process as feed stock. Truckloads generally arrive in dump trucks, and railcar loads may arrive in hopper cars, or in pneumatic discharge (PD) railcars. These railcars may require brief storage in the railyard to accommodate rail-transport fluctuations. Consequently, in September of 2019, the facility received Permit TNHW-177 in order to store loaded railcars prior to processing their loads of EAF dust. The railcar storage area is regulated under the conditions of Permit TNHW-177.

EAF dust from hopper railcars and from dump trucks is hydrated with water-mist sprayers in the Curing and Blending (C&B) building and mechanically mixed and blended. After hydration and mixing in C&B, a series of closed-tube conveyors transfer the hydrated dust to the kilns. EAF dust from PD railcars is sent via pneumatic transfer line into a pug mill where it is hydrated, mixed and then transferred to the kilns. In the Waelz process, hydrated EAF dust and coke are added into the upper ends of the slightly inclined rotary Waelz kilns; inside the kilns, zinc in the feedstock is volatile at the kiln temperatures. Volatilized gaseous zinc reverse-flows toward the upper end of the kiln. Gaseous zinc emerges from the kiln at the upper end and upon exposure to ambient air, immediately oxidizes to crude zinc oxide dust ("CZO," or "WOX" for "Waelz oxide") which is collected in the baghouse as the CZO product. CZO product is shipped to AZP in Mooresboro, North Carolina, for further refining. Heavier non-volatile elements collectively called iron-rich material (IRM) emerge from the lower end of the rotating kiln, consisting of 80% to 90% iron, mixed with iron oxide, lime, and silica. IRM discharges from the furnaces into rotating coolers, and then is stockpiled inside the "IRM Building" (a 120' x 300' storage building). Samples are collected weekly from the IRM Building stockpile to test for toxic metals and zinc using the toxicity characteristic leaching procedure (TCLP) for land disposal restriction (LDR) compliance. IRM samples usually indicate no toxicity. Batches of IRM that fail toxicity testing, if any, are reprocessed through the kiln. Batches of IRM that meet LDR requirements are moved to stockpiles which are later sold. IRM is sent to cement kilns to be used as flux or used as road base aggregate.

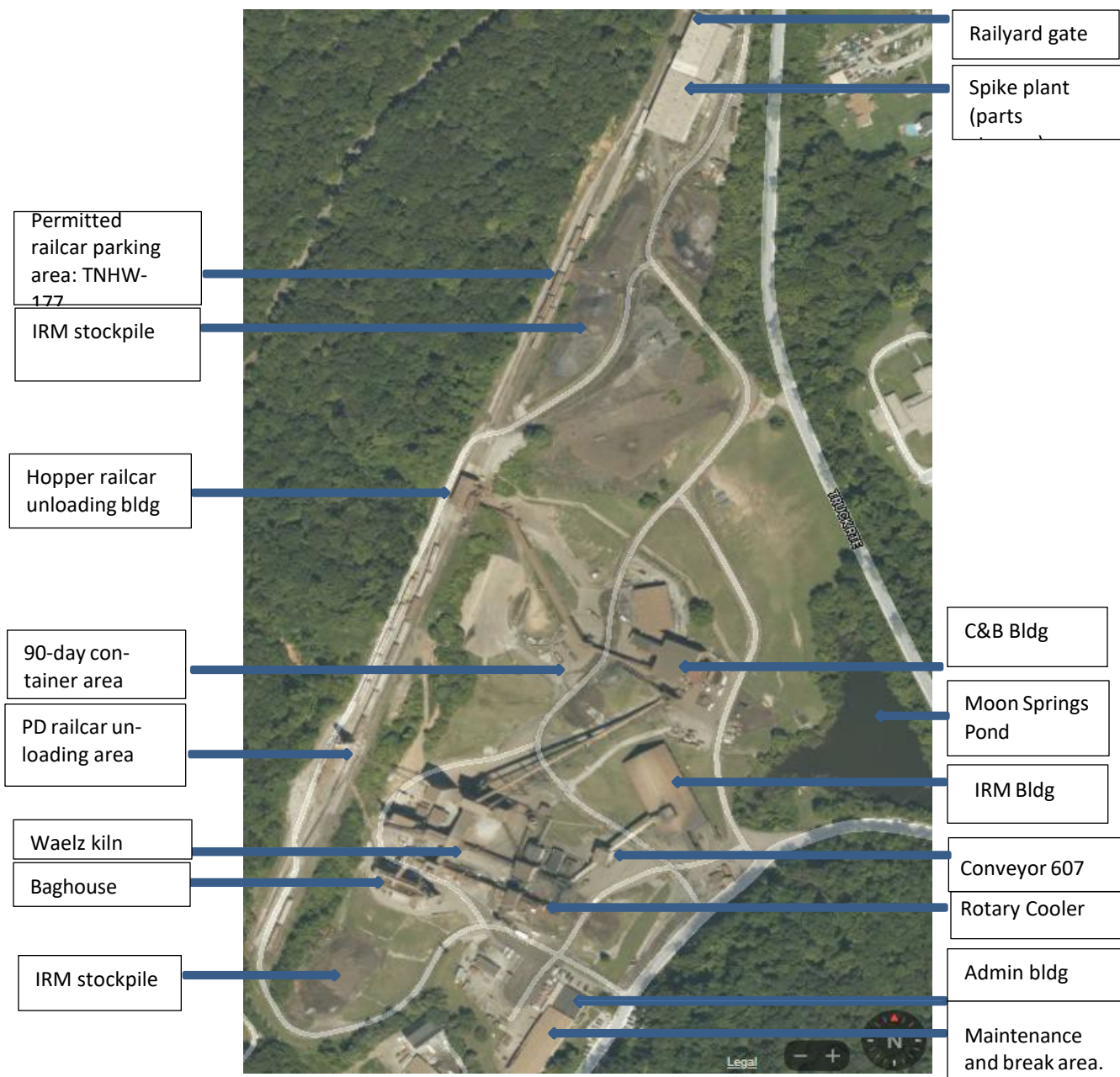


Figure 1: Overview of Befesa Rockport Facility

Befesa most recently notified TDEC as a large quantity generator of hazardous waste, a small quantity handler of universal waste, and a generator of used oil on March 1, 2022. A Class 3 permit modification was approved on August 28, 2023, for Permit Number TNHW-177 to increase the storage capacity in the railyard from 38 to 110 railcars.

Hazardous waste streams generated at Befesa include:

Waste Stream #	Waste Name	EPA Waste Codes	Generation Description	Amount Generated in 2022 (lbs)
2	Waste Conveyor Belts, Vacuum Hoses, & PPE	D006, D008	generated from replacing conveyor belts and vacuum hoses and disposing of personal protective equipment (PPE)	149,840
10	Waste Kiln Rubble	D006, D008	generated from kiln preventative maintenance and cleanouts	4,625,509
17	Waste Paint and Paint Thinners	D001, D005, D006, D007, D008, D035, D039, D040, F003, F005	generated from the disposal of spent paint and paint-related products	0
18	Waste Paint Related Materials	D001, D005, D006, D007, D008, D035, F003, F005	generated from routine facility maintenance work	0
Un-numbered	Waste Electric Arc Furnace Dust	K061	generated when facility operations temporarily ceased on March 30, 2023. Befesa transferred nine shipments of this material by truck on hazardous waste manifests to their facility in Chicago in 2023. Several piles of this hazardous waste remain stored in the Curing and Blending building.	

9) **Previous Inspection History**

TDEC has conducted three RCRA CEIs at the subject facility between 2020 and 2022 and found eleven violations during those inspections.

On October 13, 2022, TDEC conducted the most recent RCRA CEI at the subject facility and found six apparent violations of RCRA's requirements for failure to close SAA container, failure to label a container of used oil, failure to notify TDEC during AOC excavation activities, failure to make a hazardous waste determination, failure to maintain spill kits, and failure to maintain aisle space. As a result, TDEC issued an informal enforcement action to Befesa on November 16, 2022, and later verified that the facility had returned to compliance during a follow-up inspection on December 9, 2022.

10) **Opening Conference**

On November 29, EPA inspector Alan Newman, accompanied by TDEC inspector Pam Rudd and Jennifer McClellan, arrived at Befesa at approximately 9:25 am. Don Norton, Director of Operations and Chad Tarwater, Plant Superintendent, immediately received the inspectors and participated in the opening conference. The inspectors introduced themselves, showed their credentials to Don Norton, and explained the purpose of the visit.

The inspectors described the anticipated use of equipment (digital camera) during the inspection and provided a request for records. The EPA inspector explained that the Small Business Regulatory Enforcement Fairness Act's classification of a "small business" is generally set by the Small Business Administration using the business' SIC/NAICS code and annual receipts or number of employees. A copy of the EPA's information sheet for small businesses can be found at <https://www.epa.gov/sites/production/files/2017-06/documents/smallbusinessinfo.pdf>. The EPA inspector also discussed the company's ability, pursuant to 40 C.F.R. § 2.203, to assert a business confidentiality claim for information submitted to EPA. The company did not assert a business confidentiality claim.

Don Norton 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 Don Norton and Chad Tarwater led the inspectors on a tour of the Facility operations.

11) **Inspection Observations**

Truck Scales

The inspection team toured the truck scales with newly installed radiation monitors at Truck Scales. Under normal operations, incoming material would be weighed and sampled. Hazardous waste is currently not generated or stored in this area. The SAA containers were removed and

stored for future use. Material is directed to the curing and blending building (C&B Building) for offloading.

Rail Yard and Spike Plant

When in operation, Befesa receives EAF dust via railcar and trucks as hazardous waste (K061). Incoming railcars are stored in the rail yard until they can be off-loaded into the C & B building. This storage is permitted by the TDEC issued Permit TNHW-177. The inspection team toured the rail lines, the hopper rail car unloading building, the spike plant, and the CZO rail car loading area (Photographs 1-6). On the day of the inspection, the inspection team noted twenty-nine (29) empty rail cars being stored on the rail spur at the facility. New radiation monitors were installed to screen incoming rail cars. Hazardous waste is currently not generated or stored in these areas. The SAA containers were removed and stored for future use. The gated entrance to the railyard was closed and locked. The fire extinguisher was in good condition and recently inspected.

Curing and Blending Building (C & B)

Typically, feed material from the rail lines is offloaded and conveyed via a covered conveyor belt to C & B Building; feed material from incoming trucks would be dumped in the truck entrance to the building. The inspection team observed from the control room that the C & B Building was predominantly cleaned out. The inspection team noted some material, several piles located in the truck dump area of the building (Photographs 7-9). Befesa needs to conduct a hazardous waste determination on this material. Facility personnel stated that this material was gathered from cleanup throughout the site.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(b) [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in Tenn. Comp. R. & Regs. 0400-12-01-.02(1)(b) [40 C.F.R. § 261.2], must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA regulations articulated in Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(b) [40 C.F.R. § 262.11].

Excavated Material from AOC 5

Befesa removed approximately ten cubic yards of waste sediments from the storm water entrance of AOC 5, Moon Springs Pond. The removed material was relocated to the base of the iron-rich material (IRM) pile on the north end of the facility and covered with a tarp (Photographs 10-11) to allow for unimpeded future flow to enter the pond. TDEC and Befesa have been addressing this removed material through the corrective action process and closure plan.

Kilns and Control building, Central Accumulation Area, and Mixer Pad

The inspection team walked through the process from the C & B Building, mixer pad, the conveyor system, feed tanks, kilns, and rotary cooler (Photographs 12-14). All SAAs had been emptied and removed. The CAA, used typically for roll off containers, did not have any waste on the day of the inspection (Photograph 13). Facility personnel stated that the most recent CAA

container was shipped in June 2023. The inspection team noted two 300-gallon totes containers on spill containment pallets in use collecting used oil from gear boxes (Photograph 14). Each 300-gallon tote was labeled as “Used Oil”.

Laboratory

Adjacent to the office area, the inspection team toured the laboratory where incoming and outgoing materials were sampled. Incoming dust samples were analyzed every day. There was no waste present on the day of the inspection. The SAA containers were removed and stored for future use.

Maintenance/Tool Cage/Used Oil Tank

The inspection team toured the maintenance area. Befesa operates one cabinet for storing explosives used for blasting the kiln when clogged. Befesa was accumulating hazardous waste liquids generated from puncturing aerosol cans in a puncture box affixed to the bung hole of the 15-gallon SAA container (Photograph 16). The container was labeled as hazardous waste and with the indication of the hazards of toxic and flammable, in good condition, and closed.

A shelf in the tool cage was used to store universal wastes generated at the facility. There was one 4-foot cardboard box labeled with an accumulation start date May 9, 2023. This box was closed and labeled as universal waste lamps (Photograph 17). There were two plastic totes used to accumulate universal waste. The first plastic tote was labeled as “Universal Waste” but failed to specify the type of universal waste (Photograph 19). This container was accumulating spent universal waste metal halide lamps. There was no date on the container and the most recent shipment of universal waste lamps was on November 2, 2022. The second plastic tote was accumulating rechargeable batteries and was dated March 24, 2023. This tote was in good condition, labeled, and closed. (Photograph 18). Befesa was operating one 500-gallon tank to store used oil. This tank was in good condition surrounded by a dike in good condition and labeled as “Used Oil.”

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.12(2) [40 C.F.R. § 273.14(e)], a SQHUW must label or mark each lamp or container of lamps clearly with one of the following phrases: “Universal Waste-Lamp(s),” or “Waste Lamp(s),” or “Used Lamps.”

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.12(2)(f)3.(i) [40 C.F.R. § 273.15(a) and (c)], a SQHUW may accumulate universal waste no longer than one year and must to be able to demonstrate the length of time that the universal waste has accumulated from the date that it became a waste or was received.

IRM Building

The inspection team inspected the contents of the IRM building. Facility personnel stated that the material in the IRM building was kiln rubble or kiln cleanout. Befesa has historically shipped

a portion of this waste off site as hazardous waste (over 3.6 million pounds in 2022). The historical shipment totals for each year are itemized in the table below:

Year	Amount of WS #10 (D006/D008) Shipped offsite for disposal (lbs)
2019	2,944,820
2020	2,335,960
2021	4,350,202
2022	3,625,509
2023 to date (estimated)	2,400,000

The other portion of the waste would be reprocessed through the kiln to recover any residual Zinc. The waste in the IRM building covered approximately 80% of the floor space at a height of 8-10 feet. The footprint of the building was estimated to be 120 feet by 300 feet. As long as the kiln was operating this material was considered to be feedstock. Facility personnel stated that the last operating day for the kilns was March 30, 2023. It appears that this waste has been stored in the IRM building for greater than 90 days. The IRM building is not included as a storage area in the hazardous waste permit.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(h) [40 C.F.R. § 262.17(b)], an LQG who accumulates hazardous waste for more than 90 days is an operator of a storage facility and is subject to the requirements of Tenn. Comp. R. & Regs. 0400-12-01.01 through 0400-12-01.10 [40 C.F.R. Parts 124, 264 through 268 and Part 270].

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.07(1)(b)1 [40 CFR § 270.1], the requirements of this rule apply as specified to owners and operators of new and existing hazardous waste management facilities in Tennessee. Except as may be specifically provided otherwise in this rule or in Rule 0400-12-01-.02: (ii) no existing hazardous waste management facility in Tennessee can lawfully treat, store, or dispose of hazardous waste unless the owner or operator has a permit under the Act or interim status as provided in paragraph (3) of this rule.

12) Records Review

The inspection team reviewed the following records: the hazardous waste permit, the Part B permit application, daily, weekly, monthly, and quarterly inspections for November 2022 through 2023, 2022-2023 training records, manifests for 2022-2023, LDR notifications, waste determinations, the annual report, the contingency plan, the hazardous waste reduction plan, used oil shipping documents, and the financial assurance documentation.

Training

The inspectors reviewed facility job descriptions and employee names that were provided for seventeen separate job titles. Each description included the requisite skill, education, or other qualifications, and duties of facility personnel assigned to that position.

Befesa provided a written description of the type and amount of both introductory and continuing training to be given to each person filling the positions listed above. The inspectors reviewed records of employee hazardous waste training completed in 2022 and 2023.

The inspection team noted that four out of 64 individuals previously employed had not received annual training for 2022 including Uliss Dougherty, Devin McLees, James Simpson, and Michael Watts. These four individuals are not current employees as of the date of the inspection. Since this violation is uncorrectable given operational curtailment, all personnel returning from layoffs, or any new hires should receive training when operations resume.

Pursuant to Permit TNHW-177, Section II General Facility Conditions, Subsection F which references Tenn. Comp. R. & Regs. 0400-12-01-.06(2)(g)3 [40 C.F.R. § 262.17(a)(7)(1)(D)(iii)], the permittee's personnel must take part in an annual review of the initial training required by this section.

Manifests

The inspection team noted that EAF dust (K061) remaining at the site subsequent to the March 30, 2023, curtailment would not be used in the reclamation process at Befesa. This waste was subsequently shipped via truck to other facilities to reclaim the zinc. However, once the curtailment was initiated the K061 EAF dust became site generated waste and Befesa was the subject to waste stream reporting.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(2)(d)1(i)(IV), generators of hazardous waste are responsible for maintaining an up-to-date notification which includes re-notifying the Commissioner with 30 days when a new hazardous waste stream is generated.

Unpermitted Transporter

The inspection team noted that EAF dust (K061) remaining at the site subsequent to the March 30, 2023, curtailment would not be used in the reclamation process at Befesa. The remaining EAF dust (K061) was shipped to their sister facility in Chicago for processing. The inspection team noted that Befesa shipped this hazardous waste off site utilizing an unpermitted hazardous waste transporter, Berner Trucking (OHD049371693), on at least 9 occasions from April 10, 2023, through June 7, 2023. Berner Trucking does not hold a hazardous waste permit for transporting hazardous waste in Tennessee.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(i)3 [40 CFR § 262.18(c)], a generator must not offer its hazardous waste to transporters who do not have a valid hazardous waste permit from the Department to transport hazardous waste in Tennessee (see paragraph (2) of

Rule 0400-12-01-.04), or to treatment, storage, or disposal facilities that have not received an EPA identification number.

Contingency Plan and Quick Reference Guide (QRG)

The actions that facility personnel should take in response to an emergency are described in the facility's Integrated Contingency Plan, which was last updated in January 2021.

The plan describes actions facility personnel must take in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

The plan describes arrangements agreed to with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or the Local Emergency Planning Committee.

The plan lists the names and emergency telephone numbers for persons identified as emergency coordinators. Don Norton is listed as the primary emergency coordinator, and the other individuals are listed in the order in which they will assume responsibility as alternates.

The plan includes a list of all emergency equipment at the facility. The list includes fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment. The list appears to be up to date. The plan includes the location and a physical description of each item on the list, and a brief outline of its capabilities.

The plan includes an evacuation plan for personnel. This plan describes signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.

The inspection team reviewed the contingency plan for accuracy and completeness. The inspection team noted that the phone number for the primary emergency coordinator, Don Norton, was incorrect in attachment 6 of Permit TNHW-177. Additionally, Mr. Norton's job title and the name, job title, address, and phone number of the current alternate emergency coordinator, Jim Taylor, in the integrated contingency plan needs to be updated. Jim Taylor has replaced Charles Howell in this position. According to Rule 0400-12-01-.06(4)(c)4 as referenced in Permit TNHW-177, "the plan must list names, address, and phone numbers (office and home) of all persons qualified to act as emergency coordinator, ... and this list must be kept up to date..." Furthermore, Rule 0400-12-01-.06(4)(e)4 states that the contingency plan must be updated whenever "the list of emergency coordinators changes."

Pursuant to Permit TNHW-177, Section II General Facility Conditions, Subsection I: Contingency Plan states: The permittee shall comply with the RCRA provisions (as that term is used in Rule 0400-12-01-.06(4)) of the Integrated Contingency Plan located in Attachment 6.1 and any modifications to the RCRA provisions of the Plan shall comply with the requirements of Rule 0400-12-01-.06(4), found in Appendix 6.1 of Attachment 6. Those modifications to the Contingency Plan require the permit to be modified in accordance with Rule 0400-12-01-.07(9)(c).

The inspection team reviewed the QRG for accuracy and completeness. The phone number listed on the QRG for emergency coordinator Don Norton was incorrect. In the QRG, the facility indicated that Jim Taylor has replaced Chad Tarwater as the alternate emergency coordinator. The QRG needs to be updated to correct the information and reflect the changes.

Pursuant to [Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(h)1(iv) [40 C.F.R. § 262.17(a)(6)], which incorporates [Tenn. Comp. R. & Regs. 0400-12-01-.03(12)(j)3 [40 C.F.R. § 262.262(c)], and is a condition of the LQG Permit Exemption, generators must update, if necessary, their quick reference guides, whenever the contingency plan is amended and submit these documents to the local emergency responders identified in part 1 of this subparagraph or, as appropriate, the Local Emergency Planning Committee.

Hazardous Waste Reduction Plan

The inspection team reviewed Befesa's hazardous waste reduction plan and determined that the plan failed to provide all the required elements. Additionally, Befesa failed to review its waste reduction plan annually and prepare an annual progress report. The last update occurred in 2018.

Pursuant to Rule 0400-12-01-.03(6)(b), a Hazardous Waste Reduction Plan (b) Contents of Plan:

- 1. A hazardous waste reduction plan shall include, at a minimum, the following:**
 - (i) A dated and signed written policy articulating management support for the generator's hazardous waste reduction plan;**
 - (ii) The scope and objectives of the plan, including the evaluation of technologies, procedures and personnel training programs to ensure that unnecessary waste is not generated and to encourage hazardous waste reduction. Specific goals shall be set for hazardous waste reduction, as described in subparagraphs (b) through (d) of the paragraph;**
 - (iii) A description of technically and economically practical hazardous waste reduction options to be implemented and planned schedule for implementation. These options shall be based on an internal analysis of hazardous waste streams conducted to review individual processes or facilities and other activities where waste may be generated and identify opportunities to reduce or eliminate waste generation. Such analyses shall evaluate data on the types, amount and hazardous constituents of waste generated, where and why that waste was generated within the production process or other operations, and potential hazardous waste reduction and recycling techniques applicable to those wastes;**
 - (iv) A description of the hazardous waste accounting systems that identify waste management costs and factor in liability, compliance and oversight costs to the extent feasible;**
 - (v) A description of the employee awareness and training programs designed to involve employees to the maximum extent feasible in hazardous waste reduction planning and implementation; and (vi) A description of how the plan has been or will**

be incorporated into management practices and procedures so as to ensure an ongoing effort.

2. As part of each plan developed under this subparagraph, a generator shall establish specific performance goals for the source reduction of each hazardous waste stream.
3. The specific performance goals established under this subparagraph shall be quantitative goals, expressed in numeric terms. Whenever possible, the units of measurement should be in pounds (or tons) of waste generated per standard unit of production, as defined by the generator. If the establishment of numeric performance goals is not practical, the performance goals shall include a clearly stated list of actions designed to lead to the establishment of numeric goals as soon as practical.
4. As part of each plan developed under this subparagraph, each generator shall explain the rationale for each performance goal. Acts of God or other unforeseeable events beyond the control of the generator do not have to be considered in setting goals. The rationale for a particular performance goal shall address any impediments to hazardous waste reduction, including, but not limited to, the following:
 - (i) The availability of technically practical hazardous waste reduction methods, including any anticipated changes in the future;
 - (ii) Previously implemented reductions of hazardous waste;
 - (iii) The economic practicability of available hazardous waste reduction methods, including any anticipated changes in the future. Examples of situations where hazardous waste reduction may not be economically practical include, but are not limited to:
 - (I) For valid reasons of prioritization, a particular company has chosen first to address other more serious hazardous waste reduction concerns;
 - (II) Necessary steps to reduce hazardous waste are likely to have significant adverse impacts on product quality; or
 - (III) Legal or contractual obligations interfere with the necessary steps that would lead to hazardous waste reduction.
5. A generator required to complete a hazardous waste reduction plan under subparagraph (a) of this paragraph may include as a preface to its initial plan:
 - (i) An explanation and documentation regarding hazardous waste reduction efforts completed or in progress before the first reporting date; and
 - (ii) An explanation and documentation regarding impediments to hazardous waste reduction specific to the individual facility.

Pursuant to Rule 0400-12-01-.03(6)(c), a Hazardous Waste Reduction Plan (c) Annual Progress Report:

1. All generators shall annually review their waste reduction plan and complete a hazardous waste reduction progress report which shall:

(i) Analyze and quantify progress made, if any, in hazardous waste reduction, relative to each performance goal established under subparagraph (b) of this paragraph.

(ii) Set forth amendments, if needed, to the hazardous waste reduction plan and explain the need for the amendments.

After the inspection, the submitted records documented that the most recent used oil shipment occurred in October 2023.

13) Closing Conference

The inspectors conducted the exit meeting at 1:00 p.m. with Don Norton, Chad Tarwater, Jim Taylor, Eric Hunsberger, and Bruce Morgan. During this meeting, the inspectors stated their preliminary conclusions of the inspection. Befesa agreed to provide used oil shipping records, universal waste lamps and batteries shipping records, financial assurance documentation, closure plan, closure cost estimates, waste determination for rubble, and 2022 annual report by within two weeks of the date of the inspection. On December 4, 2023, Jim Taylor provided the requested records in an email to Alan Newman.

14) Summary of Observations

During the inspection, observations were made concerning the following RCRA requirements:

Waste Determination

Facility personnel failed to make a hazardous waste determination for the waste in C & B Building truck unloading bay.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(b) [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in Tenn. Comp. R. & Regs. 0400-12-01-.02(1)(b) [40 C.F.R. § 261.2], must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA regulations articulated in Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(b) [40 C.F.R. § 262.11].

Illegal Storage

Hazardous waste has been stored in the IRM building for greater than 90 days without a permit.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(h) [40 C.F.R. § 262.17(b)], an LQG who accumulates hazardous waste for more than 90 days is an operator of a storage facility and is subject to the requirements of Tenn. Comp. R. & Regs. 0400-12-01.01 through 0400-12-01.10 [40 C.F.R. Parts 124, 264 through 268 and Part 270].

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.07(1)(b)1 [40 CFR § 270.1], the requirements of this rule apply as specified to owners and operators of new and existing hazardous waste management facilities in Tennessee. Except as may be specifically provided otherwise in this rule or in Rule 0400-12-01-.02: (ii) no existing hazardous waste management facility in

Tennessee can lawfully treat, store, or dispose of hazardous waste unless the owner or operator has a permit under the Act or interim status as provided in paragraph (3) of this rule.

Training

The inspection team noted that four employees had not received annual training for 2022.

Pursuant to Permit TNHW-177, Section II General Facility Conditions, Subsection F which references Tenn. Comp. R. & Regs. 0400-12-01-.06(2)(g)3 [40 C.F.R. § 262.17(a)(7)(1)(D)(iii)], the permittee's personnel must take part in an annual review of the initial training required by this section.

Manifests

Befesa failed to report K061 EAF dust waste stream to TDEC.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(2)(d)1(i)(IV), generators of hazardous waste are responsible for maintaining an up-to-date notification which includes re-notifying the Commissioner with 30 days when a new hazardous waste stream is generated.

Unpermitted Transporter

Befesa used an unpermitted transporter to ship hazardous waste.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(i)3 [40 CFR § 262.18(c)], a generator must not offer its hazardous waste to transporters who do not have a valid hazardous waste permit from the Department to transport hazardous waste in Tennessee (see paragraph (2) of Rule 0400-12-01-.04), or to treatment, storage, or disposal facilities that have not received an EPA identification number.

Contingency Plan and Quick Reference Guide (QRG)

The phone number for the primary emergency coordinator, Don Norton, was incorrect and the alternate emergency coordinator was incorrect.

Pursuant to Permit TNHW-177, Section II General Facility Conditions, Subsection I: Contingency Plan states: The permittee shall comply with the RCRA provisions (as that term is used in Rule 0400-12-01-.06(4)) of the Integrated Contingency Plan located in Attachment 6.1 and any modifications to the RCRA provisions of the Plan shall comply with the requirements of Rule 0400-12-01-.06(4), found in Appendix 6.1 of Attachment 6. Those modifications to the Contingency Plan require the permit to be modified in accordance with Rule 0400-12-01-.07(9)(c).

Information in the QRG was incorrect and Befesa failed to amend the QRG.

Pursuant to [Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(h)1(iv) [40 C.F.R. § 262.17(a)(6)], which incorporates [Tenn. Comp. R. & Regs. 0400-12-01-.03(12)(j)3 [40 C.F.R. § 262.262(c)], and is a condition of the LQG Permit Exemption, generators must update, if necessary, their

quick reference guides, whenever the contingency plan is amended and submit these documents to the local emergency responders identified in part 1 of this subparagraph or, as appropriate, the Local Emergency Planning Committee.

Hazardous Waste Reduction Plan

Befesa's hazardous waste reduction plan was not complete and was not annually reviewed.

Pursuant to Rule 0400-12-01-.03(6)(b), a Hazardous Waste Reduction Plan (b) Contents of Plan:

- 1. A hazardous waste reduction plan shall include, at a minimum, the following:**
 - (i) A dated and signed written policy articulating management support for the generator's hazardous waste reduction plan;**
 - (ii) The scope and objectives of the plan, including the evaluation of technologies, procedures and personnel training programs to ensure that unnecessary waste is not generated and to encourage hazardous waste reduction. Specific goals shall be set for hazardous waste reduction, as described in subparagraphs (b) through (d) of the paragraph;**
 - (iii) A description of technically and economically practical hazardous waste reduction options to be implemented and planned schedule for implementation. These options shall be based on an internal analysis of hazardous waste streams conducted to review individual processes or facilities and other activities where waste may be generated and identify opportunities to reduce or eliminate waste generation. Such analyses shall evaluate data on the types, amount and hazardous constituents of waste generated, where and why that waste was generated within the production process or other operations, and potential hazardous waste reduction and recycling techniques applicable to those wastes;**
 - (iv) A description of the hazardous waste accounting systems that identify waste management costs and factor in liability, compliance and oversight costs to the extent feasible;**
 - (v) A description of the employee awareness and training programs designed to involve employees to the maximum extent feasible in hazardous waste reduction planning and implementation; and (vi) A description of how the plan has been or will be incorporated into management practices and procedures so as to ensure an ongoing effort.**
- 2. As part of each plan developed under this subparagraph, a generator shall establish specific performance goals for the source reduction of each hazardous waste stream.**
- 3. The specific performance goals established under this subparagraph shall be quantitative goals, expressed in numeric terms. Whenever possible, the units of measurement should be in pounds (or tons) of waste generated per standard unit of production, as defined by the generator. If the establishment of numeric performance goals is not practical, the performance goals shall include a clearly stated list of actions designed to lead to the establishment of numeric goals as soon as practical.**

4. As part of each plan developed under this subparagraph, each generator shall explain the rationale for each performance goal. Acts of God or other unforeseeable events beyond the control of the generator do not have to be considered in setting goals. The rationale for a particular performance goal shall address any impediments to hazardous waste reduction, including, but not limited to, the following:

- (i) The availability of technically practical hazardous waste reduction methods, including any anticipated changes in the future;**
- (ii) Previously implemented reductions of hazardous waste;**
- (iii) The economic practicability of available hazardous waste reduction methods, including any anticipated changes in the future. Examples of situations where hazardous waste reduction may not be economically practical include, but are not limited to:**
 - (I) For valid reasons of prioritization, a particular company has chosen first to address other more serious hazardous waste reduction concerns;**
 - (II) Necessary steps to reduce hazardous waste are likely to have significant adverse impacts on product quality; or**
 - (III) Legal or contractual obligations interfere with the necessary steps that would lead to hazardous waste reduction.**

5. A generator required to complete a hazardous waste reduction plan under subparagraph (a) of this paragraph may include as a preface to its initial plan:

- (i) An explanation and documentation regarding hazardous waste reduction efforts completed or in progress before the first reporting date; and**
- (ii) An explanation and documentation regarding impediments to hazardous waste reduction specific to the individual facility.**

Pursuant to Rule 0400-12-01-.03(6)(c), a Hazardous Waste Reduction Plan (c) Annual Progress Report:

1. All generators shall annually review their waste reduction plan and complete a hazardous waste reduction progress report which shall:

- (i) Analyze and quantify progress made, if any, in hazardous waste reduction, relative to each performance goal established under subparagraph (b) of this paragraph.**
- (ii) Set forth amendments, if needed, to the hazardous waste reduction plan and explain the need for the amendments.**

Universal Waste

Befesa had one incomplete label on a universal waste container and stored for greater than one year.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.12(2) [40 C.F.R. § 273.14(e)], a SQHUW must label or mark each lamp or container of lamps clearly with one of the following phrases: "Universal Waste-Lamp(s)," or "Waste Lamp(s)," or "Used Lamps."

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.12(2)(f)3.(i) [40 C.F.R. § 273.15(a) and (c)], a SQHUW may accumulate universal waste no longer than one year and must to be able to demonstrate the length of time that the universal waste has accumulated from the date that it became a waste or was received.

15) **List of Attachments**

Attachment 1 – 20 Photos taken on: November 29-20, 2023
Photos taken by: Alan Newman and Pam Rudd (with her TDEC issued device)
Photos taken with: Panasonic Lumix
EPA Property Tag: S75870

16) **Signed**

ALAN NEWMAN Digitally signed by ALAN NEWMAN
Date: 2024.02.07 15:14:51 -05'00'

Alan Newman
Environmental Engineer

17) **Concurrence**

ARACELI CHAVEZ Digitally signed by ARACELI CHAVEZ
Date: 2024.02.07 15:22:53 -05'00'

Araceli B. Chavez
RCRA Enforcement Section

Appendix 1

Photograph Log:

20 Photos taken November 29-30, 2023
Photos taken by Alan Newman and Pam Rudd



Photograph 1: Rail Yard.



Photograph 4: Rail Yard.



Photograph 2: Rail Yard - hopper car unloading area.



Photograph 3: Rail Yard - hopper car unloading area.



Photograph 5: Rail Yard – PD Railcar Unloading Area.



Photograph 6: Rail Yard fire extinguisher.



Photograph 9: C&B Building.



Photograph 7: C&B Building.



Photograph 10: AOC 5.



Photograph 8: C&B Building.



Photograph 11: AOC 5.



Photograph 12: Conveyor system from C&B Building to Kilns.



Photograph 15: IRM Building.



Photograph 13: CAA.



Photograph 16: Aerosol SAA Container with puncture Device.



Photograph 14: Used Oil near kilns.



Photograph 17: Universal Waste Lamps.



Photograph 18: Universal Waste Batteries.



Photograph 19: Universal Waste Lamps.



Photograph 20: Used Oil Tank.