

RCRA Inspection Report

1) Inspector and Author of Report

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U.S. Environmental Protection Agency, Region 4
Enforcement and Compliance Assurance Division
Chemical Safety and Land Enforcement Branch
RCRA Enforcement Section
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

2) Facility Information

U.S. Department of Energy Union Valley
113 C. Union Valley Road
Oak Ridge, Tennessee 37830

EPA ID#: TNR000002725
NAICS #: 541380 – Testing Laboratories and
Services

3) Responsible Officials

Bradley Skaggs
Manager, Clean Air and Solid Waste
Compliance
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4) Inspection Participants

Bradley Skaggs, U.S. Department of
Energy Union Valley (Union Valley)
Rae Spencer, Union Valley
Scott Nelson, Union Valley
Christie Renfro, Union Valley

Gerald Webster, Tennessee Department of
Environment and Conservation (TDEC)
Kayla Acosta, U.S. Environmental Protection
Agency (EPA)

5) Date of Inspection

March 13, 2025 at 9:00 A.M.

6) Applicable Regulations¹

Resource Conservation and Recovery Act (RCRA) Sections 3002 (42 U.S. Code – Annotated U.S.C.A. 6925 and 6927), and 40 Code of Federal Regulation (C.F.R.) Parts 260 - 270, 273, 278, & 279; Tennessee Hazardous Waste Management Act of 1977, Tennessee Code Annotated (Tenn. Code Ann.) § 68-212-101 et seq., and Chapter 0400-12-01 of the Rules and Regulations of the State of Tennessee (Tenn. Comp. R. & Regs.).

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

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.)

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.01(2)(a) (2021) [40 C.F.R. § 260.10], a large quantity generator of hazardous waste (LQG) is a generator who generates greater than or equal to 1,000 kilograms (2,200 pounds) of non-acute hazardous waste in a calendar month.

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 in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or without having interim status, as required by Section 68-212-108 of the THWMA, Tenn.Code Ann. § 68-212-108 [Section 3005 of RCRA, 42 U.S.C. § 6925], and without complying with Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(g)(2) or Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(h)(1) [40 C.F.R. § 262.16(b) or § 262.17(a)], except as required in Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(h)1. [40 C.F.R. § 262.15(a)(7) and (8)], provided that the generator complies with the satellite accumulation area conditions listed in Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(f)1. [40 C.F.R. § 262.15] (hereinafter referred to as the “SAA Permit Exemption”).

Pursuant to Tenn. Comp. R. & Regs. 0400-12-01-.03(1)(h)1. [40 C.F.R. § 262.17], an 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] (hereinafter referred to as the “LQG Permit Exemption”).

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

7) Purpose of Inspection

The purpose of this inspection was to conduct an unannounced compliance evaluation inspection to determine U.S. Department of Energy Union Valley’s compliance with the applicable requirements of RCRA and the corresponding Tennessee regulations. This was an EPA lead inspection.

8) Facility Description

The U.S. Department of Energy Union Valley (known hereinafter as “Union Valley” or “facility”) serves as an analytical laboratory for activities conducted at U.S. Department of Energy’s Y-12 National Security Complex and is operated by Consolidated Nuclear Security (CNS), a contractor for U.S. Department of Energy. The facility began operations on June 01, 1995. Union Valley is comprised of eight laboratories that conduct a variety of laboratory analysis such as bioassay, urine and fecal analysis for exposure of radiation, low-level radiochemistry, soil and water analysis, PCBs and herbicide analysis. The facility occupies approximately 70,000 square feet.

Union Valley employs 30 workers and operates Monday through Thursday with one 10-hour shift.

Union Valley is registered as a LQG of hazardous waste. The facility most recently notified as a LQG of hazardous waste on March 01, 2024, while submitting it's 2023 Biennial Report. The facility generates universal waste such as used batteries, used lamps, used aerosol cans, and used mercury-containing equipment. The facility also generates the following hazardous waste with the associated EPA hazardous waste codes:

Waste Type	EPA Waste Code
Ignitable	D001
Corrosive	D002
Toxic	D004 D005 D006 D007 D008 D009 D010 D011 D012 D015 D018 D019 D020 D021 D022 D023 D024 D025 D027 D028 D029 D030 D032 D033 D034
Toxic Waste – Discarded Commercial Chemical Products	U031 U036 U043 U052 U060 U061 U077

9) Previous Inspection History

The Tennessee Department of Environment and Conservation (TDEC) has conducted one RCRA CEI at the subject facility between 2020 and 2025. On April 26, 2021, TDEC conducted the most recent RCRA CEI at the subject facility and found no apparent violations of RCRA.

10) Opening Conference

On March 13, 2025, EPA inspector Kayla Acosta, accompanied by TDEC inspector Gerald Webster, arrived at Union Valley at approximately 9:00 A.M. Bradley Skaggs, Manager of Clean Air and Solid Waste Compliance, Charles Nelson Senior Associate Environmental Scientist, and Rae Spencer, Solid Waste Compliance immediately received the inspectors. The facility representatives and the inspectors were joined by Christie Renfro, Environmental Officer, for the opening conference. The inspectors introduced themselves, showed their credentials to and explained the purpose of the visit.

The inspectors were informed that due to the security protocols at the facility that electronic devices could not be used during the inspection and a review of the inspector's notes would need to be conducted by security personnel after the inspection. Facility personnel could, however, take photos of waste containers and submit them to the inspectors after security review and approval. The inspectors provided a request for records. The EPA inspector explained that the Small Business Regulatory Enforcement Fairness Act's classification of a "small business" is generally set by the Small Business Administration using the business' SIC/NAICS code and annual receipts or number of employees. A copy of the EPA's information sheet for small businesses can be found at <https://www.epa.gov/sites/production/files/2017-06/documents/smallbusinessinfo.pdf>. The EPA inspector also discussed the company's ability, pursuant to 40 C.F.R. § 2.203, to assert a business confidentiality claim for information submitted to EPA. The company did not assert a business confidentiality claim.

Facility personnel provided an overview of the facility's history and current operations during the opening conference. The inspection participants also discussed health and safety protocols and required personal protective equipment before facility representatives led the inspectors on a tour of Union Valley operations.

11) Inspection Observations

Room 13C – Sample Management:

This area is used for the collection of wastewater samples and aqueous samples. The inspectors observed one 55-gallon container of hazardous waste corrosives in a satellite accumulation area (SAA). The container was closed, labeled "Hazardous Waste", and marked with an indication of the hazard of the contents.

Room 13B – Central Accumulation Area (CAA):

The area was identified with a sign which read "Caution Hazardous Waste 90-Day Accumulation Area" and "No Smoking" for ignitable wastes. There were also signs that read "Caution Radioactive Material Area" for radioactive waste.

The CAA is equipped with an internal communications or alarm system capable of providing immediate emergency instruction to facility personnel; it is equipped with a device capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams; it is equipped with portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment; and it is equipped with water to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray system.

The inspectors observed the following wastes (Photo 1-2):

- Three 55-gallon containers of PCB waste.
- Three 30-gallon containers of hazardous waste. The containers were closed, labeled "Hazardous Waste", marked with an indication of the hazard of the contents, and marked with an accumulation start date. The oldest date observed was 2/10/2025.
- 10-gallon container of PCB and hazardous waste. The container was closed, labeled "PCB" and "Hazardous Waste", marked with an indication of the hazard of the contents, and marked with an accumulation start date of 2/13/2025.
- 10-gallon container of PCB waste.
- 8-gallon container of PCB and hazardous waste. The container was closed, labeled "PCB" and "Hazardous Waste", marked with an indication of the hazard of the contents, and marked with an accumulation start date of 3/4/2025.

Laboratory 5—Quality Assurance:

In this laboratory blank samples are made for bioassay analysis. The inspectors observed one 5-gallon container of acid waste in a SAA. The container was closed, labeled "Hazardous Waste", and marked with an indication of the hazard of the contents.

Laboratory 3 – Organics Laboratory:

This laboratory is used for environmental soil and water analysis. The inspectors observed the following hazardous wastes in separate SAAs:

- One 5-gallon container of organic chloroform. The container was closed, labeled “Hazardous Waste”, and marked with an indication of the hazard of the contents.
- One 55-gallon container of acidic waste. The container was closed, labeled “Hazardous Waste”, and marked with an indication of the hazard of the contents.
- One 30-gallon container of basic waste. The container was closed, labeled “Hazardous Waste”, and marked with an indication of the hazard of the contents.

Laboratory 7 – Environmental Radiological Chemistry:

This laboratory is for the analysis of radioactive material. The inspectors observed the following hazardous wastes in separate SAAs:

- One 55-gallon container of miscellaneous acid waste. The container was closed, labeled “Hazardous Waste”, and marked with an indication of the hazard of the contents.
- One 30-gallon container of ethanol and hydrofluoric acid. The container was closed, labeled “Hazardous Waste”, and marked with an indication of the hazard of the contents.
- One 30-gallon container of waste pending analysis. The container was closed, labeled “Hazardous Waste—Pending Analysis”, and marked with an indication of the hazard of the contents.

Laboratory 8 – PCB, Pesticides, and Herbicides:

This laboratory is for the analysis of pesticides, herbicides and PCBs. The inspectors observed the following wastes in SAAs:

- One 10-gallon container of hexane, methanol, and water waste. The container was closed, labeled “Hazardous Waste”, and marked with an indication of the hazard of the contents.
- One 8-gallon container of mixed acetone, hexane, methylene chloride, diethyl ether, and PCB waste. The container was closed, labeled “Hazardous Waste”, and marked with an indication of the hazard of the contents.
- One 8-gallon container of sulfuric acid and PCB waste. The container was closed, labeled “Hazardous Waste”, and marked with an indication of the hazard of the contents.

Laboratory 9 – Bioassay:

No hazardous waste was observed in this area.

12) Records Review

Contingency Plan and Quick Reference Guide (QRG):

The actions that facility personnel should take in response to an emergency are described in the facility’s contingency plan, which was last updated on February 2024.

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

The plan describes arrangements agreed to with the local police department, fire department, other emergency response teams, emergency response contractors, equipment suppliers, local hospitals or the Local Emergency Planning Committee. The plan lists the names and emergency telephone numbers for persons identified as emergency coordinators. The plant shift superintendent is listed as the primary emergency coordinator, and the other individuals are listed in the order in which they will assume responsibility as alternates.

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

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

A copy of the contingency plan (and its quick reference guide) was most recently submitted to the Tennessee Emergency Management Agency, Oak Ridge Fire Department, Anderson County office of Emergency Services, Anderson County Local Emergency Planning Committee, Anderson County Emergency Medical Services, and Methodist Medical Center of Oak Ridge on April 8, 2024 via electronic mail.

The quick reference guide includes the types/names of hazardous waste in layman's terms and the associated hazard associated with each hazardous waste present at any one time; the estimated maximum amount of each hazardous waste that may be present at any one time; the identification of any hazardous wastes where exposure would require unique or special treatment by medical or hospital staff; a map of the facility showing where hazardous wastes are generated, accumulated and treated and routes for accessing these wastes; a street map of the facility in relation to surrounding businesses, schools and residential areas; the locations of water supply; the identification of on-site notification systems; and the name of the emergency coordinator(s) and emergency telephone number(s).

Training Records:

The inspectors reviewed facility job descriptions and employee names that were provided for laboratory staff and environmental health and safety staff. Each description included the requisite skill, education, or other qualifications, and duties of facility personnel assigned to that position.

Facility representatives provided a written description of the type and amount of both introductory and continuing training to be given to each person filling the positions listed above. The inspectors reviewed records of employee hazardous waste training completed in 2022-2025.

Waste Manifest and Land Disposal Restriction (LDR) Records:

The inspectors reviewed available hazardous waste manifest records and land disposal restriction forms for shipments of hazardous waste sent since 2022. Hazardous waste manifest records show that hazardous wastes are routinely shipped to U.S. Department of Energy's Y-12 National Security Complex in Oak Ridge, Tennessee and the most recent shipment was made on March 03, 2025.

Weekly Inspection Records:

The inspectors reviewed Union valley's available records of inspections of the hazardous waste CAA since 2022. The inspection log includes a checklist to record observations about leaking containers and for deterioration of containers caused by corrosion or other factors. The records include the date and time of the inspection and the name, signature and initials of the employee conducting the inspection. Employees do routinely record inspection observations and subsequent follow-up actions on the inspection log.

Hazardous Waste Reduction Plan:

The 2024 hazardous waste reduction plan was available for review. The facility was also in the process of submitting the 2025 plan. No issues were noted.

Annual Reports:

The facility's annual reports for the past 3 years were available for review. No issues were noted.

Waste Determinations:

The facility has established an Analytical Chemistry Waste Management Plan, which was available for review. This plan is used for waste characterization which is based on laboratory analysis and waste characteristics.

13) Closing Conference

The inspectors conducted the exit meeting with the facility representatives. During this meeting, the inspectors stated their preliminary conclusions of the inspection.

14) List of Attachments

Attachment 1 – Photo Log:

15) Signed

KAYLA ACOSTA Digitally signed by KAYLA ACOSTA
Date: 2025.05.21 11:12:56 -04'00'

Kayla Acosta
Physical Scientist

16) Concurrence

ARACELI CHAVEZ

Digitally signed by ARACELI
CHAVEZ
Date: 2025.05.21 11:17:59 -04'00'

Araceli B. Chavez