

REPORT OF RCRA COMPLIANCE EVALUATION INSPECTION

At

UNIVERSITY OF IOWA – TSDF ENVIRONMENTAL HEALTH & SAFETY

2260 Old Farmstead Road
Coralville, Iowa 52242
(319) 335-4625

EPA ID Number: IAT200010924

On

August 21, 2024

By

TOEROEK ASSOCIATES, INC.

For

U.S. ENVIRONMENTAL PROTECTION AGENCY

Region 7

Environmental Sciences & Technology Division

INTRODUCTION

At the request of the Enforcement and Compliance Assurance Division/Chemical Branch/RCRA Section (ECAD/CB/RCRA) of the U.S. Environmental Protection Agency (EPA) Region 7, Toeroek Associates, Inc. and its subcontractor CLÆNE Group (Toeroek team) conducted a hazardous waste compliance evaluation inspection (CEI) at the University of Iowa – Treatment, Storage, and Disposal Facility (TSDF) Environmental Health & Safety at 2260 Old Farmstead Road, Coralville, Iowa. The CEI was conducted under the authority of Section 3007 of the Resource Conservation and Recovery Act (RCRA), as amended. The CEI covered requirements of the facility's RCRA hazardous waste management permit, as well as hazardous waste, used oil, and universal waste generator and transporter requirements. This report and its attachments present the findings of the CEI.

PARTICIPANTS

University of Iowa – TSDF Environmental Health & Safety:

Jim Pyrz, Environmental Programs Manager
Tim Weber, Environmental Compliance Specialist

Toeroek Team:

Steve A. Johnson – Field Inspector (816) 520-7009

INSPECTION PROCEDURES

Prior to conducting the CEI at the University of Iowa – TSDF Environmental Health & Safety on August 21, 2024, I conducted a drive-by inspection of the main TSDF, identified as the Environmental Management Facility (EMF). I also conducted a drive-by inspection of one other targeted building on the University of Iowa Oakdale Campus related to a recent hazardous waste management permit modification. I did not observe any areas of concern during the drive-by inspections. I then drove to the EMF and pressed the security call button at the main entrance. A facility specialist greeted me at the main entrance. I stated the purpose of the visit and asked to see Mr. Jim Pyrz. The specialist showed me to the EMF conference room where I awaited the arrival of Mr. Pyrz. Mr. Pyrz met me in the conference room within two minutes. I introduced myself and explained the purpose and scope of the CEI. Mr. Weber joined us in the conference room, and I proceeded to conduct an entry briefing with Messrs. Pyrz and Weber.

During the entry briefing, I presented my contact information and EPA credential to Messrs. Pyrz and Weber. I explained the data gathering and documentation procedures to be utilized during the CEI, and informed Mr. Pyrz of the facility's right to make confidentiality claims for any, or all, of the information obtained. I stated that at the conclusion of the CEI, Mr. Pyrz would be presented with a Confidentiality Notice (Notice) with which he could make or not make a claim of confidentiality for the facility information collected. I also provided Mr. Pyrz a copy of U.S. Federal Codes 1001 and 1002, concerning communication of false statements and documents to federal inspectors, and RCRA Section 3007, explaining EPA's inspection authority. Both of the documents were read and acknowledged by Mr. Pyrz and collected for file retention by Mr. Weber.

A copy of each of the following documents was left with Mr. Pyrz during the inspection:

- Mr. Trevor Urban's contact information.
- RCRA Section 3007
- U.S. Federal Codes 1001 and 1002
- EPA Notice Regarding Proprietary/Confidential Business Information
- Instructions for Responding to a Notice of Preliminary Findings (NOPF) - RCRA

I discussed the other compliance assistance documents and handouts typically provided to hazardous waste generators during CEIs. Upon my statement that the materials had not been significantly amended or expanded since the last CEI, Mr. Pyrz decided that additional compliance assistance documentation was not needed. Therefore, I provided only the documents listed above.

I reviewed the Notification Acknowledgement/Verification Report (Verification Report) with Mr. Pyrz (Attachment 1). Mr. Pyrz stated that the designated mailing address for the University of Iowa environmental correspondence changed in 2024. The new address for mailing is 600 Newton Road, 107 HLHS, Iowa City, Iowa 52242. Mr. Pyrz edited the Verification Report to reflect this change. Based upon the review and observations during the CEI, no additional changes were made to the Verification Report.

I conducted the visual inspection of the EMF on August 21, 2024, accompanied by Messrs. Pyrz and Weber. In addition to the EMF building, I conducted a visual inspection of a representative number of satellite accumulation areas (SAA) throughout the University of Iowa Oakdale Campus with emphasis given to those locations with higher waste collection frequencies. The SAA location selections were based upon the highest frequency of use/volumes detailed in an operating report provided by Mr. Weber. I also conducted a records review including incoming and outgoing hazardous waste manifests with land disposal restriction (LDR) notifications, nonhazardous waste bills of lading, waste tracking and inventory records, inspection records, contingency plan, and training documentation. I prepared and completed a site-specific inspection checklist to document my observations.

At the conclusion of the inspection on August 21, 2024, I conducted an exit briefing with Messrs. Pyrz and Weber. During the exit briefing, I provided Mr. Pyrz the Confidentiality Notice, which he signed indicating no confidential business information had been provided (Attachment 2). I provided a Receipt for Documents and Samples, which Mr. Pyrz signed acknowledging receipt (Attachment 3). I also provided a NOPF to Mr. Pyrz, which he signed acknowledging receipt (Attachment 4).

A map of the University of Iowa Oakdale Campus was obtained and is included as Attachment 5, and an updated layout map of the EMF is included in Attachment 6. An aerial view of the EMF and surrounding grounds was obtained from Google Earth and is included as Attachment 7. The thirty-seven (37) photographs taken during the CEI are included in Attachment 8, each of which is described in this report.

FINDINGS AND OBSERVATIONS

1. Facility Description and General Information

The University of Iowa Oakdale Campus encompasses approximately 510 acres and is located approximately 7 miles northwest of the University of Iowa Main Campus in Iowa City, Iowa. The Oakdale Campus encompasses approximately 25 to 30 buildings on the property. Activities at the Oakdale Campus include research, teaching, and leasing of business space to multiple non-governmental tenants. The EMF is on the south-central portion of the Oakdale Campus. The RCRA-permitted EMF is utilized for collection and storage of various hazardous, radioactive, mixed (hazardous and radioactive), used oil, universal, biohazard, and nonhazardous wastes. These wastes are generated by the University of Iowa and affiliated sources. These wastes are collected, transported, and managed by four full-time environmental health and safety (EHS) staff. EHS staff work one shift (7:30 a.m. to 4:00 p.m.) Monday through Friday.

The facility's Part B RCRA hazardous waste management permit was issued on September 20, 2017, and is effective for 10 years. RCRA Permit Condition IV.A authorizes container storage of hazardous wastes in the following areas:

- EMF Rooms 121, 123, 127, 130, 131, 140, and 161—permitted storage capacity (combined) of 14,300 gallons of hazardous waste.
- EMF Waste Area D-2 and EMF Room 125—permitted storage capacity (combined) of 1,980 gallons of mixed waste.

Container inventories for each room are maintained in written log sheets (daily) and in a digital database at the EMF. The records categorize types and quantities of nonhazardous wastes in storage at the time of the CEI.

RCRA Permit Condition III.B.2 authorizes receipt of hazardous wastes specified in Permit Condition IV.B.1 from the following sources only:

- University of Iowa Oakdale Campus
- University of Iowa Main Campus satellite facilities (non-contiguous with the Oakdale Campus)
- Eighteen very small quantity generator (VSQG) facilities (each generating less than 100 kilograms [kg] of hazardous waste per month) identified in Permit Attachment I-1 that are affiliated with the University of Iowa but are non-contiguous with the Main Campus (Attachment 9).

An additional VSQG facility was recently added to the list sites from which the EMF can receive hazardous waste via Part B permit modification on March 20, 2024. I asked Messrs. Pyrz and Weber about the status of the added VSQG facility, identified as the Iowa River Landing (IRL) site. Mr. Pyrz stated that the university had acquired a property that included VSQG hazardous waste activities for the purpose of constructing a new medical clinic. The Class 1 permit modification allowed for managing hazardous waste from the IRL site. Messrs. Pyrz and Weber stated that the structures at the IRL location had been fully demolished and that no hazardous waste had been removed from the site since demolition was completed. A copy of an operating record report listing all wastes received from the IRL site is in Attachment 10.

EHS personnel collect and transport waste materials from the Oakdale Campus and Main Campus HWCAA directly to the EMF. Wastes collected from non-contiguous VSQG facilities are transported to EMF using uniform hazardous waste manifests. Wastes collected from Main Campus SAAs are transported to a less-than-90-day hazardous waste central accumulation area (HWCAA) on the Main Campus in the Iowa Advanced Technology Laboratories (IATL) Building, Room 161. Following inventory, the waste materials are then identified on uniform hazardous waste manifests and transported to the EMF. Waste materials are currently collected and transported three days per week (Monday through Wednesday). Incoming manifests, which list the EMF as the designated facility, are terminated upon receipt of the waste at the EMF. A limited quantity of corrosive-only hazardous waste is periodically treated by elementary neutralization at the EMF. New manifests are created, listing the EMF as the generator, for any shipments of hazardous waste from the EMF to designated off-site treatment or disposal facility. Currently, waste management contract disposal is accomplished primarily through Tradebe Treatment and Recycling, LLC (Tradebe) in East Chicago, Indiana.

Wastes generated at the Oakdale Campus (and received from the Main Campus and affiliated VSQGs) include numerous varieties of hazardous and nonhazardous wastes, such as:

- Corrosive acid and caustic wastes
- Mixed organic solvent wastes
- Characteristic toxic wastes
- Acute hazardous wastes
- Expired commercial chemical products
- Mixed radionuclear waste from medical research
- Biohazardous/pharmaceutical drug waste from medical care and research units
- Used oil and used oil filters
- Polychlorinated biphenyl (PCB)-containing wastes
- Lead scrap from radiographic imaging and research
- Universal waste that includes used lead-acid batteries, waste small-cell batteries, waste lamps, waste mercury-containing equipment and waste aerosol cans
- Small amounts of scrap metal

These waste streams are generated by, and received from, research, teaching, healthcare, and related activities within the University of Iowa's academic mission. Waste determinations are made for each waste using product and process knowledge as specified in the facility's Waste Analysis Plan (RCRA Permit Attachment II-1). Waste characterization testing is also used for waste determinations on unknown wastes. Wastes requiring analytical characterizations are sampled and shipped to third-party accredited laboratories. No campus-affiliated laboratories are used to make empirical determinations of waste content or characteristics except pH. Hazardous, nonhazardous, biohazardous/drug, and PCB-containing wastes are shipped to permitted off-site facilities for treatment, recovery/recycling, or disposal.

Wastes determined through product and process knowledge to be hazardous only for the characteristic of corrosivity (D002-only hazardous wastes) are stored in a separate area of the EMF. These D002-only wastes can be treated at the EMF via elementary neutralization. Neutralized waste is discharged as wastewater directly to the sanitary sewer for treatment at the City of Coralville wastewater treatment plant. The EMF does not have a written permit for this discharge. According to Mr. Weber, the City of Coralville is aware of the EMF's treatment and disposal of this limited volume of neutralized waste effluent. Mr. Weber stated that elementary neutralization is conducted approximately every 5 to 7 weeks, as needed.

Radioactive waste with no RCRA characteristics or listed constituents is considered nonhazardous waste regulated under the Atomic Energy Act (AEA). Radioactive waste is managed per conditions of the facility's State of Iowa-issued radioactive materials license. Because nonhazardous radioactive waste is not RCRA-regulated, it is not discussed further in this report. However, mixed waste (hazardous waste that is also radioactive) is jointly regulated under RCRA and AEA. The facility manages mixed waste in accordance with the RCRA low-level mixed waste (LLMW) eligibility requirements and conditions of Title 40 *Code of Federal Regulations* (40 CFR) Part 266 Subpart N. As such, the facility considers mixed waste conditionally exempt from the definition of hazardous waste per 40 CFR 261.3(h)(1).

Used oil and used oil filters generated through equipment maintenance are managed as used oil in accordance with 40 CFR Subpart 279. Used oil and used oil filters are accumulated in marked used oil storage containers and shipped off site for recycling. Spent lead-acid batteries are managed as universal waste per 40 CFR Subpart 273, and scrap lead (for example, x-ray and radionuclear source shielding) is considered scrap metal excluded from the definition of solid waste per 40 CFR 261.1(c)(9) and 261.4(a)(13). Both spent lead-acid batteries and scrap lead are transported to permitted off-site locations for recycling through the disposal contract with Tradebe.

Waste batteries, waste lamps, and waste mercury-containing equipment generated through facility and equipment maintenance are considered universal waste as defined in 40 CFR Subpart 273. These wastes are managed in universal waste accumulation containers and are shipped off site for recycling. Waste aerosol cans are also considered universal waste per 40 CFR Subpart 273. However, waste aerosol cans (except cans that held foaming or adhesive products) are punctured and drained at the EMF. Residual waste drained from aerosol cans is bulked in compatible hazardous waste storage containers and is shipped off site for treatment or disposal.

Waste ballasts (both PCB-containing and non-PCB-containing ballasts) generated through facility maintenance and received at the EMF are considered nonhazardous waste by product knowledge (product labels affixed to the articles). Waste ballasts are also shipped off site for recycling. Mixed stream recycling waste consists of recyclable material such as paper, cardboard, glass, and scrap metal (including punctured and drained aerosol cans) generated at the EMF. Mixed stream recycling is accumulated in a front-load container outside of the EMF and is collected for recycling. General trash generated at the Oakdale campus consists of packaging, food, office-type, and other non-chemical refuse. General trash is accumulated in several roll-off containers throughout the campus and is collected for landfill disposal at a regional Subtitle D facility.

On September 6 and 7, 2023, the University of Iowa – TSDF Environmental Health & Safety was inspected by an EPA contractor with the following preliminary findings:

- Failure to close three universal waste lamps accumulation containers
- Failure to label one universal waste accumulation container with the words “universal waste lamps” or “waste lamps” or “used lamps”
- Failure to date or otherwise track a universal waste accumulation container to demonstrate accumulation time

Of these preliminary findings, none were repeated during this CEI.

2. RCRA Status

The University of Iowa – TSDF Environmental Health & Safety is identified as a large quantity generator (LQG) of hazardous waste (generating more than 1,000 kg of hazardous waste per calendar month or accumulating more than 1 kg of acute hazardous waste at any time), as well as a RCRA-permitted TSDF, on the Verification Report provided by EPA (Attachment 1). During the CEI, I reviewed manifests for outgoing hazardous waste shipments completed since the most

recent CEI to confirm the facility's hazardous waste generator status. Outgoing waste shipments, with the University of Iowa – TSDF Environmental Health & Safety as the generator, are initiated approximately every sixty (60) days. These outgoing shipments continue to alternate between large shipments and smaller shipments and shipments of nonhazardous waste. Higher-volume shipments are initiated approximately every 120 days or three times per year. Copies of outgoing manifests from September 11, 2023, to May 13, 2024, are in Attachment 11. Based on the quantities of hazardous waste shipped, I determined that the hazardous waste generation rate for the University of Iowa – TSDF Environmental Health & Safety operation is well above defined LQG thresholds.

The Verification Report identifies the facility as a generator of mixed waste, hazardous waste transporter, used oil generator, and used oil transporter. Each of these activities was confirmed by observation during the CEI. I also confirmed that the facility is operating as a small quantity handler (SQH) of universal waste (accumulating less than 5,000 kg of universal waste at any time) as detailed in the Verification Report.

The facility's RCRA hazardous waste management permit identifies nine (9) discrete permitted hazardous waste storage areas within the EMF. I inspected each of these areas during the CEI. Waste inventories for all the permitted areas that held waste at the time of the CEI are detailed in the facility's comprehensive operating record.

I also inspected 9 SAAs in two Oakdale Campus buildings during the CEI. These included the structures housing the State Hygienic Laboratory (HLI) and Oakdale Shops Building A (OSBA). During the entry briefing, Mr. Pyrz stated that several of the tenant facilities and labs were idled or had been re-tasked with other activities on an interim basis. I asked Mr. Pyrz for a list of the SAA locations at Oakdale Campus where SAA waste had been collected in the last two months in order to identify the most active waste-generating locations. He provided a list of SAA locations with the highest number of waste items collected by EHS staff from May 1, 2023, through the date of inspection. With input from Messrs. Pyrz and Weber, I selected a representative number of active SAAs for visual inspection.

3. Waste Streams

This section of the CEI report describes waste streams generated, received, and stored by the facility, including the facility's waste determination and waste codes, generation process and rate, management at the facility, and ultimate disposition. The following discussion of waste streams is based on conversations with Messrs. Pyrz and Weber, as well as observations during the visual inspection and records review.

Various hazardous wastes are generated from academic research, teaching, healthcare, and other activities throughout the Oakdale Campus, Main Campus, and affiliated VSQGs. These wastes are collected from SAAs and transported to the EMF for identification, segregation and storage. The facility determines if a waste is hazardous based primarily on product and process knowledge. Waste characterization testing is performed for any unknown wastes received at the EMF. RCRA Permit Condition IV.B.1 authorizes storage of all characteristic hazardous wastes (D001-D043); F001-F005 and F027 listed hazardous wastes; and all P- and U-listed hazardous wastes. Based on the manifests reviewed, I estimated that approximately 18,200 pounds (8,235

kg) of hazardous wastes are shipped off site every 120 days (Attachment 11). Hazardous wastes are primarily shipped off-site to Tradebe in East Chicago, Indiana, for bulking and transfer to other permitted TSDF(s).

Standardized SAA container labels are used throughout the Oakdale Campus, Main Campus, and affiliated VSQGs. These labels are pre-printed with the words “hazardous waste,” and prompt the generator to enter appropriate information related to (1) the Room/Building where the waste was generated, (2) contents of the container, (3) the hazards of the waste, and (4) the accumulation start date when the SAA container is full. Standard labels and marking tags are visible on waste articles as shown in Attachment 8, Photographs 6 and 8. The SAA labels are left intact while containers are in storage at the EMF. Bulk waste containers that have been filled by combining contents of smaller containers have standard “Hazardous Waste” labels affixed to the container exterior.

Each waste container (regardless of size or content) received at the EMF is assigned a unique identification tag, which is affixed to the container. On the front side of each tag is an indication of the contents, hazardous waste codes (determined by EHS using the SAA label information), EMF storage room number assigned, accumulation start date, and a unique tag number. The back of the tag is stamped with the name of the TSDF and the words “hazardous waste.” The hazardous waste storage containers are logged into the operating record database and are placed in the corresponding EMF storage room, which is determined based on the nature of the hazard and applicable waste codes.

Wastes with similar properties and hazardous waste codes are bulked into 30- or 55-gallon UN-rated containers (barrels) or various fiberboard containers at the EMF. Hazardous waste bulking into barrels is performed in EMF Room 139 (Attachment 8, Photographs 31 through 33). When full, bulk waste barrels are stored in the appropriate EMF storage room. Waste barrels are marked with an indication of the contents, accumulation start date, and a unique barrel number. Hazardous waste barrels are also labeled with a “hazardous waste” label denoting EPA hazardous waste code(s) and the proper Department of Transportation (DOT) shipping name that identifies the nature of the hazard. (Attachment 8, Photographs 29, 31 and 33). The barrels shown in Attachment 8, Photographs 29, 31, and 33 were in rows with one row against a wall. However, I determined that adequate aisle space was provided for movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment. I also determined that the barrels were sufficiently spaced to allow inspection.

During the visual inspection, I observed hazardous waste storage containers in the following rooms: EMF Room 121 (Flammable Lab Pack storage room), EMF Room 127 (Nonflammable Bulk Waste storage room), EMF Room 130 (Nonflammable Lab Pack storage room), EMF Room 131 (Flammable Bulk Waste storage room), EMF Room 139 (Bulking room), and EMF Room 161 (Processing room). EMF Room 140 (the central receiving area), and EMF Room 170 (Nonhazardous storage room) were observed to be empty aside from some empty containers, dunnage, and scrap equipment. Representative photographs of the hazardous wastes in storage at the time of the CEI are in Attachment 8, Photographs 23, 28 through 31, and 33.

All hazardous waste storage containers and bulk hazardous waste barrels observed during the CEI were structurally sound and closed. Each container was labeled with the words “hazardous waste,” a description of the hazards of the waste, a unique container/barrel number, and an accumulation start date. No hazardous wastes had been in storage for longer than one (1) year. I noted the volumes of hazardous waste in storage in each room at the EMF were within the storage limit specified in Permit Condition IV.A of the facility’s RCRA permit. I observed no deficiencies with management or storage of hazardous waste during the CEI.

Concurrent with the inspection of the EMF, I conducted visual inspections at nine Oakdale Campus SAAs. Representative photographs of the hazardous waste SAAs and SAA containers are in Attachment 8, Photographs 1, 2, and 4 through 12.

All SAAs observed at HLI were at or near the point of generation, under control of the operator, and held less than fifty-five (55) gallons of hazardous waste. All SAA containers observed at HLI were structurally sound, closed, and labeled with SAA container labels that included the words “hazardous waste,” a list of contents, and an indication of the hazards of the waste. No storage of incompatible waste in common containment pans was observed.

During inspection of the OSBA, I observed two 5-gallon containers that were marked “Fuel Waste” and “8-2024” on the lids (Attachment 8, Photographs 17, 18, and 20). Labels on the container sides were original product labels and did not match the hand-written markings on the lids. Through conversation with the area supervisor, it was determined that the containers held waste generated from change-out of fuel dispensing filters. One container held diesel fuel, debris and absorbent wastes, and the other held filters, rags and absorbent media containing gasoline. A very small amount of free liquid was observable in the container that held diesel-contaminated waste. The facility failed to perform a hazardous waste determination for wastes in the two containers, as required by 40 CFR 262.11 (**NOPF No. 1**).

Prior to exiting the area, Mr. Weber assisted with making the determination that the wastes were ignitable characteristic wastes and labeling the containers as such (Attachment 8, Photographs 19 and 21). He stated that the containers would be collected and transferred to the EMF within 24 hours.

Various nonhazardous wastes are generated from research, teaching, healthcare, and other activities throughout the Oakdale Campus, Main Campus, and affiliated VSQGs. These wastes are collected from SAAs and transported to EMF for storage. The facility determines if a waste is hazardous based primarily on product and process knowledge, and waste characterization testing, in accordance with SW 846 methods, is performed for any unknown wastes received at EMF. Based on the manifests reviewed, I estimated that approximately 6,100 pounds of nonhazardous wastes are shipped off site every 120 days. Nonhazardous wastes are primarily shipped off site to Tradebe in East Chicago, Indiana, for subsequent transfer to alternate permitted treatment or disposal facilities.

I observed nonhazardous wastes in storage in EMF Room 127 and EMF Room 130. Representative photographs of nonhazardous wastes in storage are in Attachment 8, Photographs 26 and 31.

All nonhazardous waste storage containers and bulk nonhazardous waste barrels observed during the CEI were structurally sound and closed. Each was marked/tagged with a unique container or barrel number, appropriately labeled, and dated.

During the visual inspection of Oakdale Campus SAAs, I observed nonhazardous waste accumulation containers at both HLI and OSBA. I observed no deficiencies with management of nonhazardous wastes during the CEI.

Mixed wastes are generated at the Main Campus and are received at the EMF for storage. The facility considers mixed waste nonhazardous based on the hazardous waste exemption codified in 40 CFR 261.3(h)(1). Per this exemption, LLMW managed according to the eligibility requirements and conditions of 40 CFR 266 Subpart N is conditionally exempt from the definition of hazardous waste. Mixed waste is shipped through a waste broker to various destinations for storage or disposal.

During the CEI, I verified that the facility continues to hold a State of Iowa-issued radioactive materials license and has notified EPA of its intent to manage mixed waste per the LLMW conditional exemption. I also confirmed that the facility meets the mixed waste storage, inspection/inventory, and emergency planning conditions of 40 CFR 266.230. As such, I determined that the facility continues to meet the eligibility requirements and conditions for the LLMW exemption.

During the CEI, I observed storage of mixed waste in EMF Room 125 that had been accumulating since the last manifested shipment through Bionomics to Perma-Fix in Gainesville, Florida. A copy of the shipping manifest dated October 27, 2023, and supporting documents are in Attachment 12. All containers were structurally sound, closed, labeled as both radioactive waste and hazardous waste, and marked with accumulation start dates. I observed no deficiencies with management or storage of mixed waste during the CEI.

D002-only corrosive wastes are generated at the Oakdale Campus and Main Campus locations. They are received at the EMF for storage, and/or treatment as determined by facility management. The facility considers these wastes hazardous (D002) based on product knowledge. However, as the wastes are determined to be hazardous only for the characteristic of corrosivity (that is, no other characteristic or listed hazardous waste codes apply), they are segregated and can be treated via elementary neutralization. Wastes for elementary neutralization are cataloged and stored in a cabinet in EMF Room 161 and neutralized in an adjacent fume hood when sufficient volume is accumulated. Average intervals between treatment events are 30 days, or greater. Neutralized waste is discharged as wastewater directly to the sanitary sewer system for ultimate treatment at the City of Coralville wastewater treatment plant. Based on elementary neutralization records from October 1, 2023, to August 17, 2024, the facility treated approximately 90 gallons of D002-only corrosive wastes per month.

During the CEI, I did not observe storage of D002-only corrosive wastes in EMF Room 161. I observed the fume hood and neutralization container where treatment is performed and noted no concerns.

Biohazardous/drug wastes are generated primarily at the Main Campus hospital-affiliated locations and are received at EMF for storage. The facility considers each waste hazardous (various hazardous waste codes) or nonhazardous based on product information data and process knowledge. Biohazardous/drug wastes are primarily collected by Stericycle and transported to Stericycle in St. Paul, Minnesota, for thermal treatment. The generation rate varies. I did not observe biohazardous/drug wastes in accumulation or storage during the CEI.

Used oil and used oil filters are generated during equipment and physical facilities maintenance at the Oakdale Campus and Main Campus. The managed volume includes small volumes from affiliated VSQGs. They are received at the EMF for storage pending transport to offsite used oil recycling facilities. Both used oil and drained used oil filters are managed as used oil according to requirements of 40 CFR 279. Based on shipping records beginning April 1, 2023, and ending June 1, 2024, I estimated the facility generates approximately 1,800 gallons of used oil and 1 to 12 kg of used oil filters per month. Used oil is collected by Cedar Falls Oil Company of Cedar Falls, Iowa, for recycling. Used oil filters are shipped to Tradebe in East Chicago, Indiana, for recycling. Mr. Pyrz reported that Cedar Falls Oil Company was preparing to adopt a name change soon.

During the CEI, I observed used oil storage containers in EMF Room 127, EMF Room 170 and the OSBA. All used oil storage containers observed during the visual inspection were structurally sound, closed and labeled with the words “used oil.” Representative photographs of nonhazardous wastes in storage are in Attachment 8, Photographs 16, 18, and 37.

PCB-containing wastes are generated from research and teaching activities throughout the Oakdale Campus and Main Campus. PCB wastes include aqueous solutions with PCBs and solid media contaminated with chlorinated biphenyls (wipes, and sampling equipment). These wastes are collected from the campus SAAs and transported to the EMF for consolidation and storage. The facility considers PCB-wastes to be Toxic Substances Control Act (TSCA)-regulated wastes based on product and process knowledge. Based upon shipping records generated since October 1, 2023, the facility appears to generate approximately 40 kg of PCB-containing wastes per month. PCB-containing wastes are shipped to Veolia Environmental Services -Technical Solutions in Port Arthur, Texas, for high destruction and removal efficiency (high DRE) incineration or to Tradebe Treatment and Recycling in Milwaukee, Wisconsin. A copy of a manifest for shipment of PCB-containing wastes dated July 18, 2024, is in Attachment 13. I observed PCB-containing wastes in storage in EMF Room 127 and noted no deficiencies.

Lead scrap is generated at the Oakdale Campus and Main Campus and consists primarily of scrap shielding from research and teaching facilities. Lead scrap is considered scrap metal that is exempt from RCRA when recycled per 40 CFR 261.1(c)(9) and 261.4(a)(13). I estimated the facility generates approximately 42 kg of lead scrap per month based on 2023 shipping records. Lead scrap is shipped off site to Tradebe in East Chicago, Indiana, and to Interstate Battery Recyclers in Rock Island, Illinois, to be recycled. I did not observe lead scrap on sorting shelves during the visual inspection of the EMF and no lead scrap was observed in Oakdale Campus SAAs.

Waste lead-acid batteries are generated at the Oakdale Campus and Main Campus and consist primarily of non-automotive batteries generated during maintenance of equipment or facilities. Waste lead acid batteries are managed as universal wastes according to requirements of 40 CFR 273, and are collected by Interstate Batteries in Rock Island, Illinois, for recycling. Based upon transportation records reviewed from October 1, 2023, through August 1, 2024, the facility generates approximately 23,100 pounds of waste lead-acid batteries per month for recycling.

During the CEI, I observed waste lead-acid batteries in EMF Room 170. These were consolidated on a pallet containing approximately 34 batteries. The universal waste batteries were not leaking. Each battery was individually labeled with the words “universal waste batteries” and marked with an accumulation start date. All accumulation start dates were less than 1 year prior except for five batteries marked with accumulation start dates of “06/23” (Attachment 8, Photographs 34 through 36). Based on the marked accumulation start date, I determined the facility accumulated five waste lead-acid batteries for longer than 1 year, prohibited by 40 CFR 273.15(a) (**NOPF No. 2**).

Waste dry-cell batteries are generated at the Oakdale Campus and Main Campus and are received at the EMF for accumulation. The waste consists of spent nickel-cadmium, lithium-ion, and silver-containing batteries. Waste dry-cell batteries are managed as universal waste according to requirements of 40 CFR Part 273. Based on shipping records since November 17, 2022, I estimated the facility generates approximately 115 kg of waste dry-cell batteries per month. Waste dry-cell batteries are accumulated in universal waste containers and are shipped off site to Tradebe in East Chicago, Indiana, for recycling.

During the CEI, I observed universal waste batteries in accumulation containers in EMF Rooms 121 and Room 170 and in the OSBA. All universal waste batteries accumulation containers (or the individual batteries in sorting bags) were structurally intact, labeled with the words “Universal Waste Batteries,” and marked with accumulation start dates. All observed accumulation start dates were within 1 year. Representative photographs of waste dry-cell batteries in accumulation are in Attachment 8, Photographs 13, 14, and 22.

Waste lamps consist of linear fluorescent lamps and compact fluorescent lamps generated from routine facility maintenance and re-lamping projects. This waste stream includes high-intensity discharge (HID) and specialty lamps generated through laboratory and sensory equipment maintenance. Waste lamps are self-transported by each SAA generator or EHS personnel to the University of Iowa’s Mossman Business Services Building (MBSB), where they are aggregated, securely packaged and shipped off site for recycling. Spectrum-limited and specialty lamps are occasionally received at the EMF. Waste lamps are managed as universal waste according to requirements of 40 CFR Part 273. Waste lamps are accumulated in universal waste accumulation containers in Oakdale Campus buildings and in the EMF. I did not determine a campus-wide generation rate, as records are not maintained for self-transport of universal waste lamps to MBSB.

I did not observe any universal waste lamps in storage at the EMF during the CEI. During visual inspection of Oakdale Campus SAAs, I observed one universal waste accumulation container in

the OSBA basement that held nineteen 4-foot fluorescent lamps. The universal waste container was in good condition, closed, labeled with the words “universal waste lamps,” marked with an accumulation start date less than 1 year old, and secured in a storage rack. None of the preliminary findings from the previous CEI related to management and labeling of universal waste lamps were observed. I did observe an instructional poster near the universal waste accumulation area that the facility posted in response to the previous CEI (Attachment 8, Photograph 15). The poster detailed the labeling and management requirements for universal waste lamps. I observed no deficiencies with management of waste lamps during the CEI.

Waste mercury-containing equipment consists of expired equipment or components, such as thermostats, thermometers, and electrical switches that contain elemental mercury metal. This waste is generated at the Oakdale Campus and Main Campus facilities. It is routinely received at the EMF for sorting, packaging and storage. Waste mercury-containing equipment is managed as universal waste according to requirements of 40 CFR Part 273. Based on shipping records since March 1, 2023, I estimated the facility generates approximately 6 kg of waste mercury-containing equipment per month. Waste mercury-containing equipment is accumulated in universal waste containers and is shipped off site to Tradebe in East Chicago, Indiana, for secondary transfer to permitted Hg recycling/retort.

During the CEI, I observed waste mercury-containing equipment in accumulation in EMF Room 127 (Attachment 8, Photographs 24 and 25). Containers that held waste mercury-containing equipment (or individual articles not in containers) were structurally sound, labeled with the words “universal waste mercury-containing equipment” and marked with accumulation start dates less than 1 year old. I observed no deficiencies with management of waste mercury-containing equipment during the CEI.

Waste ballasts are generated during facility maintenance at the Oakdale Campus and Main Campus and are received at the EMF for storage. The facility considers waste ballasts to be either nonhazardous or TSCA-regulated, nonhazardous wastes by product knowledge and manages all waste ballasts as if they were PCB-containing waste. Based upon shipping records reviewed, I estimated that the facility generates approximately 48 kg of waste ballasts per month. Waste ballasts are shipped to A-TEC Recycling in Des Moines, Iowa, for recycling. I observed waste ballasts in storage at the EMF during the CEI and noted no deficiencies or concerns.

Waste aerosol cans are generated from a variety of activities engaged throughout the Oakdale Campus and Main Campus. Waste aerosol cans are collected and managed as universal waste according to requirements of 40 CFR Part 273. Based on waste tracking records, the facility generated 217 waste aerosol cans since October 1, 2023. Waste aerosol cans (except those that previously held foams, pesticides, herbicides, or adhesives) are punctured and drained within a dedicated fume hood in EMF Room 139. Waste aerosols containing pesticides or herbicides are sorted for separate packing and disposal through Tradebe. Residual waste from the punctured cans is added to appropriate bulk hazardous waste storage containers. Punctured aerosol cans are considered scrap metal excluded from the definition of solid waste per 40 CFR 261.1(c)(9) and 261.4(a)(13) and are added to the facility’s mixed stream recycling container on the north central exterior of the EMF. A copy of the waste aerosol can processing procedure is in Attachment 14.

During the CEI, I observed waste aerosol cans in an accumulation container in EMF Room 131. The universal waste accumulation container was structurally sound, labeled with the words “Universal Waste – Aerosol Cans,” and marked with an accumulation start date of March 15, 2024. I noted no deficiencies with management of waste aerosol cans during the CEI.

Mixed stream recycling consists of paper, cardboard, and scrap metal generated at the EMF. The facility considers mixed stream recycling nonhazardous based on product and process knowledge. This waste is accumulated in a roll-off container outside of the EMF, and is collected by Waste Management, Inc. in Iowa City, Iowa, for recycling. I did not observe contents of the mixed stream recycling container during the CEI.

General trash consists of non-recyclable office refuse and packaging wastes generated from administrative, maintenance and container management activities conducted throughout the Oakdale Campus. The facility considers general trash to be nonhazardous based on product and process knowledge. General trash is accumulated in several front-end loader (FEL) containers throughout the Oakdale campus including the EMF. General trash is collected by Waste Management, Inc. in Iowa City, Iowa, for Subtitle D landfill disposal. During the CEI, I observed contents of four general trash accumulation containers and noted no deficiencies or concerns.

4. Required Response Equipment and Hazard Management

RCRA Permit Condition III.H specifies that the facility must operate to minimize the possibility of a fire, explosion, or spill, and must maintain emergency response equipment. During the CEI, I observed adequate aisle space for emergency response in each room of the EMF, and no evidence of spills or leaks. I observed “No Smoking” signs on the building interior and exterior doors except for an exterior door on the NW corner of Room 172 that was being replaced by university maintenance staff at the time of the CEI. I observed numerous multi-class fire extinguishers, telephones, an internal alarm system linked to the fire detection control board, and overhead fire suppression sprinkler systems in all rooms and corridors of the EMF.

Mr. Pyrz stated that the University of Iowa Fire Safety department conducts inspections of the alarm system controls, warning alarm horns, and microphone in four locations within the EMF. Those inspections are conducted on a monthly schedule. Mr. Pyrz reported that there had been no changes to the emergency alarm systems and enunciators since the September 2023 CEI.

EMF Room 136 serves as a central storage location for personal protective equipment (PPE) and spill control materials such as granular absorbents, respiratory protective equipment, absorbent pads, booms, neutralizing agents, brooms, and shovels. I also observed spill control materials in the Processing room (EMF Room 139) where hazardous wastes are actively handled for consolidation and transfer. During visual inspection of the Oakdale Campus SAAs, I observed appropriate emergency response equipment and materials for the waste accumulated at each SAA. A photograph of emergency spill kits present near an HLI SAA is in Attachment 8, Photograph 3.

5. Hazardous Waste Storage Areas

During the CEI, I noted no accumulation of incompatible wastes and had no concerns with hazardous waste handling and management practices observed. I reviewed all weekly inspection checklists generated from the date of the previous CEI (September 6 and 7, 2023) and noted no missed inspection weeks or significant non-compliance conditions during the review. Copies of recent checklists dated July 31, 2024, August 7, 2024, August 14, 2024, and August 21, 2024, are in Attachment 15.

6. Manifests and Biennial Report

During the CEI, I reviewed 11 outgoing uniform hazardous waste manifests and LDR notifications (including four large shipments from September 2023 to July 2024). I also reviewed incoming uniform hazardous waste manifests (estimated at 3 to 4 manifests per month from October 2023 through August 2024). Copies of the outgoing manifests dated September 11, 2023, through May 13, 2024, are in Attachment 11.

During the CEI, I observed individual lab pack containers in accumulation. I reviewed packing lists for conformity with compatibility and volume metrics. Copies of the Haz-Scan Tradebe-formatted drum logs dated July 17, 2024, are included in Attachment 16. I noted no deficiencies or concerns during the manifest review.

The Hazardous Waste Biennial Report for 2023 was submitted on February 27, 2024, and a copy is maintained in the facility files at the EMF. I reviewed flat file data taken from the database and noted no deficiencies or concerns. A copy of the transmission cover letter for the 2023 Hazardous Waste Biennial Report is in Attachment 17.

7. Personnel Training Requirements

RCRA Permit Condition III.F requires personnel training as specified in 40 CFR 264.16 and the facility's Training Plan (incorporated into the permit as Attachment II-3) to ensure that employees are thoroughly familiar with proper waste handling procedures relevant to their responsibilities. Job titles, job descriptions, and training requirements incorporated into the RCRA permit have not been amended since their submittal. During the CEI, I reviewed training documentation for all EHS personnel for the previous 2 years and noted no concerns. Refresher training was completed by all EMF managers and specialists in December 2023. Copies of the December 2023 training records for the Contingency Plan emergency coordinators and primary officers are in Attachment 18 as examples.

Based on the records reviewed during the CEI, I determined that the facility is providing adequate training to employees whose job descriptions include hazardous waste handling and management. This includes personnel identified as emergency contacts in the Contingency Plan and responsible for preparing and signing manifests for waste shipped from, and received at, the EMF site.

8. Contingency Plan

RCRA Permit Condition III.I requires the facility to maintain a Contingency Plan designed to minimize hazards to human health and the environment from fires, explosions, or any sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. The Contingency Plan submitted with the facility's permit renewal application is incorporated into the final permit as Attachment II-4. I reviewed the Contingency Plan and approved modifications in context of the content requirements of 40 CFR 264.52 and noted no deficiencies with the structure or information provided in the plan. I asked Mr. Pyrz if the Contingency Plan is current, including names and contact information for Emergency Coordinators. He stated that all response narrative and emergency coordinator listings are current and accurate. A copy of the Contingency Plan Quick Reference Guides for both the EMF and SAA locations (QRG) were provided and are included in Attachment 19. I observed no apparent deficiencies related to emergency planning and contingency plan content during the CEI.

Mr. Pyrz reported that there had been no incidents requiring implementation of the contingency plan in the last year.

9. Operating Record

RCRA Permit Condition III.K requires the facility to maintain an Operating Record. The facility's Operating Record consists of paper records such as inspection records and manifests, as well as an extensive digital database maintained by EHS personnel. During the CEI, Mr. Pyrz utilized database queries to generate numerous reports requested for inspection, including records for waste received by building or area (Attachment 20), a generator SAA site listing with collection frequencies, and current storage room inventories. Based on the records and reports reviewed during the CEI, I noted no concerns with content or capability of the facility's Operating Record when compared to the required operating record elements of 40 CFR 264.73.

10. Air Emissions: 40 CFR Part 264 Subparts AA, BB, CC

EPA regulations in 40 CFR Part 264, Subparts AA, BB, and CC apply to permitted TSDFs. If a TSDF manages hazardous waste with an organic concentration greater than 10 parts per million by weight (ppmw), the standards found in Subpart AA apply to hazardous waste air emissions from certain process vents. A process vent used in distillation, fractionation, solvent extraction, thin-film evaporation, air stripping, or steam stripping is regulated by Subpart AA. The University of Iowa – TSDF Environmental Health & Safety facility is not subject to Subpart AA regulations because the facility does not have the type of process vents listed above.

If a TSDF has equipment that contains or contacts hazardous waste composed of 10 percent or greater organics by weight, the facility is subject to Subpart BB standards for inspection and monitoring of the equipment. The University of Iowa – TSDF Environmental Health & Safety is not subject to the Subpart BB regulations because it does not have equipment that contains or contacts hazardous waste with 10 percent or greater volatile organics.

The standards found in Subpart CC apply to TSDFs that manage hazardous waste in containers with volatile organic compounds (VOC) concentration that exceeds 500 ppmw. The Subpart CC

standards are applicable to a variety of liquid wastes generated within and received by the facility. I determined that the facility meets the Subpart CC requirements for containers by using Container Level 1 controls (storage containers between 26 gallons and 122 gallons that are DOT-approved/UN Specification-rated) for storage of hazardous wastes. No open containers of hazardous waste were observed during the CEI.

11. Summary of Preliminary Findings

In summary, as part of the CEI, I made the following preliminary findings:

- (1) Failure to make a hazardous waste determination for two containers of fuels-based waste in the OSBA, as required by 40 CFR 262.11 (**NOPF No. 1**)
- (2) Accumulation of waste lead-acid batteries for longer than 1 year, prohibited by 40 CFR 273.15(a) (**NOPF No. 2**).

Other than items specifically noted in the narrative, I observed no additional issues. However, further review by EPA may change, or add to, my findings.

Steve A.
Johnson

Digitally signed by Steve
A. Johnson
Date: 2024.10.11
16:47:01 -05'00'

Steve A, Johnson
Field Inspector
CLÆNE Group

AMBER WHISNANT

Digitally signed by
AMBER WHISNANT
Date: 2024.10.30
14:19:30 -05'00'

Amber Whisnant
Section Chief
ECAD/CB/RCRA, EPA Region 7

Attachments:

1. Notification Acknowledgement/Verification Report (3 Pages)
2. Confidentiality Notice – Signed (1 Page)
3. Receipt for Documents and Samples (1 page)
4. Notice of Preliminary Findings (1 Page)
5. University of Iowa Oakdale Campus Map (1 Page)
6. EMF Layout Map (1 Page)
7. Google Earth Aerial Photograph (1 Page)
8. Photographic Documentation (Photolog and 37 Photographs) (24 Pages)
9. List of Permitted VSQG Locations (2 Pages)
10. Waste Received Report for IRL Site (1 Page)
11. Outgoing Manifests from September 11, 2023, through May 13, 2024 (39 Pages)
12. Mixed Waste Manifest Dated October 27, 2023, and Supporting Documents (6 Pages)
13. PCB-Containing Waste Manifest, Dated July 18, 2024 (1 Page)
14. Aerosol Can Processing Procedure (2 Pages)
15. Weekly Inspection Checklists (4 Pages)
16. Haz-Scan Lab Pack Inventory Sheets (3 Pages)
17. Biennial Report Transmittal Letter 2023 (1 Page)
18. Training Records for 2023 (3 Pages)
19. Quick Reference Guides (7 Pages)
20. Waste Received Report for ACMC and MSBS (23 Pages)