

Battery Removal And Disposal

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1. General

1.1 Purpose This practice addresses the proper disposal methods for batteries. This practice is issued to ensure that:

- The safety and health of GTE employees and the general public are protected.
- National **resources** are conserved through waste minimization/recycling.
- The environment is protected from damage resulting from improper battery disposal.
- GTE is in compliance with all applicable regulations.

1.2 Filing Instructions File this practice in numerical sequence in your practice set.

1.3 Filing Instructions This practice was written by the Environmental Compliance Staff, Employee Safety Services Department and published by the Telephone Operations Administrative Service Group. For more information about this practice contact the Environmental Compliance Staff Department.

No part of this work may be reproduced or copied in any form or by any means -- graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems -- without the written permission of the Administrative Services Group, GTE Telephone Operations Headquarters, Irving, Texas.

1.4 Disclaimer This GTE **Practice has** been prepared for **GTE, GTE customers, and end** users' employees who operate and maintain the equipment engineered and installed by GTE. The information in this practice is subject to change and may not be suitable in all situations. GTE acknowledges that a customer's special requirements or practices may take precedence over those supplied in this practice if a conflict develops during installation or ongoing operation. GTE hereby disclaims any responsibility or liability for any consequential or inconsequential damages that may result from the use of this practice.

1. General. continued

1.5 Refer to the following practices for related information:

Related Information

For Information On ...	Consult GTE Telephone Operations Practice ...
Automotive Batteries-Safety Precautions	993-005-001
Battery Room or Area Ventilation	742-205-070
Battery Safety, Acid Spill Clean Up Procedures	009-075-952
Central Office Equipment Battery Maintenance Safety Board	205-005-100
Central Office Equipment, Installation/Removal Guidelines	220-090-200
Central Office & PABX Batteries-Installation & Maintenance	205-005-200
Central Office & PABX Lead Acid Batteries-General Information	205-005-040
Disposition Of Materials	992-001-015
Floor Mounted Storage Battery Cells (enclosed type installation)	205-005-201

2. Overview

2.1 Background

Batteries are defined as electrochemical devices that produce direct current electricity.

Types of batteries used throughout GTE Telephone Operations include:

- Carbon-Zinc.
- Lead-Acid central office.
- Lead-Acid automotive.
- Nickel-Cadmium (NiCads).

Since batteries contain various hazardous and/or regulated materials they must be disposed of properly.

2.2 State and Local Government Regulations

This practice is based on federal solid and hazardous waste regulations. State and local governments have the authority to enact their own hazardous waste regulations, provided they are at least as stringent as the federal standards.

Where this is the case, state or local regulations supercede the federal standards.

The Area GTE Environmental Compliance staff is responsible for staying abreast of any additional state and local requirements.

3. Safety Precautions

3.1 Potential Hazards lead-acid batteries present potential safety hazards if not handled in a proper manner.

3.2 Body Protection Wear the following, when handling, installing or performing maintenance on batteries, because batteries contain sulfuric acid which is extremely corrosive and cause severe burns:

- Acid resistance gloves.
- A rubber apron.
- Chemical safety goggles.

3.3 Electrical Shock and Burn Protection When lead-acid batteries are connected in series, they produce high current which can cause an individual electrical shock and/or burns. All tools, instruments and surrounding metal surface must be:

- Insulated.

OR

- Constructed of a non-conductive material.

CAUTION 1: Remove all:

- **Rings.**
- **Wristwatches.**
- **Metal bracelets.**
- **Metal necklaces/other metallic jewelry.**

CAUTION 2: Wire rim glasses should be removed or covered with goggles.

3.4 Ventilation Lead-acid batteries produce hydrogen gas, which:

- Is colorless/odorless.
- Can cause respiratory irritation.
- Is explosive if ignited.

Battery rooms must be equipped with adequate ventilation as specified in Practice 742-205-070 "Battery Room or Area entilation."

3.5 Explosion Protection The hydrogen gas released from lead-acid batteries can explode when ignited. All sources of spark or open flame must be kept out of battery rooms.

CAUTION: Never place metal tools on top of the battery cells, since shorting can cause sparks and result in an explosion.

3.6 Smoking Not Permitted Smoking is **NOT** permitted in the battery room or while working near batteries.

4. First Aid

- 4.1 Sulfuric Acid** The sulfuric acid found in battery electrolyte is corrosive and can damage/destroy skin tissue. The inhalation of its fumes can cause irritation to the respiratory system.
- 4.2 Skin Exposure** If electrolyte comes in contact with skin:
- Immediately flush with water for a minimum of 15 minutes.
 - Remove all contaminated clothing.
 - Seek medical attention.
- 4.3 Eyes** If electrolyte comes in contact with the eyes:
- Hold eyelids open.
 - Immediately flush with water for a minimum of 15 minutes.
 - Seek medical attention immediately.
- NOTE:** If sufficient amount of water is not available to flush the eyes, use all the bottles of neutralizing solution found on the "Battery Maintenance Safety Board" (see GTE Telephone Operations Practice 205-005-I 00).
- 4.4 Inhalation** If inhalation of electrolyte vapor occurs:
- Remove to fresh air.
 - Immediately seek medical attention.
- 4.5 Ingestion** If ingestion of battery electrolyte occurs:
- Do NOT induce vomiting.
 - Drink large amounts of milk.
 - immediately seek medical attention.
- NOTE:** Additional information can be found on the Material Safety Data Sheet (MSDS).

5. Environmental Protection Agency (EPA) Requirements

- 5.1 Regulations** The disposal of different types of batteries and their constituents are addressed in the 40 Code of Federal Regulations (CFR).
- State and local governments have the authority to enact their own hazardous waste regulations, provided they are at least as stringent as the federal standards.
- NOTE:** Where this is the case, state or local regulations supercede the federal standards.
- The Area GTE Environmental Compliance staff is responsible for staying abreast of any additional state and local requirements. if you have any questions, contact the Area Environmental staff.

5. Environmental Protection Agency (EPA) Requirements, continued

5.2 Lead-Acid Batteries

Lead acid of wet cell batteries are comprised of lead plates and sulfuric acid (H_2SO_4) electrolyte. They are both regulated as hazardous waste when they require disposal.

NOTE: Lead acid batteries may contain other hazardous constituents such as Cadmium and Arsenic.

To encourage the conservation of natural resources, users of lead acid batteries are given exemptions provided the batteries are being recycled/reclaimed. The exemptions include:

- The generating facility is not required to have an EPA identification number.
- Uniform Hazardous Manifests are not required for the transport of lead acid batteries.

IMPORTANT Batteries or their constituents disposed of in any other manner are classified as hazardous waste.

5.3 Company Policy

All lead acid batteries must be recycled/reclaimed by an EPA permitted facility.

5.4 Nickel- Cadmium Batteries

Spent Nickel-Cadmium batteries (NiCads) are classified as hazardous waste due to the Cadmium concentration. While there is an exemption for batteries being returned to a battery manufacturer for regeneration, GTE Environmental Compliance is not aware of any battery manufacturer who will accept used NiCad batteries.

NiCad batteries are to be reprocessed.

5.6 Recycling Facilities

Batteries must be recycled/reclaimed by facilities that are classified as Hazardous Waste Treatment, Storage or Disposal Facilities (TSDs). These facilities must have an EPA "Permit B" or in the application process.

5.7 Community Awareness

Under the Super-fund Amendment and Reauthorization Act (SARA Title III) sulfuric acid is listed as an extremely hazardous chemical.

All facilities containing extremely hazardous chemicals in quantities greater than 500 pound must file annual reports with the:

- State Emergency Planning Commission.
- Local Emergency Planning Committee (LEPC).
- Local Fire Chief.

6. Manifests

6.1 Requirements

A manifest must accompany all batteries transported by a contractor for reclamation.

A Completed, Signed ...	Must Accompany All. ..
Uniform Hazardous Waste Manifest, see Exhibit 1 on Page 13.	<ul style="list-style-type: none"> • Battery spill/waste. • Waste battery acid or electrolyte. • Nickel-Cadmium batteries.
GTE Battery Manifest, Form 000483, see Exhibit 2 on Page 14.	<ul style="list-style-type: none"> • Absolyte batteries. • Dry cell/carbon-zinc batteries. • Lead acid gell cells. • Lead-acid batteries.

6.2 Types

Refer to the following chart for information on types of manifests:

Manifest ...	Is. ..	And Must Accompany. ..
Uniform Hazardous Waste Manifest	<ul style="list-style-type: none"> • Designed by the EPA • Used by most states with slight modifications • Completed and signed by the appropriate GTE Supervisor/designee before the batteries leave the GTE facility 	All shipments of hazardous waste.
GTE Battery Manifest	Completed and signed by the contractor/appropriate GTE personnel before the batteries leave the GTE facility	All spent batteries leaving facility.

7. Approval Transport and Reclamation Contractors

7.1 Contractors

All contractors used for the removal, transport, storage and reclamation of batteries must:

- Be GTE approved with specific approval for removal, transport, and/or battery reclamation.
- Have a current "General Agreement" in place with GTE complete with an addendum for removal, transport, and/or battery reclamation.

7.2 Responsibility

The work group/department generating spent batteries is responsible for ensuring that these batteries are reclaimed or reprocessed by an approved contractor.

7.3 Contractor Approval

All contractors who transport, store, and/or reclaim must be approved as follows:

Battery Type...	Must Be Approved By. ..
<ul style="list-style-type: none"> • Carbon Zinc • Nickel Cadmium • Others 	Area Environmental Compliance.
Lead-Acid Automotive	Headquarters Fleet Operations.
Lead-Acid Central Office	Headquarters Central Office Equipment (COE) Construction.

7.4 Approval Process

Use the chart below for the review and approval process for a contractor:

Review Must Include ...	And Conducted By The. ..
<ul style="list-style-type: none"> • Vendor's financial status • Background check 	Security Department.
An environmental audit	Environmental Compliance Staff.

7.5 Environmental Review/Audit

The Environmental Compliance Staff will complete an environmental review and audit that will include:

- A review of all applicable environmental permits.
- Conducting an environmental background check.
- Conducting a site audit of all battery reclamation facilities.
- An audit conducted at least once every two years.

8. Central Office Batteries

8.1 Central Office batteries include:

Types

- Lead-Acid batteries:
 - Lead-Calcium cells.
 - Lead-Antimony cells.
- Recombination batteries (value regulated).
- Gel-Cells (immobilized **electrolyte**).

NOTE: Spent Nickel-Cadmium batteries (NiCads) are considered hazardous waste. Removal and disposal procedures for NiCads are listed in the next section of this practice.

8.2
Approved Contractors

All contractors used for the removal, transport, storage, and reclamation of batteries must be GTE approved.

A list of approved contractors can be obtained from the Telops Headquarters COE Construction Staff.

8.3
Transport by GTE Employees

GTE employees:

- Are NOT to transport spent wet-cell batteries.
- May transport to accumulation sites small quantities of batteries:
 - Gell cells.
 - Recombination.
 - Sealed batteries.

8.4
Removal

The Operations Center is the focal point between the first line COE Construction Supervisor and the removal/transport contractor.

8.5
Removal Process

The following chart identifies the area of responsibility for the removal **process**:

Who.. .	Is Responsible For...
COE Construction Personnel	<ul style="list-style-type: none"> • Disconnecting the batteries from service. • Having a "Battery Emergency Spill Kit" on site (material code 881725). • Monitoring the transport contractor to ensure that the batteries are properly loaded. • Ensuring that the GTE Battery Manifest is: <ul style="list-style-type: none"> - Included in the removal bid package. - Completed and signed by the removal/transport contractor. • Forwarding a signed copy of the manifest to the: <ul style="list-style-type: none"> - Area Environmental Compliance Staff. - Switching Services Supervisor. <p style="text-align: right;">NOTE: Refer to GTE Telephone Operations Practice 220-000-200 for additional removal information.</p>

(continued)

8. Central Office Batteries, continued

8.5 Removal Process, continued

Who.. .	Is Responsible For ...
Switching Services Supervisor	Maintaining a copy of the GTE Battery Manifest: <ul style="list-style-type: none"> • On site or in the host office for Remotes. • In a permanent file.

9. Nickel-Cadmium (NiCads) Batteries

9.1 Approved Contractors

All contractors used for the removal, transport, storage, and reclamation of Nickel-Cadmium batteries must be GTE approved. A list of approved contractors can be obtained from the Area Environmental Compliance staff.

WARNING: Spent Nickel-Cadmium batteries are considered hazardous waste even though they are going to be reclaimed.

9.2 EPA ID Number

All facilities where NiCads are accumulated for disposal must have an EPA ID number:

If NiCads Are.. .	Then The Facility Must Have A.. .
Disposed of as a "one time only event"	Temporary EPA ID Number.
Accumulated and disposed of on a regular basis	Permanent EPA ID Number.

NOTE: Contact the Area Environmental Compliance Staff to obtain an EPA ID number for a facility.

9.3 Removal

The Operation Center is the focal point between the first line COE Construction supervisor and the removal/transport contractor.

9. Nickel-Cadmium (NiCads) Batteries, continued

9.4

Removal Process

The following chart identifies the area of responsibility for the removal process:

Who.. .	Is Responsible For ...
COE Construction Personnel	<ul style="list-style-type: none"> • Removing the batteries from service. • Monitoring the transport contractor to ensure the batteries are properly packaged and loaded. • Ensuring that the proper Uniform Hazardous Waste Manifest is: <ul style="list-style-type: none"> - Obtained from the Area Environmental staff. - Completed properly. - Signed by the removal/transport contractor. • Forwarding a copy of the signed Hazardous Waste Manifest to the: <ul style="list-style-type: none"> - Area Environmental Compliance staff. - Switching Services Supervisor.
Switching Services Supervisor	<p>Maintaining a copy of the Uniform Hazardous Waste Manifest:</p> <ul style="list-style-type: none"> • On site (or in the host office for remotes). • Indefinitely.

10. Non-CO NiCads

10.1

Storage

Spent NiCads can be accumulated/stored at:

- **The** location they are generated.
- A central accumulation point.

The method most appropriate for a given facility or work group is determined by:

- The number or pounds of spent batteries generated during a month.
- The amount of spent batteries generated by other work groups in the appropriate area.
- State and local hazardous waste regulations.

IMPORTANT: **Contact the Area Environmental Compliance Staff to determine where spent NiCads are to be stored.**

10. Non-CO NiCads. continued

10.2 Disposal

The responsibility for disposal of spent NiCads is determined as follows:

The Person Responsible If NiCads Are ...	For Disposal is The ...
Stored and disposed of by the work group that generates the batteries	Supervisor of that work group.
Stored and disposed of from a central accumulation point	Supervisor of the accumulation point.

10.3 Supervisor Responsibilities

The supervisor is responsible for:

- Monitoring the transport contractor to ensure that the batteries are properly packaged and loaded.
- Ensuring that the Uniform Hazardous Waste Manifest is:
 - Obtained from the Area Environmental staff.
 - Completed properly.
 - Signed by the removal/transport contractor.
- Forwarding a copy of the signed Hazardous Waste Manifest to the Area Environmental Compliance staff who will maintain the manifest in a permanent file.
- Maintaining a copy of the signed Hazardous Waste Manifest in a permanent file.

11. Fleet Batteries

11.1 Approved Contractors

All contractors used for the removal, transport, storage, and reclamation of batteries must be GTE approved. A list of approved contractors can be obtained from the Telops headquarters Fleet Staff.

11.2 Removal

The Fleet Supervisor is responsible for:

- Storing all batteries in a safe manner.
- Monitoring the transport contractor to ensure that the batteries are properly loaded.
- Ensuring that the GTE Battery Manifest (refer to Exhibit 2 on Page 14) is completed and signed by the removal/transport contractor.
- Forwarding a copy of the signed GTE Battery Manifest to the Area Environmental Compliance Staff.
- Maintaining a copy of the GTE Battery Manifest in a permanent file.

Exhibits

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law.	
GENERATOR	3. Generator's Name and Mailing Address		A. State Manifest Document Number 63-6587		B. State Generator's ID	
	4. Generator's Phone ()		C. State Transporter's ID		D. Transporter's Phone	
	5. Transporter 1 Company Name	6. US EPA ID Number	E. State Transporter's ID		F. Transporter's Phone	
	7. Transporter 2 Company Name	8. US EPA ID Number	G. State Facility's ID		H. Facility's Phone	
	9. Designated Facility Name and Site Address		10. US EPA ID Number			
	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
	a.					
	b.					
	c.					
	d.					
15. Special Handling Instructions and Additional Information		K. Handling Codes for Wastes Listed Above				
<p>16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.</p> <p>Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment.</p>						
Printed/Typed Name		Signature		Month Day Year		
TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Materials		Signature		Month Day Year	
	Printed/Typed Name		Signature		Month Day Year	
FACILITY	18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		Month Day Year	
	Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest <input type="checkbox"/> except as noted in item 19.						
Printed/Typed Name		Signature		Month Day Year		

DHS 8022 A (11/85)
(EPA 8700-22)

Exhibit 1 - Example of a California Uniform Hazardous Waste Manifest

Exhibits, continued



BATTERY MANIFEST
 FORM 000483 PS
 Ref. GTEP 122-205-001

*DISTRIBUTION: White - Shipping Location
 Yellow - Ship with Batteries
 Pink - GTE Environmental Compliance*

For Batteries Being Shipped To A GTF Approved Reclamation Facility

SHIPPED FROM			SHIPPED TO		
FACILITY			FACILITY		
STREET			STREET		
CITY	STATE	ZIP	CITY	STATE	ZIP
FACILITY NO.		PHONE	EPA ID NUMBER		PHONE

NUMBER OF BATTERIES	NO. OF DRUMS OR PALLETS	DESCRIPTION TYPE OF BATTERIES	APPROXIMATE WEIGHT

I certify that the above information is true and correct

SIGNATURE:

GTE	DATE
CONTRACTOR	DATE

INSTRUCTIONS:

- Before the batteries are shipped, this Battery Manifest Must be:**
- . Completed and signed by the GTE employee responsible for the battery disposition.
 - . Signed **by** the approved transport contractor.

- A Copy of the form must:**
- . **Accompany the batteries** while in transport.
 - . Be sent to the GTE Area Environmental Staff.
 - . Be maintained at the facility from which the batteries were shipped.

QUESTIONS:

Refer to GTEP 122-205-001 or Contact the GTE Area Environmental Staff.

Exhibit 2 - Example of a Battery Manifest, Form 000483PS