



THE UNIVERSITY OF  
**TENNESSEE**  
KNOXVILLE

**Department of Environmental Health & Safety**

5723 Middlebrook Pike, Suite 119

Knoxville, TN 37921

July 27, 2023

Pamela Rudd, CHMM  
Environmental Scientist  
Division of Solid Waste Management  
State of Tennessee Department of Environment and Conservation  
Knoxville Field Office  
3711 Middlebrook Pike  
Knoxville, TN 37921-6538

RE: Response to Hazardous Waste Compliance Evaluation Inspection  
Notice of Violation  
University of Tennessee, Austin Peay Building  
EPA ID: TN0000879809

Dear Ms. Rudd,

On June 21, 2023, the Tennessee Department of Environment and Conservation (TDEC) conducted a Hazardous Waste Compliance Evaluation Inspection (CEI) at the University of Tennessee, located in Knoxville, Tennessee. The CEI was conducted by the Division of Solid Waste Management to evaluate compliance with the applicable requirements of the Tennessee Hazardous Waste Management Act T.C.A. 68-212, Parts 1 and 3, the Used Oil Collection Act of 1993 T.C.A. 68-211, Part 10, and the regulations adopted pursuant to those Acts.

As a result of the CEI, seven (7) Notices of Violation were discovered along with the issuance of three (3) recommendations for consideration as well. The intent of this response letter and subsequent report is to acknowledge the findings of the CEI and to inform you that all corrective actions initiated in response to the violations have been completed. All recommendations received from the Division of Solid Waste Management have been implemented as well.

Please let me know if there are any further matters that need to be addressed.

Sincerely,

Michael S. Barnhart, QSP  
Program Leader, Environmental Programs  
Environmental Health & Safety  
University of Tennessee

**Cc:** Lisa Hughey, Director, DSWM ([Lisa.Hughey@tn.gov](mailto:Lisa.Hughey@tn.gov))  
Sandra Prior, Director, UTK EHS ([sprior@utk.edu](mailto:sprior@utk.edu))



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A Hazardous Waste Compliance Evaluation Inspection (CEI) conducted on June 21, 2023, by the TDEC Division of Solid Waste Management (DSWM), found that the University of Tennessee – Knoxville Main Campus (UTK) violated Notification Requirements and Standards Applicable to Generators of Hazardous Waste [40 CFR 262 Subpart A] and Standards for Universal Waste Management [40 CFR Part 273].

The following report sections provide additional detail on these violations, observations, recommendations, and corrective actions taken by the university to fully address all items of noncompliance.

**A. Notices of Violation and Corrective Actions**

**Violation #1 – Rule 0400-12-01-.03(1)(f)1(iv)**

(1) General [40 CFR 262 Subpart A]

(f) Satellite accumulation area regulations for small and large quantity generators. [40 CFR 262.15]

1. A generator may accumulate as much as 55 gallons of non-acute hazardous waste or either (i) one quart of liquid acute hazardous waste listed in subparagraph (4)(b) or part (4)(d)5 of Rule 0400-12-01-.02 or (ii) 1 kg (2.2 lbs) of solid acute hazardous waste listed in subparagraph (4)(b) or part (4)(d)5 of Rule 0400-12-01-.02 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 interim status and without complying with the requirements of Rules 0400-12-01-.05 through 0400-12-01-.07 and 0400-12-01-.09, provided that all of the conditions for exemption in this subparagraph are met. A generator may comply with the conditions for exemption in this subparagraph instead of complying with the conditions for exemption in part (g)2 or (h)1 of this paragraph, except as required in subparts (vii) and (viii) of this part. The conditions for exemption for satellite accumulation are:

- (iv) A container holding hazardous waste must be closed at all times during accumulation, except: (I) When adding, removing, or consolidating waste; or (II) When temporary venting of a container is necessary I. For the proper operation of equipment, or  
II. To prevent dangerous situations, such as build-up of extreme pressure.

**Violation # 1 – DSWM Observation:** The University of Tennessee failed to close two 1-gallon satellite containers in Hesler Hall Room 508.

**Violation #1 – UTK Corrective Action:** The Teaching Laboratory Coordinator and laboratory staff in Hesler Biology Room 508 have been notified of the noncompliance and advised on the correct procedures. The stored hazardous waste containers have been closed except for when adding or removing waste. This location will also receive supplemental audit checks from Environmental Health & Safety in 2023 and 2024 to help improve and facilitate regulatory compliance.



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**Violation #2 – Rule 0400-12-01-.03(1)(h)1(v)(I)(III)**

(1) General [40 CFR 262 Subpart A]

(h) Conditions for exemption for a large quantity generator that accumulates hazardous waste. [40 CFR 262.17]

A large quantity generator may accumulate hazardous waste on site without a permit or interim status, and without complying with the requirements of Rules 0400-12-01-.05 through 0400-12-01-.07, and 0400-12-01-.09, including the notification requirements, provided that all of the following conditions for exemption are met:

1. Accumulation. A large quantity generator accumulates hazardous waste on site for no more than 90 days, unless in compliance with the accumulation time limit extension or F006 accumulation conditions for exemption in parts 2 through 5 of this subparagraph. The following accumulation conditions also apply:

(v) Labeling and marking of containers and tanks (I) Containers. A large quantity generator must mark or label its containers with the following: III. The date upon which each period of accumulation begins clearly visible for inspection on each container.

**Violation #2 – DSWM Observation:** The University of Tennessee failed to place an accumulation start date on one container of hazardous waste located in the Science and Engineering Research Facility's central accumulation area.

**Violation #2 – UTK Corrective Action:** The Supervisor, Hazardous Waste Management applied the appropriate start date, in a clear manner, to the waste container stored in SERF Room 207B (central accumulation area). In addition, hazardous waste staff within the EHS Department have been reminded and the correct procedures have been implemented. Accumulation dates on all hazardous waste in SERF Room 207B were checked for accuracy. This location will also receive supplemental audit checks from Environmental Health & Safety in 2023 and 2024 to help improve and facilitate regulatory compliance.

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**Violation #3 – Rule 0400-12-01-.03(1)(f)1(v)(I)**

(1) General [40 CFR 262 Subpart A]

(f) Satellite accumulation area regulations for small and large quantity generators. [40 CFR 262.15]

1. A generator may accumulate as much as 55 gallons of non-acute hazardous waste or either (i) one quart of liquid acute hazardous waste listed in subparagraph (4)(b) or part (4)(d)5 of Rule 0400-12-01-.02 or (ii) 1 kg (2.2 lbs) of solid acute hazardous waste listed in subparagraph (4)(b) or part (4)(d)5 of Rule 0400-12-01-.02 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 interim status and without complying with the requirements of Rules 0400-12-01-.05 through 0400-12-01-.07 and 0400-12-01-.09, provided that all of the conditions for exemption in this subparagraph are met. A generator may comply with the conditions for exemption in this subparagraph instead of complying with the conditions for exemption in part (g)2 or (h)1 of this paragraph, except as required in subparts (vii) and (viii) of this part. The conditions for exemption for satellite accumulation are:

(v) A generator must mark or label its container with the following:



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(I) The words "Hazardous Waste" and

**Violation #3 – DSWM Observation:** The University of Tennessee failed to label one 4-liter satellite accumulation container of waste acid with the words "hazardous waste". The inspector observed this container in Room 702 of the Science and Engineering Research Facility.

**Violation #3 – UTK Corrective Action:** The Principal Investigator (PI) and laboratory staff for SERF Room 702 have been notified of the noncompliance and advised on the correct procedures. The damaged label that was taped back on during the CEI was removed. A new "Hazardous Waste" label was then affixed to the container with an appropriate start date and content information. This location will also receive supplemental audit checks from Environmental Health & Safety in 2023 and 2024 to help improve and facilitate regulatory compliance.

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**Violation #4 – Rule 0400-12-01-.03(1)(f)1(v)(II)**

(1) General [40 CFR 262 Subpart A]

(f) Satellite accumulation area regulations for small and large quantity generators. [40 CFR 262.15]

1. A generator may accumulate as much as 55 gallons of non-acute hazardous waste or either (i) one quart of liquid acute hazardous waste listed in subparagraph (4)(b) or part (4)(d)5 of Rule 0400-12-01-.02 or (ii) 1 kg (2.2 lbs) of solid acute hazardous waste listed in subparagraph (4)(b) or part (4)(d)5 of Rule 0400-12-01-.02 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 interim status and without complying with the requirements of Rules 0400-12-01-.05 through 0400-12-01-.07 and 0400-12-01-.09, provided that all of the conditions for exemption in this subparagraph are met. A generator may comply with the conditions for exemption in this subparagraph instead of complying with the conditions for exemption in part (g)2 or (h)1 of this paragraph, except as required in subparts (vii) and (viii) of this part. The conditions for exemption for satellite accumulation are:

(v) A generator must mark or label its container with the following:

(II) An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704).

**Violation #4 – DSWM Observation:** The University of Tennessee failed to mark one 4-liter satellite accumulation container of waste acid with the indication of hazards (Photo 3). The inspector observed this container in Room 702 of the Science and Engineering Research Facility.

**Violation #4 – UTK Corrective Action:** The Principal Investigator (PI) and laboratory staff for SERF Room 702 have been notified of the noncompliance and advised on the correct procedures. A new "Hazardous



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Waste" label was affixed to the satellite accumulation container with correct hazard indications and start date clearly written. This location will also receive supplemental audit checks from Environmental Health & Safety in 2023 and 2024 to help improve and facilitate regulatory compliance.

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**Violation #5 – Rule 0400-12-01-.12(2)(f)3**

(2) Standards for Small Quantity Handlers of Universal Waste [40 CFR 273 Subpart B]

(f) Accumulation Time Limits [40 CFR 273.15]

3. A small quantity handler of universal waste who accumulates universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. The handler may make this demonstration by:

- (i) Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received;
- (ii) Marking or labeling each individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received;
- (iii) Maintaining an inventory system on-site that identifies the date each universal waste became a waste or was received;
- (iv) Maintaining an inventory system on-site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal waste became a waste or was received;
- (v) Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste in the area became a waste or was received; or
- (vi) Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

**Violation #5 – DSWM Observation:** The University of Tennessee's practice of tracking universal waste storage time dictates that facility staff date each container of universal waste. The facility failed to place storage dates on three containers, one pallet of waste batteries, and three containers of waste lamps stored at the Fleming Center (UT Warehouse).

**Violation #5 – UTK Corrective Action:** The Recycling Supervisor and pertinent staff in Recycling have been advised of the noncompliance regarding storage dates on the universal waste items listed above. An appropriate "Universal Waste – Batteries" label with the correct storage start date was added to each lead-acid battery on the designated pallet. All lead-acid batteries collected will be taken to the appropriate vendor every 30 days for proper recycling. Proper storage start dates were added to the "Universal Waste – Lamps" labels on the lamp containers also at the Fleming Center (UT Warehouse). This location will also receive supplemental audit checks from Environmental Health & Safety in 2023 and 2024 to help improve and facilitate regulatory compliance.

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**Violation #6 – Rule 0400-12-01-.12(2)(e)1**

(2) Standards for Small Quantity Handlers of Universal Waste [40 CFR 273 Subpart B]



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(e) Labeling/Marking [40 CFR 273.14]

A small quantity handler of universal waste must label or mark the universal waste to identify the type of universal waste as specified below:

1. Universal waste batteries (i.e., each battery), or a container in which the batteries are contained, must be labeled or marked clearly with any one of the following phrases: "Universal Waste - Battery(ies)" or "Waste Battery(ies)" or "Used Battery(ies)."

**Violation #6 – DSWM Observation:** The University of Tennessee failed to label each waste lead-acid battery stored on a pallet at the Fleming Center (UT Warehouse).

**Violation #6 – UTK Corrective Action:** The Recycling Supervisor and pertinent staff in Recycling have been advised of the noncompliance regarding storage dates on the universal waste items listed above. An appropriate "Universal Waste – Batteries" label with the correct storage start date was added to each lead-acid battery on the designated pallet. All lead-acid batteries collected will be taken to the appropriate vendor every 30 days for proper recycling. This location will also receive supplemental audit checks from Environmental Health & Safety in 2023 and 2024 to help improve and facilitate regulatory compliance.

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**Violation #7 – Rule 0400-12-01-.12(2)(e)5**

(2) Standards for Small Quantity Handlers of Universal Waste [40 CFR 273 Subpart B]

(e) Labeling/Marking [40 CFR 273.14]

A small quantity handler of universal waste must label or mark the universal waste to identify the type of universal waste as specified below:

5. Universal waste lamps (i.e., each lamp), or a container or package in which such lamps are contained, must be labeled or marked clearly with any one of the following phrases: "Universal Waste - Lamp(s)" or "Waste Lamp(s)" or "Used Lamp(s)" or "Universal Waste - Bulbs(s)" or "Waste Bulb(s)" or "Used Bulb(s)". Containers or packages destined for out-of-state shipment shall use the term "Lamps" in lieu of "Bulbs".

**Violation #7 – DSWM Observation:** The University of Tennessee failed to appropriately label two boxes of waste lamps stored at the Fleming Center (UT Warehouse).

**Violation #7 – UTK Corrective Action:** The Recycling Supervisor and pertinent staff in Recycling have been advised of the noncompliance regarding waste lamp storage box labeling. Recycling staff placed our standard "Universal Waste" labels on each waste lamp container with "Universal Waste – Lamps" clearly written on each, as required. This location will also receive supplemental audit checks from Environmental Health & Safety in 2023 and 2024 to help improve and facilitate regulatory compliance.

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## **B. Supplemental DSWM Recommendations and Response Actions**

**DSWM Recommendation #1:** In Hesler Hall Room 106, the inspector observed two 1-gallon non-hazardous waste containers of loose pipette tips. The Division recommends that the laboratory place the pipette tips in zip-top baggies as the UT EH&S policy dictates.

**UTK Response Action #1:** The Principal Investigator (PI) and laboratory staff for Hesler Biology Room 106 have been notified and advised on the correct procedures. Environmental Health & Safety advised placing used pipette tips in zip-top baggies, per guidance. This location will also receive supplemental audit checks from Environmental Health & Safety in 2023 and 2024 to help improve and facilitate regulatory compliance.

**DSWM Recommendation #2:** The Division recommends housekeeping in the Science & Engineering Research Facility central accumulation area for organization and removal of any unnecessary equipment.

**UTK Response Action #2:** The Supervisor, Hazardous Waste Management has been notified and the correct procedures implemented to return to compliance. Hazardous Waste staff completed a cleanup and organizational 'housekeeping' review of SERF Room 207B and other locations, as requested. All unnecessary equipment has been removed to allow proper access to eye wash stations and improve chemical label visibility. This location will also receive supplemental audit checks from Environmental Health & Safety in 2023 and 2024 to help improve and facilitate regulatory compliance.

**DSWM Recommendation #3:** The Division recommends that the laboratory or UT EH&S staff replace the labeling for the satellite container of waste acid stored in Room 702 of the Science and Engineering Research Facility due to damage.

**UTK Response Action #3:** Environmental Health & Safety have spoken to staff in SERF Room 702 and the waste acid container (satellite) label has since been replaced. Additional yellow "Hazardous Waste Storage Area" signage for fume hoods is being circulated to place in various laboratory rooms with missing or damaged signage to help address issues like this in the future. This location will also receive supplemental audit checks from Environmental Health & Safety in 2023 and 2024 to help improve and facilitate regulatory compliance.