

RCRA Inspection Report

1) Inspector and Author of Report

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2) Facility Information

U.S. DOE Y-12 National Security Complex
Bear Creek Road
Oak Ridge, Tennessee 37831
Anderson County

EPA ID: TN3890090001
NAICS: 332999 - All Other Miscellaneous Fabricated
Metal Product Manufacturing

3) Responsible Official

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4) Inspection Participants

Bradley Skaggs, US DOE Y-12
Rae Spencer, US DOE Y-12
Scott Nelson, US DOE Y-12

Gerald Webster, TDEC – Knoxville Field Office
Pamela Rudd, TDEC – Knoxville Field Office
Revendra Awasthi, TDEC – Knoxville Field Office
Beverly Philpot, TDEC – Central Office
Paula Whiting, US EPA Region 4

5) Date and Time of Inspection

May 21-22, 2024, at 8:30 a.m. EDT

6) Applicable Regulations¹

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

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

Tennessee Hazardous Waste Permits TNHW-191 and TNHW-184.

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(h)1. [40 C.F.R. § 262.17(a)], a large quantity generator (LQG) may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by Section 68-212-108 of the THWMA, Tenn. Code Ann. § 68-212-108 [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(h)1. [40 C.F.R. § 262.17(a)] (hereinafter referred to as the “LQG Permit Exemption”).

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(f)1. [40 C.F.R. § 262.15(a)], a generator may accumulate as much as 55 gallons of non-acute hazardous waste and/or either one quart of liquid acute hazardous waste at or near the point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or without having interim status, as required by Section 68-212-108 of the THWMA, Tenn. Code Ann. § 68-212-108 [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the satellite accumulation area (SAA) conditions listed in Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(f)1. [40 C.F.R. § 262.15(a)] (hereinafter referred to as the “SAA Permit Exemption”).

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.12(1)(i) [40 C.F.R. § 273.9], a “Small Quantity Handler of Universal Waste” (SQHUW) is a Universal Waste handler who does not accumulate 5,000 kilograms or more of Universal Waste (batteries, pesticides, mercury-containing equipment, or lamps, calculated collectively) at any time.

7) Purpose of Inspection

The purpose of the inspection was to conduct an unannounced RCRA compliance evaluation inspection (CEI) to determine the compliance of US DOE Y-12 National Security Complex, EPA ID Number: TN3890090001 with the applicable regulations. This was an EPA lead inspection.

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

8) Facility Description

U.S. Department of Energy (DOE) Y-12 National Security Complex (DOE Y-12 National Security Complex or facility) is a manufacturing facility dedicated to the manufacture, processing, and storage of special materials for nuclear weapons components. The DOE Y-12 National Security Complex's primary mission is to support defense needs through stockpile stewardship, assist on issues of nuclear non-proliferation, support the Naval Reactors program, and provide expertise to other federal agencies. DOE Y-12 National Security Complex is also responsible for the maintenance and production of all uranium parts and "secondary" mechanisms for every nuclear weapon in the United States arsenal.

The DOE Y-12 National Security Complex spans 811 acres, with 2.5 miles between its east and west boundaries. Housed within its borders are manufacturing, production, laboratory, support, and research and development areas. More than 7,500 employees work at the DOE Y-12 National Security Complex, including federal and contractor staff.

The DOE Y-12 National Security Complex is a permitted TSDf currently operating under Permits TNHW-191, TNHW-184 and TNHW-127. TNHW-191 was issued on September 21, 2023, to replace the expired TNHW-127. The facility also has a hazardous waste transporter permit TN3890090001. This facility includes storage areas that are covered by TSDf permit and areas that are not.

The DOE Y-12 National Security Complex's most recent Hazardous Waste Generator Notification (EPA Form 8700-12) dated December 5, 2022, characterized the facility as an LQG of hazardous waste. DOE Y-12 National Security Complex may generate hazardous waste streams, spent aerosol cans, used solvent, used oil, universal lamps and batteries, paint waste and other wastes.

9) Previous Inspection History

This facility was last inspected on March 6, 2023, by Tennessee Department of Environment and Conservation (TDEC). Two deficiencies were noted and returned to compliance on May 8, 2023 with an informal enforcement action.

10) Findings

On May 21-22, 2024, EPA inspector Paula Whiting, accompanied by TDEC inspectors Gerald Webster, Pamela Rudd, Revendra Awasthi and Beverly Philpot arrived at the DOE Y-12 National Security Complex at approximately 8:30 a.m. EDT. The inspectors signed in at the New Hope visitor center. Three of the TDEC inspectors had security clearances that allowed them to enter classified areas. The EPA inspector and one TDEC inspector were required to provide driver's license, social security number, and a passport to obtain a visitor's pass.

Bradley Skaggs, Manager of Clean Air/Solid Waste Compliance, received the inspectors in the lobby of the visitor center. The inspectors introduced themselves, showed their credentials to the representative, and explained the purpose of the visit. The inspectors were told use of digital

camera and/or cell phones to take photographs during the inspection was prohibited. Any photographs required would be taken by the facility staff and sent via email to the inspectors after being approved by their security office.

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

Bradley Skaggs provided a two-day schedule of inspection locations and records review as previously conducted by TDEC during the opening conference. The inspection participants also discussed health and safety protocols and were required to wear personal protective equipment before entering the facility. The representatives split up into two groups on the first day and three groups on the second day. The inspectors were then led on a tour of the facility operations. Below is a description of the observations made during the inspection.

11) Inspection Observations

For this inspection, the observations and findings made by the TDEC inspectors conducted separately from the EPA are documented in the ***Hazardous Waste Compliance Evaluation Inspection, Notice of Violation, U.S. DOE, Y-12 National Security Complex, TN3890090001*** inspection report.

On May 21, 2024, Pamela Rudd and Paula Whiting inspected the following areas:

11.1 Building 9720-9

Building 9720-9 is a hazardous waste storage area (HWSA) covered under Tennessee Hazardous Waste Permit TNHW184. The HWSA stores mixed waste (hazardous waste and radiological waste combined) and low radiological wastes and polychlorinated biphenyls (PCBs) in large metal boxes stacked on top of each other. Mr. Skaggs stated that no classified waste is stored in this area. Two safety showers, two eyewashes, two fire extinguishers, and a 100 cubic foot metal storage box of radioactive material were also observed. The containers were observed closed and labeled. The oldest dates labeled on the containers were June 14, 2023, and June 29, 2023. The Safety, Health, and Environmental Treatment Plan for the HWSA was reviewed.

The inspectors observed 8-gallon CERCLA containers that are not dated until the containers are shipped off. Six 8-gallon containers, which were dated August 27, 2015, were being stored past the one-year storage limit included in an agreement with TDEC. Site contractors manage the storage and processing of mixed hazardous waste according to regulations and applicable permit conditions; however, some of the mixed wastes are stored according to the Site Treatment Plan

(STP) through an agreed order. The STP addresses land disposal restricted (LDR) requirements pertaining to storage and treatment of LDR mixed wastes, which in the absence of an STP would be in violation of RCRA Section 3004(j), whether such wastes were generated or accumulated in the past, are currently generated or accumulated, or will be generated or accumulated in the future. The STP also requires DOE to submit information concerning generation and storage of LDR mixed wastes which are not in violation of RCRA Section 3004(j). During the inspection six containers were observed that fell into the STP category. These containers were noted and compared to the STP list.

11.2 Building 9720-31

Building 9720-31, also known as the RCRA Motel is covered under Tennessee Hazardous Waste Permit TNHW-184. Each waste characteristic is stored in a separate room. The inspectors observed the following:

- Room 14 – Flammable Liquids and Combustible. All containers were observed closed and labeled. The oldest date was September 16, 2023.
- Room 13 – Water Reactive Materials and Non-Regulated Materials. All containers were observed closed and labeled. The oldest date was September 16, 2023.
- Room 12 – Corrosive (Acids). All containers were observed closed, labeled, and the oldest date was August 28, 2023.
- Room 11 – Corrosive (Bases). No hazardous wastes were observed in this area.
- Room 10 – Non-Regulated Material. No hazardous wastes were observed in this area.
- Room 9 – Oxidizers. All containers were observed closed, labeled, and the oldest date was November 16, 2023.
- Room 8 – Poisons and Non-Regulated Materials. No hazardous wastes were observed in this area.
- Room 7 – Non-Regulated Aqueous film-forming foam (AFFF). No hazardous wastes were observed in this area.
- Room 6 – Poisons and Non-Regulated Materials. No hazardous wastes were observed in this area.
- Room 5 – Other Regulated Material. All containers were observed closed, labeled, and oldest date was June 14, 2023.
- Room 4 – Other Regulated Material. All containers were observed closed, labeled, and oldest date was June 14, 2023.
- Room 3 – Radioactive Material – Low Level. No hazardous wastes were observed in this area.
- Room 2 – Storage. No hazardous wastes were observed in this area.
- Room 1 – Flammable Liquids and Combustible Storage. All containers were observed closed and labeled. The remaining containers had the oldest date was July 6, 2023. The inspectors observed a fiberboard container labeled Y122101803 that did not have a start accumulation date (Pictures 1-2). The facility immediately obtained the fiberboard container start accumulation date of April 3, 2024.



Picture 1 - Container Y122101803 not dated Picture 2 - Container Y122101803 dated

Pursuant to Permit TNHW-184, Section III Specific Conditions for Storage in Containers, Subsection D. MANAGEMENT OF CONTAINERS, 1. Containers of hazardous waste shall be managed, and the units operated as described in Attachment 7.

ATTACHMENT 7.1. CONTAINER MANAGEMENT

This section discusses specific process information for the storage of hazardous wastes at three container storage areas at the Y-12 Complex. The units addressed in this permit include the following:

1. Building 9720-9 Storage Unit;
2. Building 9720-25 Container Storage Unit; and
3. RCRA and Mixed Waste Storage and Staging, Building 9720-31.

Container Management

Containers of hazardous waste stored in these units are labeled with the words “Hazardous Waste” and the accumulation start date. Waste received at these units will be logged into an operating record listing the container number, size, contents, and date received. When the contents of the containers are transferred to another unit or facility, the date of transfer will be entered into the operating record. The records will be maintained in the operating record for a minimum of three years.

The inspectors observed that the secondary containment floor for each area appeared to be in good condition. Most of the areas in the RCRA Motel had fire extinguishers and eyewashes.

11.3 Building 9624

The Tanker Bay (AA-136) located outside in the overhang was a central accumulation area (CAA) with four empty tankers. In building AA-140, a CAA held containers of non-regulated wastewater and treatment chemicals to be used. The inspectors reviewed the 2024 weekly inspection records and site-specific contingency plans for AA-136 and AA-140. No issues were observed in this area.

11.4 Building 9616-7

The groundwater treatment facility (GWTF) housed a CAA that held spent treatment filters and personal protection equipment (PPE) in a blue box that was closed, labeled, and dated April 18, 2024. Training records for Operators Justin Jenkins and Jason Rosenberg, were reviewed, as well as the 2024 weekly inspection records and the site-specific contingency plan. No issues were observed in this area.

Next door was Building 9616-6 CAA. At the time of the inspection, this CAA stored only CERCLA waste. No issues were observed in this area.

11.5 Building 9712-1

The garage in Building 9712-1 had two universal waste storage areas. Universal Waste Area 3247 had one 10-gallon container of universal waste lamps and one 10-gallon container of spent lead acid batteries. The containers were observed closed, labeled, and dated March 5, 2024. Universal Waste Area 3167 had two pallets of lead-acid batteries for core recycling. The facility manages the spent batteries under the 40 C.F.R. 266 Subpart G - Spent Lead-Acid Batteries Being Reclaimed. The inspectors observed used oil collected from the vehicles on site maintenance. The used oil is placed in a 500-gallon tank that was labeled as "Used Oil". No issues were observed in this area.

11.6 Paint Shop – Building 9404-5

Building 9404-5 houses CAA 3530, which contained one 85-gallon container that was observed to be closed, labeled, and dated April 18, 2024. Training records for operators, the 2024 weekly inspection records, and the site-specific contingency plan were reviewed. No issues were observed in this area.

11.7 Building 9767-12

Building 9767-12 houses CAA 3921, which contained six 30-gallon hazardous waste containers, one 55-gallon container covered in plastic sheeting, and a spill kit. The containers sat on secondary containment. The containers were observed closed, labeled, and dated May 20, 2024. Training records for operators, the 2024 weekly inspection records, and the site-specific contingency plan were reviewed. No issues were observed in this area.

11.8 Building 9201-01

Building 9201-01 had a Universal Waste Area 3163 with one cardboard box of universal waste lamps that was closed, labeled, and dated May 20, 2024; and CAA 3913 with two 55-gallon hazardous waste containers were observed closed, labeled, and dated April 15, 2024. Training records for operators, the 2024 weekly inspection records, and the site-specific contingency plan were reviewed. No issues were observed in this area.

11.9 Building 9720-AV

Building 9720-AV had less than 90-day CAA 3850 that contained twenty 30-gallon containers and two 55-gallon containers. These containers were closed, labeled, and the oldest date was March 18, 2024. Training records for operators, the 2024 weekly inspection records, and the site-specific contingency plan were reviewed. No issues were observed in this area.

On March 22, 2024, Revendra Awasthi and Paula Whiting inspected the following areas:

11.10 Lithium Processing Facility

The Lithium Processing Facility is currently under construction and the area where the facility will be located is being cleared. At the time of the inspection, the inspectors signed the visitors log, entered the site, and observed one CAA and two SAAs.

CAA 9769/9211 had nine 275-gallon IBC totes with low-level radiation contaminated water pumped from a pit. The containers were closed and labeled. The oldest accumulation start date was April 16, 2024.

SAA 3884 had a 16-gallon container of hazardous waste storing a leaded bell joint with mercury beads (D008, D009). These containers were closed and labeled.

SAA 3872 had two 5-gallon carboys with an oil and water mixture stored inside a clamshell.

No issues were observed in these areas.

11.11 Building 9731

The Old Calutron Building, which is now a museum, had a CAA adjacent to the building. CAA 3917 had a 55-gallon container of Bean-E Doo Mop Water, D030, D032, D033, D034, D036, D038, D042, stored on secondary containment, closed, labeled, and dated April 25, 2024, along with a fire extinguisher and a spill kit. Training records for Operators C. Brandon Clowers and Micah Hausch were reviewed, as well as the 2024 weekly inspection records and the site-specific contingency plan. No issues were observed in this area.

11.12 Uranium Processing Facility

The Uranium Processing Facility (UPF) is currently under construction. CAA 3500 which was housed under two tents is located at the UPF. The inspectors observed, in the first tent, construction paint waste, used epoxy coatings, and spent thinner (D001, D018, D035) stored in 1-gallon to 5-gallon containers wrapped in plastic and on secondary containment. The containers were observed closed, labeled, and the oldest date was April 11, 2024.

Outside the first tent, the facility was managing two 55-gallon containers of spent acetone and used solvent in two clamshells. The containers were observed to be closed and labeled. The oldest accumulation start date was April 3, 2024.

Underneath the second tent, the facility was storing a 55-gallon container of Pro Industrial water-based alkyd urethane on secondary containment dated April 25, 2024, and a 55-gallon container of latex resin, pending analysis, dated April 15, 2024. Both containers of hazardous waste were observed closed and labeled.

SAA 3340 was empty at the time of the inspection. A fire extinguisher and spill kit were observed in the CAA.

Training records for operators Laura Rufin and Roy Cribbs, the 2024 weekly inspection records, and the site-specific contingency plan were reviewed. No issues were observed in this area.

12) Records Review

The inspectors requested the daily and weekly inspection records, the annual hazardous waste reduction plan, annual reports, the 2023-2024 hazardous, non-hazardous, and used oil manifests. The generator status notification (EPA Form 8700-12) was last updated December 5, 2022.

The daily and weekly inspections for the permitted areas were reviewed for Buildings 9212, 9812, 9206, 9811, 9720-25, 9720-9, 9720-31, and the Organic Handling Unit. No issues were observed in the permitted areas.

The RCRA 90-Day Accumulation Area Inspection checklists for 2023 were reviewed for AA28, TS18, 3749, 3627, 2550, 3042, 3415, 3826, 3799, 3798, 3844, 3619, 2592, 3850, AA-158, AA-163, and 3816. No issues were observed.

The facility Pollution Prevention Program Plan dated March 2024 was reviewed.

The Annual Hazardous Waste Reduction Progress Report DOE Y-12 National Security Complex dated March 2023 was reviewed.

The Fiscal Year 2023 Annual Report Summary and the Fiscal Year 2023 Recycling Report Summary were reviewed.

Hazardous and non-hazardous manifests were reviewed for 2021-2023. Hazardous wastes were shipped to the following:

- Clean Harbors Deer Park (EPA ID TXD055141378) in Deer Park, TX
- Clean Harbors LaPorte LLC (EPA ID TXD 98229) in LaPorte, TX
- Clean Harbors Grassy Mountain LLC (EPA ID UTD99130748) in Grassy Mountain, UT
- Spring Grove Resources Recovery LLC (EPA ID OHD000816629)

The land disposal restriction forms were reviewed.

Mixed and radiological wastes were shipped to Energy Solutions Clive (EPA ID UTD982598898) in Clive, UT.

13) Summary

The inspectors conducted an exit meeting with Bradley Skaggs, Rae Spencer, Scott Nelson, and additional facility personnel via Teams on May 22, 2024. During this meeting, the EPA and TDEC

presented the preliminary results of the inspection. The DOE Y-12 National Security Complex was inspected as a LQG of hazardous waste.

14) Signed

**PAULA
WHITING**

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Paula A. Whiting
Environmental Engineer

14) Concurrence

**ALAN
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Alan R. Newman
Acting Chief
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