

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
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2) Facility Information

U.S. Department of Energy Oak Ridge
National Library
1 Bethel Valley Road
Oak Ridge, Tennessee 37830

EPA ID#: TN1890090003
NAICS #: 541715 – Research and Development
in the Physical, Engineering, and Life Sciences
(Except Nanotechnology and Biotechnology)

3) Responsible Officials

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4) Inspection Participants

Rich Franco, UT-Batelle, LLC
Aaron Fielde, UT-Batelle, LLC
Justin Cox, UT-Batelle, LLC
Gregory Schwartz, UCOR, LLC
Alison Johnson, UCOR, LLC
Jeff Davis, UT-Batelle, LLC
Brenda Becker-Khaleel, UT-Batelle, LLC
Emily Day, UCOR, LLC
Rick Dyer, UCOR, LLC

Beverly Philpot, TDEC
Pamela Rudd, TDEC
Gerald Webster, TDEC
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Tessa Lollar, TDEC
Kayla Acosta, U.S. EPA

5) Date of Inspection

March 11-12, 2025, at 9:00 AM

6) Applicable Regulations¹

Resource Conservation and Recovery Act (RCRA) Sections 3002 (42 U.S. Code – Annotated U.S.C.A. 6925 and 6927), and 40 Code of Federal Regulation (C.F.R.) Parts 260 - 270, 273, 278, & 279; 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

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.

State of Tennessee (Tenn. Comp. R. & Regs.); and Hazardous Waste Permits TNHW-145 and TNHW-178.

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 Oak Ridge National Laboratory’s (known hereinafter as “ORNL” or “facility”) compliance with the conditions of its RCRA Hazardous Waste Facility Operating Permits TNHW-145 and TNHW-178, the applicable requirements of RCRA and the corresponding Tennessee regulations. This was an EPA lead inspection.

8) Facility Description

ORNL is a federally funded research and development center and the U.S. Department of Energy’s (U.S. DOE) largest multi-disciplinary laboratory. ORNL was established in 1943 as part of the World War II Manhattan Project. Currently, ORNL’s operations include delivering scientific discoveries and technical breakthroughs needed to realize solutions in energy and national security and provide economic benefit to the United States. According to ORNL’s

website, recent research and development highlights include using supercomputing and neutrons to create the most accurate 3D model of a major signaling protein in humans; inventing a cost-effective, environmentally friendly process to extract high-value rare earth elements from the scrapped magnets of used hard drives; harnessing the power of artificial intelligence to better match cancer patients with clinical trials; collaborating with Google to demonstrate the power of quantum computing; developing a process to convert ethanol into fuels suitable for aviation, shipping, and heavy-duty vehicles; restoring the nation's ability to produce plutonium-238 for deep space missions; and applying human geography data and analytics for humanitarian, disaster response, and national security missions.

University of Tennessee (UT)-Batelle is the management contractor for ORNL operations. Hazardous and mixed hazardous wastes generated from laboratory operations managed by UT-Battelle are stored in laboratory satellite and central accumulation areas (CAAs) and permitted storage areas listed under permit number TNHW-178. United Cleanup Oak Ridge, LLC (UCOR) is responsible for environmental cleanup and waste management at ORNL and operates the TRU Waste Processing Center (TWPC) for the processing of legacy transuranic and mixed hazardous waste in storage units listed under permit TNHW-145. The TWPC packages and certifies characterizations for transuranic (TRU) radionuclide-contaminated solid and hazardous wastes for shipment to the U.S. DOE's Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. ORNL has established an agreement with the State of Tennessee which details how ORNL treats and stores legacy wastes and wastes with no treatment paths, such as dioxin and furan wastes. This agreement is detailed in the facility's Site Treatment Plan (STP). Without the protection of the STP, containers stored for more than one year would violate the one-year land disposal restriction requirement.

The U.S. DOE Oak Ridge Reservation also has a corrective action permit (permit number TNHW-164) for solid waste management units and areas of concern, which is managed by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program. ORNL employs approximately 7000 workers which includes scientists and engineers. The facility operates on over 5,000 acres of land which incorporates several administrative offices, laboratories, waste management areas, and testing sites.

ORNL is registered as a LQG of hazardous waste and a permitted treatment and storage facility. The facility submitted their latest notification of regulated waste activity on March 1, 2024. Based on the facility's latest annual report from 2024, ORNL generates used oil, universal waste lamps, universal waste aerosols, and the following hazardous wastes with associated hazardous waste codes:

Hazardous Wastes	EPA Waste Codes
Low-Level Mixed Wastewater	D001, D002, D004, D005, D006, D007-D043, F003
Spent Solvents, Radioactive	D004, D005, D006, D007, D008, D009, D010, D011, D019

Transuranic Mixed Waste	D004, D005, D006, D007, D008, D009, D010, D011, D019
Explosive, Detonating Wastes	D001, D003, D005, D008
Flammable Gas, Non-Flammable Compressed Gas, Poisonous Gas Wastes	D001, D003, D018, D035, P063, P078, U045, U092
Flammable and Combustible Liquid Wastes	P022, D001, D002, D003, D004, D005, D006, D007, D008
Flammable Solids, Spontaneously Combustible, Dangerous When Wet Wastes	D001, D002, D003, D004, D005, D006, D007, D008, D010
Oxidizers and Organic Peroxide Wastes	D001, D002, D003, D004, D005, D006, D007, D008, D010
Poisonous and Infectious Wastes	P005, P008, P012, P014, P015, P018, P027, P029, P068
Radioactive Wastes (Excluding Radioactive Spent Solvents and Transuranic Mixed Waste)	D001, D002, D003, D004, D005, D006, D007, D008, D009
Corrosive Wastes	D001, D002, D003, D004, D005, D006, D007, D008, D009
Miscellaneous Hazardous Wastes	D001, D002, D003, D004, D005, D006, D007, D008, D009

Permit TNHW-145 is managed by UCOR and U.S. DOE. The permit was issued on February 3, 2010, and expired on February 3, 2020, and the facility is currently in the process of renewing their permit with TDEC. This permit is for the TRU waste storage areas located in the TWPC including the remotely handled (RH) TRU waste, contact-handled (CH) TRU waste, and treatment areas located in the TWPC. The permitted storage areas and storage allowances are listed below:

RH-TRU Buildings	
Building Numbers	Max Allowable in Gallons
7572	220,000
7855	96,433
7860A	46,612
7883	96,433
CH-TRU Buildings	
Building Numbers	Max Allowable in Gallons
7574	94,800

7879	114,708
7831F Flammable Storage Unit (FSU)	7,920

The TWPC Treatment Units and Maximum Allowances are listed below:

Unit Identification	Capacity
T-1 – Macroencapsulation	170 55-gallon drum equivalent
T-2 – Amalgamation Treatment (in glove box, hot cell, CPE, or box breakdown area)	10 pounds per hour
T-3 – Solidification/Stabilization Treatment (in glove box, hot cell, CPE, or box breakdown area)	50 gallons of liquid per hour 55 gallons drum of material requiring stabilization in 24 hours
T-4 – Groundwater Absorption	15 55-gallon drum equivalent per 24 hours
T-5 – Size Reduction	41 55-gallon drum equivalent per 24 hours
T-6 – Groundwater Filtration	5,000 gallons per year
T-7 – Neutralization	5 gallons per 24 hours
T-8 – Oxidation/Deactivation	1 kg in 24 hours
T-9 – Puncturing Potentially Pressurized Containers	55 gallons in 24 hours

Permit TNHW-178 is managed by UT-Battelle, LLC (UT-Batelle) and U.S. DOE. The permit was issued on August 15, 2019, and expires on August 15, 2029. This permit is for the treatment and storage of hazardous wastes and mixed hazardous wastes generated from laboratory operations.

The permitted storage areas and storage allowances are listed below:

Container Storage Unit/ Waste Types	Max Operating Capacity (Gallon)	Secondary Containment Capacity (Gallon)
Mixed Waste Storage Facility BLDG 7651 - Solids Only	16,158	2,834
Hazardous Waste Storage Facility BLDG 7652 - Solids and Liquids	46,240	
Small Storage	3,090	466
Small Storage	3,090	466
Small Storage	3,090	466
Medium Storage	10,310	1,501
Medium Storage	10,310	1,501
Large Storage	16,350	2,434
Chemical Waste Storage Facility BLDG 7653 - Solids and Liquids	48,900	
A Bay	11,930	2,263
B Bay	12,450	2,162

C Bay	5,880	1,047
D Bay	5,880	1,047
E Bay	5,880	1,047
F Bay	5,880	1,047
G Bay	1,000	NA
Mixed Waste Storage Facility BLDG 7654 - Solids and Liquids	29,580	
Small Storage A	2,990	393
Small Storage B	3,060	400
Small Storage C	2,790	373
Large Storage	10,370	1,390
Large Storage	10,370	1,390

UT-Batelle Microencapsulation Treatment Units and Maximum Allowances are listed below:

<u>Building No.</u>	<u>Facility Name</u>	<u>Maximum Capacity</u>
7652	Hazardous Waste Storage Facility	330 gallons/day (assuming overpacking 6 drums)
7654	Mixed Waste Storage Facility	700 gallons/day (assuming one B-25 box)

UT-Batelle Absorbent Treatment Units and Maximum Allowances are listed below:

<u>Building No.</u>	<u>Facility Name</u>	<u>Maximum Capacity</u>
7652	Hazardous Waste Storage Facility	55 gallons/day (one drum)
7654	Mixed Waste Storage Facility	700 gallons/day (one B-25 box)

9) Previous Inspection History

Tennessee Department of Environment and Conservation (TDEC) has conducted five RCRA CEIs at the subject facility between 2020 and 2025 and found one violation each for the 2020 and 2021 inspections which were later resolved without enforcement.

On March 4, 2024, TDEC conducted the most recent RCRA CEI at the subject facility and found no apparent violations of RCRA.

10) Opening Conference

On March 11, 2025, EPA inspector Kayla Acosta, accompanied by Pamela Rudd, TDEC Environmental Consultant and lead inspector; Gerald Webster TDEC inspector; Tessa Lollar, TDEC inspector; Dilraj Mokha TDEC Environmental Consultant; and Beverly Philpot Hazardous Waste Program Manager arrived at ORNL at approximately 9:00 A.M. Rich Franco, Team Lead for the Air and RCRA Program for UT-Batelle, immediately received the inspectors. Rich Franco, and the inspectors were joined by Aaron Fielde, Environmental Compliance Specialist for UT-Batelle; Justin Cox, Team Lead Environmental Compliance for UT-Batelle; Gregory Schwartz,

RCRA Lead for UCOR; and Alison Johnson, Environmental Technician for UCOR for the opening conference. The inspectors introduced themselves, showed their credentials, and explained the purpose of the visit.

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

The facility representatives provided a brief 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 the facility representatives led the inspectors on a tour of the facility operations.

11) **Inspection Observations**

The EPA and TDEC inspection team split into two groups for the inspection walkthrough and records review (Group A: Kayla Acosta, Pamela Rudd, Beverly Philpot, and Dilraj Mokha; Group B: Gerald Webster and Tessa Lollar).

Group A inspected the permitted storage units managed by UT-Batelle and UCOR respectively, while Group B inspected central accumulation areas (CAAs) and satellite accumulation areas (SAAs) managed by UT-Batelle and UCOR.

Below is a table of buildings that contain hazardous waste CAAs and SAAs that were inspected by Group B. Each hazardous waste container in the CAAs was dated, labeled, closed, and appeared to be in good condition. Each hazardous waste container in the SAAs were labeled, closed, and appeared to be in good condition. Group B's inspection observations and the exact locations of these areas are further described in TDEC's Hazardous Waste Inspection Report, prepared by Pamela Rudd.

Location of Central Accumulations Areas (CAAs)		
Isotek Central Accumulation Area, Building 3137	Electrical and Electronics Systems Research Division, Building 4500 South (Outside)	Center for Nanophase Materials Science, Building 8610
Biosciences Division, Building 1520	Nonreactor Nuclear Facilities Division, Building 3047	Spallation Neutron Source, Building 8600
Chemical Sciences Division, Building 4100	Nonreactor Nuclear Facilities Division, Building 3525	Research Reactors Division, Building 7900 (Outside)

Facilities Management Division, Building 4500 North (Outside)	Nonreactor Nuclear Facilities Division, Building 7920	TWPC CAA
Materials Science and Technology Division, Building 4500 South	UCOR, LLC Central Accumulation Area, near Buildings 7860A and 7883	Facilities Management Division, Universal Waste Staging, Building 7013
Electrical and Electronics Systems Research Division, Building 4500 South	UT-Batelle Central Accumulation Area, Building 2008	

Location of Satellite Accumulation Areas (SAAs)
Biosciences Division, Building 1520
Chemical Sciences Division, Building 4100
UCOR, LLC Satellite Storage Area, Building 7586
Spallation Neutron Source, Building 8600

Universal Waste and Used Oil Storage Areas
Facilities Management Division, Universal Waste Staging, Building 7013
Garage, Building 7002
Transportation Waste Management Division, Building 4500 South
UCOR, LLC Universal Waste Storage Area, Building 7824

DAY 1 March 11, 2025: Group A Observations

UT-Batelle Permitted Storage Areas Managed Under Permit No. TNHW-178:

The inspectors met with Jeff Davis, Waste Handling and Facility Operations Team Leader who escorted the inspectors for the walkthrough of Buildings 7651, 7652, 7652 Shed, 7653, and 7654. These permitted storage areas are in UT-Batelle's waste management complex which is within a secured perimeter fence that includes signage posted along the fence and 24-hour security as required by Permit No. TNHW-178. These permitted storage areas receive both mixed wastes and hazardous wastes from research laboratories and maintenance facilities managed by UT-Batelle. All wastes are barcoded for tracking, sorted, and stored based on compatibility. Building 7651 is a storage unit located on a concrete pad with a concrete perimeter dike and a metal roof. Large bulk mixed wastes are stored in this area while smaller containers are stored in the other buildings. Buildings 7652, 7652 Shed, 7653, and 7654 are enclosed storage units with secondary containment which were all free of cracks or signs of damage. Every building is equipped with emergency equipment such as fire control equipment and spill containment equipment.

All hazardous waste containers were labeled, dated with an accumulation start date, marked with an indication of hazard and closed. Adequate aisle space was observed in each permitted storage area. Due to radiation levels, the inspectors could not enter Building 7654; however, all containers that were observed at a safe distance appeared to be labeled, closed, dated, and marked with an indication of the hazard of the contents (Photos 1-10). All accumulation start dates observed appeared to be under the one-year storage limit. The inspectors requested a container inventory to evaluate the earliest accumulation start dates for each permitted storage area and verify that the current total storage capacity for each permitted storage area was not exceeding the maximum allowable amount. This data is listed below:

Permitted Area	Oldest Accumulation Date	Total Current Volume of Waste (g)	Max Allowable Volume (g)
7651	7/24/2024	11,358	16,158
7652	6/18/2024	4,218	46,240
7653	6/20/2024	500	48,900
7654	8/29/2024	3,920	29,580

UCOR Permitted Storage Areas Managed Under Permit No. TNH-145:

The inspectors were escorted by Gregory Schwartz, Emily Day, and Rick Dyer of UCOR. These UCOR permitted storage units are for the storage of legacy TRU wastes (CH-TRU and RH-TRU) and mixed hazardous waste (stored longer than one year) that are managed under ORNL's STP. The inspectors conducted a walkthrough of Buildings 7831F, 7574, 7572, 7860A, 7883, 7879, 7855. These permitted storage areas are located within a secured perimeter fence that includes signage posted along the fence and 24-hour security as required by Permit No. TNH-145. All wastes are barcoded for tracking, sorted, and stored based on compatibility. Each permitted storage area's containment was observed to be free of cracks or signs of damage. Every building is equipped with emergency equipment such as fire control equipment and spill containment equipment.

All hazardous waste containers were labeled, dated with an accumulation start date, marked with an indication of hazard and closed (Photos 11-14). Adequate aisle space was observed in all permitted storage areas. The inspectors could not enter Buildings 7572, 7574, and 7855 due to radiation levels; however, all containers that were observed at a safe distance appeared to be labeled, closed, dated, and marked with an indication of the hazard of the contents. The inspectors requested a container inventory to evaluate the earliest accumulation start dates for each permitted storage area (legacy wastes are stored over a year under STP) and verify that the current total storage capacity for each permitted storage area was not exceeding the maximum allowable amount. This data is listed below:

Permitted Area	Oldest Accumulation Date	Total Current Volume of Waste (g)	Max Allowable Volume (g)
7831F	5/6/1991	1,613	7,920
7574	9/9/1971	5,648	94,800
7572	8/13/2018	2,120	220,000

7860A	6/19/1972	13,653	46,612
7883	9/15/2021	14,132	96,833
7879	2/23/2017	38,583	114,708
7855	11/8/1984	330	96,433

UCOR Building 7586 SAA:

The inspectors observed one 30-gallon hazardous waste container in a SAA for electronics and gloves contaminated with Chromium, Lead, and Silver. The container was closed, labeled "Hazardous Waste", and marked with an indication of the hazard of the contents (toxic).

UCOR CAA 671 Near Building 7860A and 7883:

Next to the permitted storage unit in Building 7860A is a CAA. The CAA is equipped with fire control equipment and spill control equipment. Employees use two-way radios, intercoms, and call boxes to communicate during emergencies. The inspectors observed one 55- gallon container of radioactive waste and one cubic yard metal container of radioactive waste. Both containers were labeled "Hazardous Waste," closed, dated, and marked with an indication of the hazard of the contents. The oldest accumulation start date was 3/4/2025.

UCOR Building 7824 Universal Waste Storage:

Building 7824 is UCOR's offices. The inspectors observed the following universal waste all stored under one year (oldest date 6/5/2024):

- One 2.5-gallon container of used batteries, closed, labeled "Universal Waste—Batteries", and dated.
- One 1-gallon container of used batteries, closed, labeled "Universal Waste—Batteries", and dated.
- One 10-gallon container of waste aerosols, closed, labeled "Universal Waste—Batteries", and dated.

DAY 2 March 12, 2025: Group A Observations at TWPC—Managed by UCOR Under Permit No. TNHW-145

The inspectors were escorted by Gregory Schwartz, Emily Day, Alison Johnson, and Rick Dyer of UCOR. No photos are allowed at the TWPC. The TWPC processes both RH and CH legacy TRU waste listed on ORNL's STP, as well as newly generated TRU wastes from UT-Battelle.

The inspectors conducted a walkthrough of permitted treatment building 7880HH and permitted storage buildings 7880A (TWPC-1), 7880 lower level (TWPC-3), 7880 first floor (TWPC-4), 7880 second floor (TWPC-2), 7880AA (TWPC-7), 7880BB (TWPC-6), 7880QQ (TWPC-QQ), container storage area (CSA) (TWPC-5), waste storage area (WSA) and TWPC's CAA 559. The TWPC is situated within a secured perimeter fence that includes signage posted along the fence and 24-hour security as required by Permit No. TNHW-145. All wastes are barcoded for tracking, sorted, and stored based on compatibility. Each permitted area's containment was

observed to be free of cracks or signs of damage. Every building is equipped with emergency equipment such as fire control equipment and spill containment equipment.

Building 7880HH is a permitted treatment building used for microencapsulation of low-level mixed waste. The building was empty at the time of inspection. All hazardous waste containers in permitted storage Buildings 7880, 7880A, 7880BB, and 7880QQ were labeled, dated with an accumulation start date, marked with an indication of hazard and closed. Adequate aisle space was observed in all permitted areas and CAA 559. Buildings 7880 (first floor) and 7880AA were empty and had no waste. The inspectors requested a container inventory to evaluate the earliest accumulation start dates for each permitted storage area (legacy wastes are stored over a year under STP) and verify that the current total storage capacity for each permitted storage area was not exceeding the maximum allowable amount. This data is listed below:

Building Number	Permitted Area	Oldest Accumulation Date	Total Current Volume of Waste (g)	Max Allowable Volume (g)
7880A	TWPC-1	11/6/1970	1,336	22,000
7880 – 2 nd Floor	TWPC-2	12/16/1970	193	11,000
7880 – Lower Level	TWPC-3	4/4/1985	46	37,180
7880 – 1 st Floor	TWPC-4	No Waste	0	5,500
No Building Number	TWPC-5 (CSA)	11/4/1970	11,674	72,600
7880BB	TWPC-6	11/6/1970	345	145,420
7880AA	TWPC-7	No Waste	0	1,320
7880QQ	TWPC-8	11/6/1970	5,760	141,240
Area Between 7880BB and 7880QQ	WSA	11/6/1970	Combined with TWPC-6 and TWPC-8. Under Max volume.	286,660

TWPC CAA 559:

UCOR manages a CAA inside of a shipping container. The CAA is equipped with fire control equipment and spill control equipment. Employees use two-way radios, intercoms, and call boxes to communicate during emergencies. The inspectors observed the following wastes:

- Five 30-gallon used oil containers. The containers were closed and labeled “used oil”.
- One 55-gallon container of used oil filters. The container was closed and labeled “used oil”.
- Two 4ft boxes of used lamps. The containers were closed, labeled “Universal Waste—Lamps”, and both were dated 10/30/2024.
- One 2-ft container of used lamps. The container was closed, labeled “Universal Waste—Lamps”, and dated 1/15/2025.
- One 15-gallon container of used lamps. The container was closed, labeled “Universal Waste—Lamps”, and dated 2/24/2025.
- One 5-gallon container of used lamps. The container was closed, labeled “Universal Waste—Lamps”, and dated 2/15/2024.
- Four lead acid batteries in containers. The containers were labeled “Universal Waste—Batteries” and dated with the oldest accumulation start date as 9/25/2024.

- One 5-gallon container of used lamps. The containers were closed, labeled “Universal Waste—Lamps”, and was dated 1/21/2025.
- One 5-gallon container of broken lamps. The containers were closed, labeled “Universal Waste—Lamps”, and dated 2/18/2025.
- One 21-gallon container of used oil. The container was closed and labeled “Used Oil”.

RECORDS REVIEW

Contingency Plan and Quick Reference Guide (QRG):

ORNL has two contingency plans, one for each permit managed by UT-Batelle and UCOR respectively. (Permit No. TNHW-178 and Permit No. TNHW-145). Both plans were last updated on November 18, 2020.

The plans describe 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 plans describe 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 plans list the names and emergency telephone numbers for persons identified as emergency coordinators. Each plan lists the primary emergency coordinator, and the other individuals are listed in the order in which they will assume responsibility as alternates. The plans include 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 for each contingency plan appears to be up to date. The plans include the location and a physical description of each item on the list, and a brief outline of its capabilities.

Both plans include an evacuation plan for personnel. Both plans describe signals to be used to begin evacuation, evacuation routes, and alternate evacuation routes.

Copies of both contingency plans (and quick reference guides) were submitted to the Anderson County Emergency Management, Knox County Emergency Management, Loudon County Emergency Management, Roane County Office of Emergency Services, City of Oak Ridge Police Department, City of Oak Ridge Fire Department, and Tennessee State Emergency Operations Center in 2020 with certified mail receipts and electronic mail correspondence provided.

The quick reference guides include 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 coordinators and emergency telephone numbers.

Training Records:

The inspectors reviewed facility job descriptions and employee names that were provided for UCOR personnel and UT-Batelle personnel handling hazardous waste. Each description included the requisite skill, education, and other qualifications, and duties of facility personnel assigned to that position.

Written descriptions of the type and amount of both introductory and continuing training to be given to each person filling the positions listed above were available for review. Since ORNL is inspected annually by TDEC, the inspectors reviewed records of employee hazardous waste training completed in within the last year (2024-2025). The facility does maintain three years' worth of training records available for review. No issues were noted.

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 in 2024-2025. The facility maintains three years' worth of manifest records. Hazardous waste manifest records show that hazardous waste is shipped to Clean Harbors Deer Park in La Port, TX (EPA ID TXD055141378), low-level mixed waste is sent to Mission Support and Test Services in Mercury, NV (EPA ID NV3890090001), radioactive waste is sent to Energy Solutions in Clive, UT (EPA ID UTD982598898). Manifest records were also reviewed for legacy TRU waste managed under ORNL's STP being shipped to U.S. DOE's Waste Isolation Pilot Plant in Carlsbad, New Mexico (EPA ID NM4890139088). No issues were noted for manifest records.

Universal Waste and Used Oil Shipping Records:

Shipping documentation was available for review for used oil and universal waste since 2022. Used oil is shipped to by Safety-Kleen in Smithfield, KY and universal waste is sent to Clean Harbors Deer Park in La Port, TX.

Inspections Records:

Daily, weekly, monthly, semi-annual, and annual inspections were available for review for permitted areas, CAAs, emergency equipment, and site security components. Inspections are being conducted pursuant to the inspection schedules listed in Permit No. TNHW-145 and TNHW-178. Since ORNL is inspected annually by TDEC, the inspectors reviewed inspection records from 2024-2025; however, the facility maintains three years' worth of records. No issues were noted.

Waste Determinations and Waste Analysis Plans were available for review for UT-Batelle and UCOR.

ORNL's 2024 annual report was available for review with no issues noted.

Permits TNHW-145 and TNHW-178 were available for review along with the facility's operating records including current waste inventories for each permitted unit and treatment records for waste treatment activities conducted at TWPC. TWPC performed a total of 47 stabilization treatments from 2024 to March 2025 within the permitted limits. Based on the waste inventories, ORNL did not appear to go over storage capacities for permitted units.

The Waste Reduction Plan and annual progress report dated March 19, 2024, were available for review.

ORNL's STP for legacy TRU waste dated January 2025 was also available for review. TDEC conducts an annual review of the STP and regularly meets with ORNL to discuss progress with these wastes.

12) Closing Conference

The inspectors conducted the exit meeting with facility personnel from UT-Batelle, UCOR, and ORNL direct management. During this meeting, the inspectors stated their preliminary conclusions of the inspection.

13) List of Attachments

Attachment 1 – Photo Log:

14) Signed

KAYLA ACOSTA Digitally signed by KAYLA ACOSTA
Date: 2025.05.19 08:09:50 -04'00'

Kayla Acosta
Physical Scientist

15) Concurrence

ARACELI CHAVEZ Digitally signed by ARACELI
CHAVEZ
Date: 2025.05.19 12:51:02 -04'00'

Araceli B. Chavez
RCRA Enforcement Section

Attachment 1 – Photo Log

[14] Photos taken on: March 11-12, 2025

Photos taken by: Kayla Acosta

Photos taken with: iPad

EPA Property Tag: SS8386



Photo 1			IMG-202503111001401402985860.jpg
03/11/2025 10:01 AM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7651			35.92172819, -84.2888692
UT-Batelle Permitted Storage Area			



Photo 2			IMG-2025031111003203202646173.jpg
03/11/2025 10:03 AM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7651			35.92173491, -84.28889529
UT-Batelle Permitted Storage Area			



Photo 3			IMG-2025031110052252278396.jpg
03/11/2025 10:05 AM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7651			35.92171229, -84.28900701
UT-Batelle Permitted Storage Area. Containment is free of cracks and damage.			



Photo 4			IMG-202503111006516513441240.jpg
03/11/2025 10:06 AM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7653			35.92176037, -84.28919542
UT-Batelle Permitted Storage Area.			



Photo 5			IMG-2025031110221322131772418.jpg
03/11/2025 10:22 AM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7653			35.92176554, -84.28915418
UT-Batelle Permitted Storage Area.			



Photo 6			IMG-2025031110253725372102615.jpg
03/11/2025 10:25 AM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7653			35.92178293, -84.28921852
UT-Batelle Permitted Storage Area.			



Photo 7			IMG-2025031110371437142163258.jpg
03/11/2025 10:37 AM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7653			35.92178957, -84.28923965
UT-Batelle Permitted Storage Area.			



Photo 8			IMG-2025031110430843869100.jpg
03/11/2025 10:43 AM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7652			35.92181928, -84.28948103
UT-Batelle Permitted Storage Area.			



Photo 9			IMG-2025031110432643262124469.jpg
03/11/2025 10:43 AM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7652			35.92182011, -84.28949916
UT-Batelle Permitted Storage Area.			



Photo 10			IMG-2025031110434143412181291.jpg
03/11/2025 10:43 AM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7652			35.92181738, -84.28950326
UT-Batelle Permitted Storage Area.			

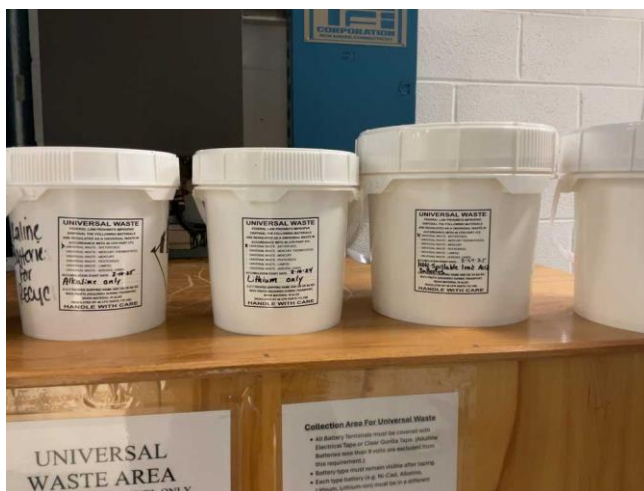


Photo 11			IMG-2025031114375637562161073.jpg
03/11/2025 02:37 PM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7824			35.91720084, -84.31378287
UCOR Office and Universal Waste Storage Area.			

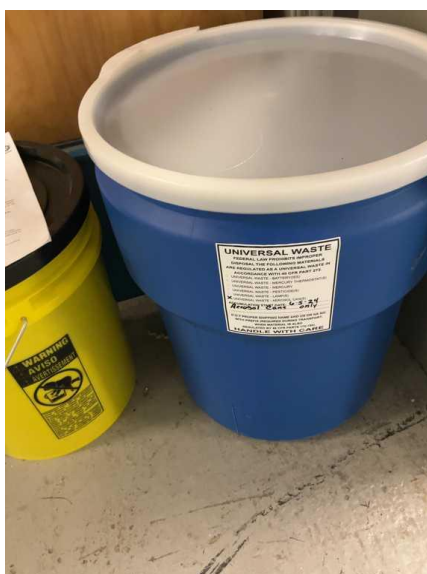


Photo 12			IMG-202503111438063861952071.jpg
03/11/2025 02:38 PM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7824			35.91723148, -84.31372846
UCOR Office and Universal Waste Storage Area.			



Photo 13			IMG-202503111508478473444282.jpg
03/11/2025 03:08 PM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7831F			35.92247645, -84.30480703
UCOR Permitted Storage Area for Dioxin/ Furan wastes listed in STP.			



Photo 14			IMG-202503111508538533455554.jpg
03/11/2025 03:08 PM (ET)	No CBI	No PII	Photographer: Kayla Acosta
Building 7831F			35.92247645, -84.30480703
UCOR Permitted Storage Area for Dioxin/ Furan wastes listed in STP.			