

Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	April 07-11, 2025	
Media Program:	Resource Conservation and Recovery Act	
Regulatory Program(s)	Hazardous Waste Large Quantity Generator/Treatment Storage and Disposal Facility	
Company Name:	Elemental Environmental Solutions	
Facility Name:	<i>Gum Springs Treatment Complex</i>	
Facility Physical Location:	500 East Reynolds Road	
(city, state, zip code)	Arkadelphia, Arkansas 71923	
Mailing address:	500 East Reynolds Road	
(city, state, zip code)	Arkadelphia, Arkansas 71923	
County/Parish:	Clark County	
Facility Phone Number	870-245-9119	
Facility Contact:	Cole Clark	Environmental Supervisor
FRS Number:	110000608771	
Identification/Permit Number:	30H-RN-M021	
Media Identifier Number:	ARD006354161	
NAICS:	562211 - Hazardous Waste Treatment and Disposal	
SIC:	4953 - Refuse Systems	
Personnel participating in inspection:		
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EPA Lead Inspector Signature/Date	JOHN PENLAND John Penland – Sr. Environmental Scientist (ECAD)	Digitally signed by JOHN PENLAND Date: 2025.06.26 10:50:27 -05'00'
Supervisor Signature/Date	GABRIEL SALINAS Debra Pandak – Waste Enforcement Section Manager (ECAD)	Digitally signed by GABRIEL SALINAS Date: 2025.06.26 10:56:49 -05'00'

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

During the week of April 7, 2025, inspectors from the Arkansas Department of Environmental Quality (ADEQ) and the Environmental Protection Agency (EPA) conducted an unannounced inspection of the Elemental Environmental Solutions Gum Springs hazardous waste treatment, storage, and disposal facility. Located at 500 East Reynolds Road in Arkadelphia, Arkansas, the facility was inspected for compliance with the Resource Conservation and Recovery Act (RCRA). The inspection involved observing the facility's hazardous waste management units and reviewing records related to hazardous waste management.

As a permitted hazardous waste facility, Elemental Environmental Solutions Gum Springs is regularly inspected by ADEQ to ensure compliance with its state-issued permit. In 2024, ADEQ investigated an incident concerning stormwater management and the covering of the hazardous waste landfill. This inspection was prompted by concerns identified during that investigation and by the EPA's commitment to collaborating with state partners to ensure clean air, water, and land for all Americans.

Photographs taken during the inspection are included as Appendix 1. Correspondence with Elemental Environmental Solutions regarding the inspection observations are included as Appendix 2

FACILITY DESCRIPTION

Elemental Environmental Solutions (EES), formerly Reynolds Metals Company, operates a hazardous waste management facility that handles the storage, thermal treatment, and landfill disposal of spent pot liner from aluminum manufacturing facilities, along with other hazardous and non-hazardous wastes. The facility is authorized under RCRA Permit 30H-RN1, issued by the Arkansas Department of Environmental Quality. A copy of this permit is included as Appendix 3.

The facility is currently constructing a second commercial hazardous waste incineration system, expected to commence operations in the second or third quarter of 2025. The EES permit contains numerous references to and requirements for these new units. However, at the time of inspection, none of the new units were operational, and the planned reconfiguration of existing units had not yet started.

As a commercial hazardous waste treatment and disposal facility, EES operates various unit types and processes. These include hazardous waste storage tanks, incinerators, stabilization tanks, container storage areas, miscellaneous treatment units, and a landfill. These units and operations are detailed in Section D of the permit modification application dated September 2023. This document, provided as Appendix 4, includes both narrative descriptions and unit drawings.

Section II – INSPECTION SUMMARY

April 7, 2025

I arrived at the EES Gum Springs facility at 9:00 am Central Time and began the inspection with an opening conference. During this meeting, I presented my credentials to Mr. Cole Clark and explained that I was conducting an inspection under the authority of Section 3007 of RCRA. We discussed the purpose and scope of the inspection and informed him of the facility's right to claim Confidential Business Information for any records collected during the process.

After the opening conference, I conducted my first walkthrough of the facility's process and storage areas. This initial walkthrough was mainly to orient myself with the site, but it also included a preliminary evaluation of the facility's compliance with its hazardous waste operating permit. We visited all areas governed by the permit, except for the containment building. I concluded my inspection day and left the facility at approximately 5:30 pm Central Time.

For our detailed observations, inspection notes, and records request, see the Daily Summary for April 7, 2025, in Appendix 2.

April 8, 2025

I arrived at the EES facility at 8:30 am Central Time to start my inspection day. I began by reviewing the notes from the previous day with the facility representatives. After discussing these notes, we proceeded with a walkthrough of the facility. Our first task was to document the facility's compliance with standards for managing hazardous waste containers. This included both the areas designated for offsite-generated waste and those used for accumulating onsite-generated hazardous waste. Next, we focused on assessing the facility's adherence to standards for hazardous waste containment buildings. I concluded my inspection day and left the facility at 5:00 pm Central Time.

For our detailed observations, inspection notes, and records request, see the Daily Summary for April 8, 2025, in Appendix 2.

April 9, 2025

I arrived at the EES facility at 8:30 am Central Time to begin my inspection day. I started by reviewing the notes from the previous day and discussing them with the team. We then proceeded with a walkthrough of the facility. Our first priority was to document the facility's compliance with standards for managing hazardous waste tanks. Following that, we assessed the facility's adherence to standards for the storage of universal waste and used oil. During the inspection, we also observed the sampling of treated hazardous waste in the stabilization tanks. I concluded my inspection and departed the facility at 5:00 pm Central Time.

For our detailed observations, inspection notes, and records request, see the Daily Summary for April 9, 2025, in Appendix 2.

April 10, 2025

I arrived at the EES facility at 8:30 am Central Time to begin my inspection day. I started by reviewing the notes from the previous day and discussing them with the team. We had a conversation with the facility representatives designed to orient the inspection team with the records maintained by EES to document their regulatory compliance. Following this conversation, we departed the facility to begin an offsite review of the facility documents.

For our detailed observations, inspection notes, and records request, see the Daily Summary for April 10, 2025, in Appendix 2.

April 11, 2025

I arrived at the EES facility at 9:00 am Central Time. The primary task for the day was the closeout meeting, which began at 10:00 am. The purpose of this meeting was to convey our initial areas of concern and to formally conclude the onsite phase of the investigation. The meeting concluded at 11:00 am, after which we departed the site.

Section III – AREAS OF CONCERN

The inspection concluded on April 11, 2025, with a closing meeting where I presented my preliminary areas of concern. These concerns are detailed in this section, with references to the relevant Code of Federal Regulations (CFR), Regulation Number 23 of the Arkansas Pollution Control and Ecology Commission (APC&EC Rule No. 23), and Hazardous Waste Permit 30H-RN1, as amended on August 14, 2024, where applicable. This section is organized to provide a clear and structured overview, categorizing concerns by hazardous waste management unit where unit-specific standards apply.

1) Container Storage Building

The Container Storage Building is an approximately 40,000 square foot portion of the west end of Building 50 and approximately 10,500 square foot area of the east end of the curbed concrete loading/unloading area. This portion of the building is enclosed on three sides with fourteen permanently open storage bay doorways along the north wall of the building that connect the container storage area to the adjacent loading/unloading area. The maximum capacity of the Container Storage Building is 773,520 gallons.

Area of Concern: Non-compliance with Hazardous Waste Container Management Standards

Description:

During the inspection on April 7 and 8, 2025, several issues were observed in the permitted hazardous waste container storage area:

1. **Inadequate Closure Devices:** Two hazardous waste roll-offs containing nicotine waste, used PPE, and sampling equipment were covered with black plastic sheeting, loosely secured with duct tape. The sheeting was blown off one of the containers, indicating it was not an adequate closure device. Similarly, a container of K088 potliner was covered with partially torn plastic

sheeting, allowing access to the interior. This violates regulations requiring containers to be closed during storage to prevent leaks and spills.

2. **Improper Storage Practices:** A row of stacked hazardous waste drums was stored on broken pallets, causing the drums to lean precariously into the aisle space. This poses a risk of container rupture and obstructs safe access, violating standards for container condition and aisle space maintenance.
3. **Spill of K088 Potliner:** A spill of K088 potliner was discovered adjacent to a roll-off container that also contained K088. The container did not appear to be the source of the spill, indicating possible handling or transfer issues. This spill was cleaned up following its observation, addressing immediate contamination concerns.

Relevant Citations:

- **40 CFR § 264.173:** Requires that containers holding hazardous waste be closed during storage, except when adding or removing waste, and managed to prevent leaks or spills.
- **Hazardous Waste Permit 30H-RN1 Module III.E:** Requires that containers holding hazardous waste be closed during storage, except when adding or removing waste, and managed to prevent leaks or spills
- **RO12748:** Clarifies that spills of hazardous waste, such as K088 potliner, must be promptly cleaned up and managed in compliance with applicable hazardous waste regulations to prevent environmental contamination and ensure safety.

Associated Documentation:

- Appendix 1 - Photo log - Photos 1-8
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

Following the inspection, the facility took immediate corrective actions by purchasing tarps and straps for a more secure closure system and modifying procedures to reduce waste volume in containers. The broken pallet was also promptly corrected to ensure stable drum storage. The K088 potliner spill was cleaned up to mitigate environmental impact.

2) Roll-off Container Storage Area

The Roll-Off Container Storage Area is a concrete pad located outside Building 50, north of the Container Storage Building Area, with a maximum storage capacity of 1,381,406 gallons. Roll-off containers are transported to the area via truck and rail, unloaded, and positioned by a large forklift. Due to the absence of secondary containment, only roll-offs without free liquids are stored here; those with free liquids may be stored in Building 50.

The storage area features a concrete pad equipped with a grated storm drain and curbing to prevent uncontrolled runoff or run-on. Roll-off containers are elevated off the ground to ensure they do not contact any liquid that might accumulate on the floor. The floors are constructed of reinforced concrete and are slightly sloped to prevent liquid accumulation from precipitation.

Area of Concern: Non-compliance with Hazardous Waste Container Management and Containment Standards

Description:

During the inspection on April 8, 2025, several issues were noted in the hazardous waste container storage area:

1. **Spills and Water Intrusion:** Spills of K088 potliner were observed on the concrete surrounding roll-off containers and on the unlined rail ballast adjacent to the area. Additionally, water had entered one of the roll-off containers, mixed with the water-reactive K088 waste, and discharged onto the concrete, leaving behind a white crystalline residue. This situation indicates potential non-compliance with containment and spill prevention standards.
2. **Damaged Closure Systems:** Two roll-off containers were found with damaged closure systems, preventing them from being securely closed. This violates regulations requiring containers to be closed during storage to prevent leaks and spills.
3. **Concrete Liner Integrity:** Several unrepaired cracks were observed in the concrete liner, compromising its ability to contain spills and prevent environmental contamination. The duration of these cracks was undetermined, indicating potential neglect in maintenance and inspection practices.

Relevant Citations:

- **40 CFR § 264.173:** Requires containers holding hazardous waste to be closed during storage and managed to prevent leaks or spills.
- **Hazardous Waste Permit 30H-RN1 Module III.C:** Prohibits the use of a container that is in poor condition or begins to leak.
- **Hazardous Waste Permit 30H-RN1 Module III.E:** Requires that containers holding hazardous waste be closed during storage, except when adding or removing waste, and managed to prevent leaks or spills
- **40 CFR § 264.174:** Mandates weekly inspections for leaks and deterioration.
- **Hazardous Waste Permit 30H-RN1 Module III.G:** Requires the facility to inspect container storage areas and document leaking containers and deterioration of containers and the containment system caused by corrosion and other factors.
- **40 CFR § 264.175:** Requires secondary containment systems to prevent releases.
- **Hazardous Waste Permit 30H-RN1 Module III.M.2:** Requires the facility to inspect, maintain, and repair all damage to the curbing and flooring of container storage areas
- **RO12748:** Addresses the importance of prompt cleanup and management of hazardous waste spills to prevent environmental contamination.

Associated Documentation:

- Appendix 1 - Photo log - Photos 56 - 60
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

1. EES responded promptly and cleaned up any observed K088 spent pot liner spillage immediately following observation in the container storage area.
2. The observed container lids were both in the closed position; however, due to broken latches, the lids could not be fully secured. Following inspection, EES removed the material from these containers and either processed it or moved it to another container that could be properly closed. The damaged containers were tagged for repair.

3) Storage Area 2

Storage Area 2 is situated just north of the west end of Building 50 and has a capacity of 65,120 gallons. Containers are delivered via four unloading and loading truck docks located just east of this area. Both the truck docks and the container storage area are covered by a roof to prevent or significantly minimize precipitation from entering the containment. The floor of the storage area is constructed of reinforced concrete and is slightly sloped to prevent liquid accumulation from spills or precipitation. The concrete in the secondary containment is coated or lined with an impermeable material compatible with the stored substances, ensuring that no material migrates into the concrete. Containment is further supported by a series of grate-covered trenches and sumps.

Area of Concern: Non-compliance with Hazardous Waste Container Storage Standards and Universal Waste Accumulation Limits

Description:

During the inspection, several compliance issues were identified in the hazardous waste container storage area:

1. **Improper Storage of Incompatible Materials:** Containers of incompatible materials, such as strong acids and strong bases, as well as oxidizing and flammable wastes, were stored adjacent to each other without the required separation by a dike, berm, wall, or other device. This violates regulations mandating the separation of incompatible wastes to prevent reactions that could lead to fires, explosions, or toxic releases.
2. **Universal Waste Accumulation:** One container of universal waste (e-waste) was found to have been accumulated since September 28, 2023, exceeding the one-year accumulation limit set by regulations.
3. **Extended Storage of Rejected Hazardous Waste:** Two containers of hazardous waste that had been rejected by the facility were stored in the area for more than a calendar year, which may violate storage time limits and management practices outlined in the facility's permit.
4. **Liner Integrity Issues:** Unrepaired cracks and gaps were observed in the chemically resistant liner for the container storage area, compromising its ability to contain spills and prevent environmental contamination.

Relevant Citations:

- **40 CFR § 264.177:** Requires the separation of incompatible materials through engineered means such as dikes, berms, walls, or other devices.

- **Hazardous Waste Permit 30H-RN1 Module III.K:** Requires the physical segregation of incompatible materials.
- **APC&EC Rule 23 § 273.6** establishes a universal waste classification for “consumer electronic items,” a broad category encompassing CRTs and other electronic wastes.
- **40 CFR § 273.15:** Limits the accumulation time for universal waste to one year from the date of generation.
- **40 CFR § 264.175:** Outlines requirements for secondary containment systems, including chemically resistant liners.
- **Hazardous Waste Permit 30H-RN1 Module III.M.2:** Requires the facility to inspect, maintain, and repair all damage to the curbing and flooring of container storage areas

Associated Documentation:

- Appendix 1 - Photo log - Photos 18, 19, 62 - 78
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

1. Incompatible materials were initially stored in their own rows according to DOT separation standards. To establish an engineering control for separation, EES has since purchased secondary containment pallets for the container storage areas, ensuring adequate separation of incompatibles as required by container storage regulations.
2. Following the inspection, the container of Universal Waste was sent out for electronic recycling.
3. The rejected containers were still visible in the site's inventory management system, counted towards the permitting storage capacity, and tracked accordingly. However, the two observed containers had been placed in the reject location in error during the creation of a consolidation load for disposal, resulting in them being improperly scanned to a disposal location and no longer appearing in the facility inventory. After investigation, the error was corrected, and both containers were routed to their intended processing areas immediately following the inspection.

4) Liquid Waste Tanks

The liquid waste storage tanks are situated north of the rail unloading area and container storage areas. The facility operates six tanks, all sharing a single concrete containment system lined with a chemical-resistant barrier. The tanks include two with a capacity of 50,000 gallons each and four with a capacity of 24,000 gallons each. To prevent stratification and settling, each tank is equipped with a mechanical mixer. The tanks are designed to pump waste to the incinerators, with the pumps and ancillary equipment required for this process located within the tanks' secondary containment.

Area of Concern: Non-compliance with Liquid Hazardous Waste Storage Tank Standards and VOC Emission Controls

Description:

During the inspection of the liquid hazardous waste storage tanks on April 9, 2025, the following compliance issues were identified:

1. **Secondary Containment Integrity:** The facility's permit requires that the flooring of container storage areas be maintained free of cracks and gaps, with repairs made as soon as practicable. Cracks and gaps were found in the coating of the tank secondary containment, compromising its ability to prevent leaks and environmental contamination.
2. **VOC Monitoring and Leak Detection:** The facility's hazardous waste permit mandates controlling emissions of volatile organic compounds (VOCs) in accordance with the Clean Air Act Permit (included as Appendix 5). This permit requires compliance with standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations, as outlined in 40 CFR Part 63 Subpart DD, which incorporates leak detection and repair requirements from 40 CFR Part 63 Subpart H. During VOC monitoring using a TVA2020 Flame Ionization Detector in accordance with EPA Method 21, VOC concentrations exceeding 11,000 ppm were detected at Tank TK-21's agitator and over 10,000 ppm at a level control switch, which also showed a visible leak. The facility was unable to replicate these readings, and an evaluation revealed that the facility was using a handheld Photo Ionization Detector (PID) calibrated with isobutylene instead of methane or hexane, which are required for hazardous waste applications. The facility could not identify the ionization potential of the waste stored in the tank or demonstrate that their instrument could adequately detect VOC leaks.

Relevant Citations:

- **Hazardous Waste Permit 30H-RN1 Module IV.I.6:** Requires the facility to inspect, maintain, and repair all damage to the secondary containment system for hazardous waste tanks.
- **40 CFR § 264.193:** Requires secondary containment systems for tank systems to prevent releases and maintain integrity.
- **Hazardous Waste Permit 30H-RN1 Module IV.I.6:** Requires that the facility control VOCs from the tank farm using a closed vent system and comply with the terms of its CAA permit.
- **Clean Air Act Title V Permit 1016-AOP-R18 SN-34:** Applies the requirements of 40 CFR Part 63 Subpart DD to the facility for control of fugitive VOC emissions from the hazardous waste storage tanks.
- **40 CFR Part 63 Subpart DD:** Sets standards for controlling hazardous air pollutants from off-site waste and recovery operations.
- **40 CFR Part 63 Subpart H:** Provides requirements for leak detection and repair, including the use of EPA Method 21.

Associated Documentation:

- Appendix 1 - Photo log - Photos 22, 23, 89 - 94
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

1. Since the inspection, EES has halted the approval of all customer waste via rail and truck destined for the tank farm processing unit in preparation for converting the current tank farm to a new facility. EES plans to process the remaining liquids already in route and existing in the

tanks, then clean and decontaminate the tanks and lines. During the conversion, the secondary containment coating will be reapplied before waste is added back into the tank units.

2. EES has since contracted a third-party contractor to perform TVA inspections using a monitor similar to the model used by the EPA. Additionally, EES reviewed the previous LDAR inspections and applied the correction factor, noting that no exceedances occurred with the correction factor applied to historic results.

5) The Mechanical Processing System

The Mechanical Processing System (X02) is designed to reduce the size of received waste particles to facilitate further treatment or recycling. It includes several components: a tilting platform, a picking area, a grizzly, cross-belt magnets, vibratory screens, a jaw crusher, a vibratory feeder, metal separation units, and an impact mill. Oversized material is transferred from collection totes into a steel bunker for size reduction. This reduction is achieved using a multiprocessor, similar to a Caterpillar MP20 Multiprocessor, fitted with jaws akin to concrete cutter jaws, mounted on an excavator resembling a Caterpillar Model 325-series Hydraulic Excavator.

Once the larger pieces are downsized, they can be reprocessed through the mechanical processing system. The movement of waste between individual units or processes within the system is facilitated by various conveyors and containers. After the potliner is sufficiently downsized and screened, the treated material is transported to the Containment Building via a belt conveyor for storage, pending further treatment

This equipment was not operated during the period of this inspection.

Area of Concern: Non-compliance with Waste Removal and Containment Standards for Hazardous Waste Miscellaneous Units

Description:

During the inspection of the hazardous waste miscellaneous unit on April 7, 2025, the following compliance issues were identified:

1. **Waste Removal and Management:** The facility's hazardous waste permit mandates that any waste spilled onto the floor from conveyors and mechanical processing units must be removed daily. However, spills and fugitive material from the unit were observed throughout the building, including piles underneath the unit, dust in doorways and bay exits, and coatings on most interior surfaces. Despite active cleanup efforts observed during subsequent visits on April 8 and 9, waste remained present, indicating non-compliance with daily removal requirements.
2. **Container Integrity:** Containers used to collect hazardous waste spilled from the unit and dropout points are covered with tarps. On April 7, 2025, two containers were found with torn coverings, compromising their ability to contain spills effectively. These coverings were replaced immediately following identification.

Relevant Citations:

- **40 CFR § 264.31:** Requires facilities to be operated in a manner that minimizes the possibility of a fire, explosion, or any unplanned release of hazardous waste.
- **Hazardous Waste Permit 30H-RN1 Module VI.F.1:** Requires the facility to remove waste from the floors of the Mechanical Processing unit daily.
- **40 CFR § 264.173:** Requires containers holding hazardous waste to be closed during storage to prevent leaks or spills.
- **RO12748:** Addresses the importance of prompt cleanup and management of hazardous waste spills to prevent environmental contamination.

Associated Documentation:

- Appendix 1 - Photo log - Photos 9 - 17, 61, 79 - 81
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

1. According to the May 30, 2025, response from EES, clean-up activities in this area are ongoing and will continue as part of the facility's clean closure of the K088 treatment process.
2. The torn coverings on the containers were replaced immediately following identification.

6) Containment Building

The containment building is fully enclosed with floor, walls, and roof to protect against the elements and prevent precipitation infiltration. Constructed from concrete, the building measures approximately 400 feet long, 65 feet wide, and up to 42 feet high, with a storage capacity of 5,400 cubic yards.

The containment area is surrounded by 7-foot-high walls, except for a small doorway for removing the front-end loader. Material is fed into the buildings via a tripper conveyor system, ensuring it doesn't contact the containment walls. A front-end loader is used to manage the material. The loader stays inside the building and is periodically removed for maintenance. A decontamination area prevents waste from being tracked outside, using high-pressure sprayers and a sealed concrete pad to collect water. All decontamination water is collected and treated in the facility's kilns.

Area of Concern: Non-compliance with Waste Management and Structural Integrity Standards for a Permitted Containment Building

Description:

During the inspection of the containment building on April 8, 2025, the following compliance issues were identified:

1. **Improper Waste Piling:** Waste was piled against the retaining walls and even on top of these walls to a height of approximately 4-5 feet above the top of the wall. This practice compromises the structural integrity of the containment system and violates standards under 40 CFR 264 Subpart DD, which require that waste be managed to prevent contact with containment structures, ensuring stability and preventing damage.

2. **Presence of Free Liquid:** Free liquid was observed within the building, with puddles estimated to be 3-4 inches deep. Plant personnel suggested that the presence of wet kiln feed against the south wall indicates rainfall intrusion. The accumulation of free liquids within the containment area violates standards under 40 CFR 264 Subpart DD, which require complete enclosure of hazardous waste containment buildings to prevent potential exposure to the elements.

Relevant Citations:

- **Hazardous Waste Permit 30H-RN1 Module V.F.3:** Requires the facility to manage piles of waste in the containment building to prevent waste from contacting interior walls.
- **40 CFR § 264.1100 - § 264.1102 (Subpart DD):** Establishes standards for containment buildings, including requirements to prevent releases, maintain structural integrity, and protect the contents from the elements.

Associated Documentation:

- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

1. Following the inspection, EES removed the waste from the containment walls and created a road between the waste pile and retaining wall to prevent contact.
2. It was determined that a leak in the roof was allowing rainfall intrusion. EES has since repaired the roof to prevent leaks during rainfall.

7) Kiln Feed Bins

Two-thirds of the kiln feed bin, including its discharge hoppers, kiln weight feeders, and bucket elevator belt conveyor, are entirely housed within Building 50, shielded from rainfall. As the bin only stores dry kiln feed material and all components susceptible to failure or spills are indoors, it qualifies for a secondary containment exemption. Though not subject to secondary containment standards due to its unique setup, the bin is designed and operated to prevent hazardous waste release in the event of a spill or failure. It rests on a pad impermeable to the stored material, ensuring that if a failure occurs, the contents simply accumulate on the pad, preventing further migration. The area beneath the bin is completely indoors, protected from rainfall and wind.

Area of Concern: Non-compliance with Conveyance System Maintenance and Operational Standards for Hazardous Waste Transport

Description:

During the inspection of the feed conveyor system, which transports material from the containment building to the kiln feed bin, the following compliance issue was identified:

1. **Released Kiln Feed Material:** The conveyor system was found covered with released kiln feed, indicating potential non-compliance with containment standards. This situation poses a risk of environmental contamination and violates regulations requiring that hazardous waste be managed to prevent unplanned releases.

Relevant Citations:

- **40 CFR § 264.31:** Mandates that facilities be operated to minimize the possibility of any unplanned release of hazardous waste.
- **Hazardous Waste Permit 30H-RN1 Module IV.D.2:** Requires that the facility address and prevent spills from the tank in accordance with Section D of the Part B Permit Application.
- **Section D of the Part B Permit Application D.5.3.1:** Requires the facility to clean up spills immediately.
- **RO12748:** Addresses the importance of prompt cleanup and management of hazardous waste spills to prevent environmental contamination.

Associated Documentation:

- Appendix 1 - Photo log - Photos 84 and 85
- Appendix 2 - Daily Summary of Inspection Notes and Observations

8) Incinerator

The facility operates two thermal treatment systems: the old kiln incineration train (SN-19), which remains operational, and the new incineration train (SN-40), currently under construction and commissioning. The SN-19 incineration train comprises two direct-fired rotary kilns, each with an inner diameter of 9.5 feet and a length of 250 feet, equipped with an air pollution control system. These horizontal countercurrent flow units have a design-rated capacity of thirty tons per hour. The system is designed to accept Spent Potliner (K088) waste from off-site and may also process all hazardous waste codes included in the facility's Hazardous Waste Permit. The old kiln is scheduled for shutdown in July 2025.

From the old kiln incineration train, treated residues are conveyed to the fly ash silos. The kiln's off-gas is routed through a secondary combustion chamber for the destruction of organics. After exiting the secondary combustion chamber, the gases enter a waste heat recovery boiler to cool down and produce steam. Particulate matter from the incinerator vent stream is captured by a baghouse and directed to the Dust Recovery Vessel.

This equipment was not operated during the period of this inspection.

Area of Concern: Non-compliance with Conveyance System Integrity and Waste Management Standards for Hazardous Waste

Description:

During the inspection on April 7, 2025, the following compliance issues were identified related to the conveyance and management of waste to and from the permitted hazardous waste incinerator:

1. **Spills and Fugitive Material:** Fugitive kiln feed was widespread in the working areas on the east end of the incinerator, accumulating in piles on the burner floor, ceiling beams, and near the exit doors. Fugitive incinerator ash was prevalent in the working areas on the west end, found piled on ceiling beams, caked on vents, and scattered on the ground outside the building. These

observations indicate significant non-compliance with standards requiring the containment and proper management of hazardous waste to prevent unplanned releases and environmental contamination.

2. **Conveyance System Integrity:** One of the chutes used for conveying kiln ash had a hole approximately 4 inches in diameter penetrating its walls. This compromises the integrity of the conveyance system and violates regulations requiring conveyance systems to be maintained and operated to prevent spills and leaks.

Relevant Citations:

- **40 CFR § 264.31:** Mandates that facilities be operated to minimize the possibility of any unplanned release of hazardous waste.
- **RO12748:** Addresses the importance of prompt cleanup and management of hazardous waste spills to prevent environmental contamination.

Associated Documentation:

- Appendix 1 - Photo log - Photos 24 - 28
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

EES has hired additional personnel dedicated to performing "pre-closure" cleaning throughout the site. As EES is nearing the end of construction for a new facility that will replace the existing thermal treatment units, these personnel are permanent employees who will continue cleaning efforts until clean closure of the units is achieved.

9) Kiln Residue Storage Bins

The facility's three Kiln Residue Storage Bins operate on a three-day cycle: one silo is filled, the second is sampled and analyzed, and the third is emptied. Material exits the rotary coolers at approximately 400°F and is fed to the product storage bucket elevator at a rate of about 60 tons per hour during two-kiln operation. The bucket elevator, along with a series of diverter gates and belt conveyors, distributes the product to one of the three silos, depending on the schedule for that day. Material is removed from the silos via belt conveyor to the truck loadout bucket elevator, then to the truck loadout bins, and finally to the treated residue landfill.

Area of Concern: Non-compliance with Conveyance System Maintenance and Waste Management Standards for Hazardous Waste

Description:

During the inspection on April 9, 2025, compliance issues were identified related to the conveyance of waste to a permitted hazardous waste tank:

1. **Accumulation of Ash and Dust:** Ash was found on and beneath the conveyor system as well as beneath both storage bins during the inspection on April 9, 2025. Despite active vacuuming and dust removal efforts by facility personnel since April 7, 2025, this hazardous waste was still

present, indicating challenges in maintaining cleanliness and compliance with containment standards.

Relevant Citations:

- **40 CFR § 264.31:** Mandates that facilities be operated to minimize the possibility of any unplanned release of hazardous waste.
- **Hazardous Waste Permit 30H-RN1 Module IV.D.2:** Requires that the facility address and prevent spills from the tank in accordance with Section D of the Part B Permit Application.
- **Section D of the Part B Permit Application D.5.3.1:** Requires the facility to clean up spills within 24 hours.
- **RO12748:** Addresses the importance of prompt cleanup and management of hazardous waste spills to prevent environmental contamination.

Associated Documentation:

- Appendix 1 - Photo log - Photo 109
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

EES has hired additional personnel dedicated to performing "pre-closure" cleaning throughout the site. As EES is nearing the end of construction for a new facility that will replace the existing thermal treatment units, these personnel are permanent employees who will continue cleaning efforts until clean closure of the units is achieved.

10) Dust Receiving Vessel

The dust receiving vessel is 12'4" in diameter and 16'6" in height with a capacity of 30 tons. The vessel is elevated so that the top is approximately 48' above the ground. The material is moved from the off-gas baghouse by screw conveyors and fed through the top of the vessel via pneumatic airlift at a rate of approximately 1,000 pounds per hour. The material is loaded into enclosed trucks or bags in a covered unloading station below and off to the side of the elevated vessel.

Area of Concern: Non-compliance with Structural Integrity and Containment Standards for Hazardous Waste Tanks

Description:

During the inspection on April 7, 2025, the following compliance issues were identified related to the hazardous waste tank:

1. **Structural Integrity:** The tank exhibited visible corrosion and damage from a vehicle impact, compromising its structural integrity. This poses a risk of leaks or releases, violating standards that require hazardous waste tanks to be maintained in good condition to prevent environmental contamination.

2. **Dust Releases:** Visible releases of dust were observed surrounding the baghouse located on the roof of the tank, indicating potential non-compliance with emission control standards. The presence of dust suggests inadequate containment and management practices.

Relevant Citations:

- **40 CFR § 264.193:** Requires that hazardous waste tanks and their secondary containment systems be maintained to prevent releases and ensure structural integrity.
- **40 CFR § 264.31:** Mandates that facilities be operated to minimize the possibility of any unplanned release of hazardous waste.

Associated Documentation:

- Appendix 1 - Photo log - Photos 29 - 31
- Appendix 2 - Daily Summary of Inspection Notes and Observations

11) Alternative Waste Processing System

The Alternative Waste Processing System includes a receiving tank, regulated under Subpart J, a shredder regulated under Subpart X, and associated feed augers and conveyors, located in a permanent metal building T-enclosure vented to a closed ventilation system that routes all organic vapors to a carbon unit. The wastes are delivered in roll-off boxes, dump trailers, super sacs, flow bins, and other DOT-approved containers. When a load of waste is delivered to the Alternative Waste Building it is unloaded into the receiving tank. An excavator is used to blend, mix or solidify the waste, and then to move the waste to the shredder hopper. The waste is then conveyed to a feed hopper with auger, which feeds a new conveyor that discharges on the existing kiln feed conveyors for treatment in the kilns. The shredder is a Komar shredding system, or equivalent. The shredder has a feed hopper equipped with hydraulic doors and a misting unit that can be used, if deemed appropriate, to prevent combustion. The shredder discharges back into the receiving tank. Waste is shredded as needed to make it feed-ready. This may mean a single pass through the shredder, multiple passes, or no passes. Once feed-ready, the waste is transferred to a Komar EM40SS (or equivalent), variable-speed receiving hopper with a 24-inch auger. The auger is used to deliver a consistent feed rate to an inclined conveyor, which delivers the waste to the existing kiln feed conveyors.

This equipment was not operated during the period of this inspection.

Area of Concern: Non-compliance with Labeling, Closure, and Condition Standards for Hazardous Waste Containers

Description:

During the inspection of the Alternative Waste Processing Area on April 7, 2025, several compliance issues were identified related to hazardous waste containers:

1. **Labeling:** Two containers of hazardous waste were found unlabeled, violating regulations that require containers to be clearly marked with the words "Hazardous Waste" and other identifying information. Proper labeling is essential for safe handling and regulatory compliance.
2. **Closure:** One container was open topped with no means of closure, posing a risk of spills or releases. Regulations mandate that containers remain closed during storage, except when waste is being added or removed, to prevent leaks and ensure containment.
3. **Condition:** One hazardous waste tote was noted to be in poor condition, which violates standards requiring containers to be maintained in good condition to prevent deterioration and ensure safe storage.

Relevant Citations:

- **40 CFR § 262.17(a)(1):** Requires containers to be closed during storage to prevent leaks or spills and mandates that containers be in good condition and that any unsound containers be repaired or replaced.
- **40 CFR § 262.17(a)(5):** Requires that containers holding hazardous waste be labeled with the words "Hazardous Waste" and other identifying information.

Associated Documentation:

- Appendix 1 - Photo log - Photos 32 - 39
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

According to EES's response on May 30, 2025, the two containers were labeled immediately after discovery, and all of the waste was processed once the incinerator was brought back online, addressing the immediate compliance issues.

12) Solidification/Stabilization Container Storage Area

Located within Building 50, east of the Alternative Waste Processing area and between the solidification tanks, this area is equipped with secondary containment and has a capacity of 93,280 gallons.

Area of Concern: Non-compliance with Separation and Aisle Spacing Standards for Hazardous Waste Container Storage

Description:

During the inspection of the hazardous waste container storage area, the following compliance issues were identified:

1. **Incompatible Materials Storage:** Containers of incompatible materials, specifically strong acids and strong bases were stored adjacent to each other without the required separation by a dike, berm, wall, or other device. This practice violates regulations mandating that incompatible wastes be separated to prevent hazardous reactions, such as fires, explosions, or toxic releases.

2. **Aisle Spacing:** Hazardous waste containers were stored with insufficient aisle spacing, hindering access to some containers. This violates standards requiring that aisle space be maintained to allow unobstructed movement of personnel and emergency equipment in case of an emergency.

Relevant Citations:

- **40 CFR § 264.177:** Requires that incompatible materials be separated using engineered methods such as dikes, berms, walls, or other devices.
- **Hazardous Waste Permit 30H-RN1 Module III.K:** Requires the physical segregation of incompatible materials.
- **40 CFR § 264.35:** Requires facilities to maintain aisle space to allow unobstructed movement of personnel and emergency equipment.
- **Hazardous Waste Permit 30H-RN1 Module II.H.4:** Requires the facility to maintain aisle space to allow unobstructed movement of personnel and emergency equipment.

Associated Documentation:

- Appendix 1 - Photo log - Photos 41 - 44
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

1. Following the inspection, the facility purchased containment pallets to ensure the separation of incompatible materials.
2. EES promptly corrected the aisle spacing issues throughout the area, addressing the immediate compliance concerns.

13) Solidification/stabilization tanks

Building 50 houses three open-top tanks used for the stabilization and solidification of wastes. These tanks are situated in concrete vaults, partially in-ground and partially above-ground. Only wastes with VOC concentrations below 500 ppm are processed in these tanks. Wastes are typically delivered in bulk containers, such as tankers and roll-offs, and dumped into the receiving tank, though smaller containers can also be added. The treatment process involves blending, stabilization, solidification, and elementary neutralization. Agents used for solidification and stabilization include lime, fly ash, facility kiln ash, cement kiln dust, Portland cement, and other materials. Bench-scale tests are conducted before treating each batch to determine the appropriate treatment recipe. Samples of stabilized wastes are collected post-treatment in accordance with the facility's Waste Analysis Plan.

Area of Concern: Non-compliance with Containment and Operational Standards for Hazardous Waste Stabilization Tanks

Description:

During the inspection of the hazardous waste stabilization tanks, the following compliance issues were identified:

1. **Spills During Transfer Operations:** Treated waste was observed being spilled onto the building floor during transfer operations conducted by the backhoe. The building floor is not part of the permitted hazardous waste treatment unit and is not designed or authorized to handle hazardous waste spills. This practice violates containment standards and poses risks of contamination and environmental hazards.
2. **Contaminated Equipment Handling:** The backhoe's contaminated bucket was placed directly on the building floor after mixing hazardous waste, both during and after treatment. This practice increases contamination risks and reflects inadequate operational procedures for handling and transferring hazardous waste. Proper procedures should ensure that contaminated equipment does not contact non-permitted areas, preventing the spread of hazardous materials.

Relevant Citations:

- **40 CFR § 264.31:** Requires facilities to be operated in a manner that minimizes the possibility of a fire, explosion, or any unplanned release of hazardous waste.
- **40 CFR § 264.193:** Outlines requirements for secondary containment systems to prevent the release of hazardous waste and ensure structural integrity.
- **RO12748:** Addresses the importance of prompt cleanup and management of hazardous waste spills to prevent environmental contamination.

Associated Documentation:

- Appendix 1 - Photo log - Photos 40, 105 - 108
- Appendix 2 - Daily Summary of Inspection Notes and Observations

14) Solidification/stabilization Bunker

The solidification/stabilization bunker is a three-sided, open-top steel structure located in Building 50 within the solidification/stabilization area. It is permitted for both storage and treatment of waste. The treatment process includes blending, chemical oxidation, microencapsulation, macroencapsulation, stabilization, solidification, and basic neutralization. Agents used for solidification and stabilization may include lime, fly ash, facility kiln ash, cement kiln dust, Portland cement, and other materials.

Area of Concern: Permitting Status and Compliance with Hazardous Waste Pile Standards for the Stabilization Bunker

Description:

The stabilization bunker is currently classified as a Miscellaneous Treatment Unit under 40 CFR 264 Subpart X. Based on its design and operational characteristics, the unit may more appropriately fit the definition of a waste pile, subject to the standards of 40 CFR 264 Subpart L. Waste piles are defined in 40 CFR 260.10 as "any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage that is not a containment building." The bunker serves as the liner for the waste

pile, as discussed in RO12899. During the inspection, several concerns were raised regarding the permitting status and compliance of the Stabilization Bunker:

1. **Misclassification of Unit:** The current permitting status as a Miscellaneous Treatment Unit may not adequately reflect the unit's function as a waste pile. This misclassification could result in non-compliance with specific regulatory standards designed to ensure the safe management of waste piles.
2. **Pile Height Exceeding Wall Height:** Waste piles within the unit exceeded the height of the containment walls, posing risks of structural stress and potential spillage, which could lead to environmental contamination and violate containment requirements under waste pile standards.
3. **Waste Against Unit Walls:** Waste was observed piled directly against the unit walls, violating standards that require waste to be kept away from containment structures to prevent damage and ensure structural integrity.
4. **Waste on Top of Unit Walls and Surrounding Ground:** Waste was present on top of the unit walls and on the ground outside the unit on all three sides, indicating inadequate containment and management practices, increasing the risk of environmental release and contamination.
5. **Drag-Out Prevention and Washwater Management:** The open end of the unit lacks a system to prevent drag-out of waste. Although operators stated that vehicle wheels are power washed before leaving the building, the absence of a designed containment system for washwater is concerning. The building's earthen floor at the east end further complicates effective washwater management. Lacking a mechanism to contain and treat washwater creates a potential for soil contamination.

Relevant Citations:

- **40 CFR § 264.251 - § 264.258 (Subpart L):** Establishes standards for waste piles, including design, operation, and closure requirements.
- **40 CFR § 264.31:** Requires facilities to be operated to minimize the possibility of any unplanned release of hazardous waste.
- **RO12899:** Discusses the concepts related to the classification and management of waste piles versus miscellaneous units.
- **RO12748:** Addresses the importance of prompt cleanup and management of hazardous waste spills to prevent environmental contamination.

Associated Documentation:

- Appendix 1 - Photo log - Photos 45, 99-104
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

Following the inspection, EES operators worked to remove waste from the walls of the unit and the surrounding ground. EES is in the design phase to convert this area into a containment room, which would alleviate this concern in the future. Additionally, EES has begun gathering quotes to have concrete poured in this area, further enhancing containment measures.

15) Landfill

The landfill receives kiln residue generated from the facility's on-site waste treatment process, as well as other wastes from both on-site and off-site operations. The landfill currently consists of ten active cells: Cell 1 is closed, and Cells 2 through 11 are employed for the disposal of hazardous waste. Each cell is connected to a leachate collection system designed to capture any free liquid present in the disposal area. This system is situated immediately above a primary high-density polyethylene (HDPE) liner and uses gravity to direct leachate into sumps. From there, the leachate is pumped to a storage tank before being removed from the site for disposal. Additionally, the landfill cells are equipped with a leak detection system to manage liquids that may accumulate between the primary HDPE liner and the secondary HDPE liner.

The leachate storage tanks, with capacities of 10,000 gallons and 20,000 gallons, are located on the east side of the landfill. These tanks are used to temporarily store F039 leachate for less than 90 days before disposal. During the inspection, the facility had deployed 16 frac tanks to accommodate excess leachate accumulation.

Area of Concern: Inadequate Secondary Containment for Frac Tanks Used in Leachate Management

Description:

During the inspection on April 7, 2025, the following compliance issue was identified related to the management of leachate from the landfill:

1. **Inadequate Secondary Containment for Frac Tanks:** The facility had deployed 16 frac tanks to accommodate excess leachate accumulation. These frac tanks were surrounded by small poly barriers, which were found to be insufficient in volume to contain the contents of the tanks in the event of a release. This poses a risk of environmental contamination and violates standards requiring adequate secondary containment for hazardous waste storage systems.

Relevant Citations:

- **40 CFR § 264.193:** Requires secondary containment systems for tank systems to prevent releases and ensure structural integrity, including sufficient capacity to contain spills or leaks.
- **40 CFR § 264.31:** Mandates that facilities be operated to minimize the possibility of any unplanned release of hazardous waste.

Associated Documentation:

- Appendix 2 - Daily Summary of Inspection Notes and Observations

16) Landfill Staging Area

The facility stages roll-off containers of treated waste destined for the hazardous waste landfill in a concrete-lined area situated outdoors between Building 50 and the landfill. This area is designated as a solid waste management area and is not included in the hazardous waste permit as either an authorized storage unit or staging area for hazardous waste.

Area of Concern: Unauthorized Staging of Hazardous Waste Containers

Description:

During the inspection on April 7, 2025, a compliance issue was identified concerning the staging of hazardous waste containers:

1. **Unauthorized Staging Location:** A container of hazardous waste containing chromium-contaminated (D007) ash produced by Drumco was discovered situated adjacent to the Landfill Staging Area. This location is not included in the list of authorized staging areas as per the facility's hazardous waste permit, which prohibits the staging of hazardous waste containers outside of specifically authorized areas. This practice violates the permit conditions and poses risks of non-compliance with hazardous waste management regulations.

Relevant Citations:

- **40 CFR § 270.1(c):** Mandates that facilities have a permit for each hazardous waste management unit and adhere to permit conditions.
- **Hazardous Waste Permit 30H-RN1 Module XV.A.4** - Prohibits the facility from staging any containers destined for processing in any areas other than those specifically authorized in the permit.

Associated Documentation:

- Appendix 1 - Photo log - Photos 46 and 47
- Appendix 2 - Daily Summary of Inspection Notes and Observations

Facility Corrective Actions:

According to EES's response on May 30, 2025, the container was being staged for treatment and was treated the same day.

Section IV – POST-INSPECTION ACTIVITIES

On May 30, 2025, EES responded to the Daily Summary of Inspection Notes and Observations, offering updates and clarifications (Appendix 2). This report has been prepared to incorporate those updates and clarifications where appropriate.

Section V – LIST OF APPENDICES

Appendix 1 - Photo Log

Appendix 2 - Daily Summary of Inspection Notes and Observations

Appendix 3 - RCRA Permit 30H-RN1, issued by the Arkansas Department of Environmental Quality

Appendix 4 - Section D of the permit modification application dated September 2023

Appendix 5 - Clean Air Act Title V Permit 1016-AOP-R18