Revised the CCRC Acceptance Criteria and Requirements for Universal Waste and other recyclable waste streams accepted at the CCRC.
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R. Strickling

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| 8. Is Information requiring submission to OSTI? | ☑ No ☐ Yes |

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F. Complete for a Journal Article

G. Complete for a Presentation

H. Information Owner/Author/Requestor

7/21/16

Responsible Manager

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J. Comments

Information Clearance Approval

APPROVED
By Janis Aardal at 1:25 pm, Aug 01, 2016

Approved for Public Release; Further Dissemination Unlimited
Centralized Consolidation/Recycling Center
Acceptance Criteria

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-09RL14728

P.O. Box 650
Richland, Washington 99352

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1.0 INTRODUCTION

The Centralized Consolidation/Recycling Center (CCRC) facility is in a central location for collection of Universal Waste (UW) and recyclable material from various Hanford Contractors.

Per HNF-EP-0863, Management Plan for Recyclable Materials Administered by Hanford’s Centralized Consolidation/Recycling Center, and the U.S. Environmental Protection Agency (EPA) and State of Washington, Department of Ecology (Ecology) agreement, the CCRC will continue to be used for consolidating UW and other recyclable materials, thereby facilitating economy-of-scale efficiencies for Hanford Site recycling activities. Mission Support Alliance (MSA) is responsible for the management of the materials upon receipt at the CCRC and transportation from the CCRC to offsite handlers of UW, or to recycling facilities. This document identifies the criteria to accept Universal Waste and other recyclable material at the CCRC.

HNF-EP-0863 provides regulatory concurrence for the following:

- The U.S. Department of Energy (DOE) will ensure the UW is appropriately labeled or marked at each field generating facility, per Washington Administrative Code (WAC) 173-303-573(22). EPA and Ecology agree that each field generating facility must label or mark UW with the accumulation start date and is allowed to accumulate UW up to a year in the field, prior to transfer to the CCRC.

- Upon receipt at the CCRC, UW will be labeled or marked with a new accumulation start date. EPA and Ecology agree that UW may be accumulated up to an additional year prior to being shipped to an offsite destination facility. If additional time is needed for accumulation at the CCRC beyond the one year accumulation period, the CCRC must be able to demonstrate to Ecology that the additional time is required to facilitate consolidation of sufficient material to make an offsite shipment feasible (WAC 173-303-573(22)(b)).

- Additionally, aerosol cans shall be accumulated at various facility/field locations prior to and in preparation for subsequent delivery to the CCRC. Aerosol cans meeting CCRC acceptance criteria would not be subject to a solid waste determination, until the cans are received at the CCRC.

The UW point-of-generation location is at the facilities and/or work areas where UW is accumulated prior to and/or in preparation for delivery to the CCRC. As such, personnel at the subject facilities and/or work areas are responsible for complying with WAC 173-303-573 UW handling requirements associated with UW generation and accumulation.

2.0 PURPOSE AND SCOPE

The waste acceptance criterion identifies the requirements for onsite recycling services provided by the CCRC. This document identifies criteria for acquiring recycling services from the CCRC for the following materials:

- UW Lamps (see Section 3.0 for restrictions)
- UW Batteries (see Section 3.0 for restrictions)
- UW Mercury-Containing Equipment (MCE) (see Section 3.0 for restrictions)
- UW Mercury-Containing Thermostat (see Section 3.0 for restrictions)
- Recyclable Materials to the CCRC (see Section 3.0 for restrictions)
  - Aerosol Products
  - Lead Acid/Gel Cell /Glass Mat Batteries
  - Electrical Ballasts or Capacitors

3.0 MATERIALS NOT ACCEPTED AT THE CCRC

- Radioactive Waste

- Aerosol Products Rejected During Screening
  - All aerosol products are screened to evaluate which aerosols are acceptable to be punctured at the CCRC.
  - Screening results are entered into the Hanford Chemical Inventory Tracking System (CITS).
  - Reports are available on the MSA Chemical Management Process webpage. Aerosols with the following Chemical Management codes will not be accepted:
    - **Rejected**: Chemical Compatibility: Code: CCRC-RC
    - **Rejected**: Regulation: Code: CCRC-RR
    - **Rejected**: Physical Damage: Code: CCRC-RP

- Crushed Fluorescent Lamps

- Electronic Equipment

- Elemental Mercury (i.e., Mercury that has been separated from broken equipment or thermostat)

- Electronic Ballast or Capacitors:
  - Polychlorinated biphenyl (PCB)-containing ballasts or capacitors
  - Ballasts or capacitors that are defined as dangerous waste

- Lead-Acid/Gel Cell Batteries:
  - Fully-Charged Batteries
  - Batteries banded to pallets
  - Leaking batteries (cracked batteries will be evaluated on a case by case basis)
  - Oil filled batteries
  - Missile, aluminum, batteries
  - Drained battery carcasses
4.0 COST TO BE INCURRED FOR NON-COMPLIANT CONTAINERS

Non-compliant containers shipped to the CCRC require appropriate resolution prior to acceptance. Resolution alternatives include, but are not limited to, correction of the non-compliant condition at the CCRC, conditional acceptance of the container, or return of the container to the generator for correction. The generator shall be responsible for all costs associated with correcting the container, including payment for CCRC labor hours and materials required to correct the noncompliance condition.

Administrative Interface Agreement (AIA), HNF-58413, for Centralized Consolidation/Recycling Center Acceptance of Waste and Other Services, defines roles and responsibilities between MSA and other Hanford contractors regarding use of the CCRC. The interface agreement addresses costs to be incurred for noncompliant containers and actions when the generator exceeds the Universal Waste one year accumulation date.

5.0 GENERATORS ACCUMULATION TIME PERIOD FOR UNIVERSAL WASTE LAMPS, BATTERIES, MERCURY-CONTAINING EQUIPMENT, AND MERCURY THERMOSTATS

5.1 GENERATORS

Each container of UW received at the CCRC shall have a UW Label or be marked clearly with the type of UW and the date it became a waste.

5.2 CCRC ACTIONS WHEN GENERATOR EXCEEDS UNIVERSAL WASTE ONE YEAR ACCUMULATION DATE

Upon receipt of UW containers at the CCRC, containers are verified to ensure the in-field accumulation one year date has not been exceeded. This is accomplished by one of the following:

1. Visual verification of the generator’s “Accumulation Start Date” on their UW Label or UW marking on container

2. Verification that the container is marked clearly with the type of UW and the date it became a waste.

If in-field one year UW accumulation date has been exceeded, the following step will be taken:

1. The generating facility ECO/POC is notified of the receipt of a container that exceeded the one-year time frame for accumulation.

NOTE: The burden of proof to exceed the one year waste accumulation time limits lies with the generating facility, as defined in the regulations (WAC-173-303-573(22)(b)).
6.0 CCRC ACCEPTANCE CRITERIA AND REQUIREMENTS FOR UNIVERSAL WASTE

This section outlines the requirements for receipt of UW at the CCRC. Each section identifies the packaging requirements, marking and labeling requirements, all required documents, and any prohibitions.

6.1 UNIVERSAL WASTE LAMPS

6.1.1 Marking and Labeling

1. UW lamp containers shall be labeled or marked clearly with any of the following phrases:
   - “Universal Waste – Lamp(s)”
   - “Waste Lamp(s)”
   - “Used Lamp(s)”

   NOTE: The UW Label can be found on the CCRC website under Misc. Forms and Labels.

2. UW lamp containers shall be marked with the accumulation start date the UW became a waste.

   NOTE: The CCRC will not accept UW labels with multiple accumulation dates crossed off.

3. Prior to shipping to the CCRC, each container is required to be labeled or marked on the top and one side (not applicable to 4 foot and 8 foot fluorescent lamp boxes) as follows:
   a. Identification of lamp type
   b. Container Identification Number (CIN)/Package Identification Number (PIN)
   c. Gross weight in pounds.

6.1.2 Packaging

1. Segregate and package by lamp type (e.g., intact fluorescent, compact fluorescent, intact incandescent, sodium, mercury vapor).

2. Lamp boxes (4 foot and 8 foot boxes) shall be securely taped. No gaps between flaps or openings of any size on the fiberboard box. NO masking tape is to be used. Masking tape loses it adhesiveness (dries out), and the container/box may not be properly closed.

   2a. If original manufacturer boxes are used, the “hand holes” shall be taped closed.

   2b. No lamps shall be protruding out of the ends of the boxes.

   2c. Stacked lamps on pallets should be five rows high and five rows wide, with narrow, smaller boxes on top. Do not exceed 48 inches in height.
2d. Stack lamps so forklift can enter pallet correctly.

3. Cardboard/fiberboard boxes shall be securely taped closed. **NO gaps, holes or openings in the box. No masking tape is to be used.** Masking tape loses its adhesiveness (dries out), and the container/box may not be properly/securely closed.

4. Containers that have broken lamps need to be marked or labeled “**Unintentionally Broken**” on the top of the container.

5. Drums shall be closed per manufacturer’s instructions.

**6.1.3 Required Documentation**

The following forms are required:

- CCRC UW Lamp Shipment Forms
- Non-Radiological Determination Form (A-6005-944) or equivalent.

**6.1.4 Prohibited Items**

The following are prohibited from the CCRC:

- Cracked, broken, or crushed sodium lamps (high or low pressure)

- Cracked, broken HID mercury lamps

- Fiberboard drums (CCRC does not have a loading dock, so a forklift or drum handler is used to unload and load heavy or bulk items). The drum-handler will crush the fiberboard drums, so they will not be accepted at the CCRC.

- Exposed or protruding lamps from boxes.

**6.2 UNIVERSAL WASTE BATTERIES**

**6.2.1 Marking and Labeling**

1. UW batteries shall be labeled or marked clearly with any of the following phrases:

   - “Universal Waste – Battery(ies)”
   - “Waste Battery(ies),”
   - “Used Battery(ies).”

   **NOTE:** The UW Label can be found on the CCRC website under Misc. Forms and Labels.

2. UW battery containers shall be marked with the accumulation start date the UW became a waste.
NOTE: The CCRC will not accept UW labels with multiple accumulation dates crossed off.

3. **Prior** to shipping batteries to the CCRC, every battery container is required to have the following information written on the top and one side of the container:

- Identification of battery type
- CIN/PIN
- Gross weight in pounds

6.2.2 Packaging

1. Batteries must be segregated and packaged by battery type:

   a. Alkaline
   b. Carbon-zinc/zinc chloride
   c. Nickel cadmium
   d. Mercury/mercury oxide
   e. Magnesium
   f. Lithium Ion (Rechargeable) (Li Polymer, Button Cell with code LIR, Cobalt oxide,)
   g. Lithium Metal (Li, Manganese, Iron Sulfide, Thionyl Chloride, Sulfur Dioxide)
   
   (All Lithium Ion and Lithium Metal batteries **shall be SEGRATED and packaged into SEPARATE CONTAINERS** by the different categories of Lithium Ion and Lithium Metal Batteries)

   h. Polaroid Polar Pulse

   i. Zinc-silver

   **NOTE:** Corroded batteries may be placed individually into a closed baggie. **This does not apply to Lithium Metal or Lithium Ion Batteries.** See Appendix A for Battery Terminal Protection Guide Table.

2. The following used or spent dry sealed batteries must have terminal ends taped with clear carton/box sealing tape, duct tape, or electrical tape; or be individually placed in a plastic baggie or placed in the manufacturer’s packaging prior to placing in container for shipment to CCRC:

   a. Greater than 9 volts (clear carton/box sealing tape, duct tape, or electrical tape).
   b. Batteries with specific U.S. Department of Transportation (DOT) proper shipping names.
3. Small quantities of batteries in non-DOT **removable top poly/plastic containers shall not exceed 25 lbs.** (handles on plastic buckets have broken). For DOT specification containers, follow manufacturer closure instructions.

4. Container weight limits are as follows:
   - ≤30 gallon container - up to 300 lbs.
   - >30 gallon container - no more than 450 lbs.

**NOTE 1:** *Masking tape is not allowed* for terminal protection due to paper content of tape.

**NOTE 2:** *Scotch, transparent, and office tape do not meet the definition of clear packing tape.*

### 6.2.3 Required Documentation

The following forms are required:

- CCRC UW Battery Shipment Forms
- *Non-Radiological Determination Form* (A-6005-944) or equivalent
- Hazardous Material Shipment Record (HMSR) or Bill of Lading, as applicable
- Closure instructions shall accompany containers with proper shipping names (PSNs).

### 6.2.4 Prohibited Items

The following are prohibited from the CCRC:

- Leaking or corroded “wet” batteries.

**NOTE:** *Damaged or defective Lithium Ion and Lithium Metal Batteries will be accepted at the CCRC on a case by case basis. Contact CCRC PRIOR to managing them as Universal Waste.*

### 6.3 UNIVERSAL WASTE MERCURY-CONTAINING EQUIPMENT OR UNIVERSAL WASTE MERCURY THERMOSTAT(S)

#### 6.3.1 Marking and Labeling

1. **UW MCE** must be labeled or marked clearly with any of the following phrases:
   - “Universal Waste-Mercury Containing Equipment”
   - “Waste-Mercury Containing Equipment”
   - “Used Mercury-Containing Equipment.”

   **NOTE:** *UW Label can be found on the CCRC website under Misc. Forms and Labels.*

2. **UW MCE** containers shall be marked with the accumulation start date the UW became a waste.

   **NOTE:** *The CCRC will not accept UW labels with multiple accumulation dates crossed off.*
3. **UW-Mercury Thermostat(s)** container must be labeled or marked clearly with any of the following phrases:

- “Universal Waste-Mercury Thermostat(s)”
- “Waste-Mercury Thermostat(s)”
- “Used Mercury Thermostat(s)”

**NOTE:** UW Label can be found on the CCRC website under Misc. Forms and Labels.

4. Universal Waste -Mercury Thermostat(s) container shall be marked with the accumulation start date the UW became a waste.

**NOTE:** The CCRC will not accept UW labels with multiple accumulation dates crossed off.

5. Prior to shipping to the CCRC, each container is required to be labeled or marked on the **top and one side** of the container as follows:

1. Identification of contents in container
2. CIN or PIN

### 6.3.2 Packaging

1. Mercury-containing thermostats and MCE shall be shipped to the CCRC in separate containers.

2. Mercury-containing thermostats and MCE packaging shall be approved by the CCRC personnel **prior** to shipping.

3. The container must be closed, structurally sound, compatible with the contents of the device, must lack evidence of leakage, and must be reasonably designed to prevent escape of mercury into the environment by volatilization.

### 6.3.3 Required Documentation

The following forms are required:

- CCRC UW MCE Shipment Form or CCRC UW Thermometer Form
- Non-Radiological Determination Form (A-6005-944) or equivalent
- HMSR or Bill of Lading as applicable
- Closure instruction shall accompany containers with PSNs.

### 6.3.4 Prohibited Items

The CCRC does not accept elemental mercury or UW MCE if free mercury is outside of the broken piece of equipment. No broken mercury thermometers. Broken UW MCE will be evaluated on a case by case basis.
6.4 CCRC ACCEPTANCE CRITERIA AND REQUIREMENTS FOR RECYCLABLE MATERIALS

This section outlines the criteria for receipt of recyclable material at the CCRC. The following sections identify the packaging, marking, labeling, and documentation criteria. Additionally, applicable prohibitions were also identified. The recyclable materials addressed in this section include aerosol products, lead acid/gel cell/glass mat batteries, and electrical ballasts/capacitors.

6.4.1 Aerosol Product Evaluation Method

Mission Support Alliance (MSA) Chemical Management has established a screening process to evaluate aerosol products, listed in the active Hanford Chemical Inventory Tracking System (CITS), to identify which aerosols are acceptable for puncturing at the CCRC. The results of this evaluation determine which aerosol products will be sent to the CCRC for product disposition when there is no longer a use for them at a particular facility. In addition, the screening process considers regulatory restrictions for puncturing herbicides and pesticides and the physical properties of the aerosols, such as foam and adhesives that may damage the puncturing device. MSC-59663, Evaluation of Aerosol Products at the Hanford Site for Chemical Compatibility describes in detail the evaluation study conducted on the aerosol products used and stored at the Hanford Site to determine which products, when not at use at the Hanford facilities, should be sent to the CCRC for disposition. Two groups of aerosol cans were identified as accepted or rejected aerosols for disposition. Rejection was based on chemical compatibility, regulatory requirements, and potential physical damage to the puncturing equipment. The results of the evaluation were documented in the Chemical Inventory Tracking System (CITS) database on a per aerosol basis.

Screening results are entered into the CITS database and reports are available for generators and CCRC facility personnel on the MSA Chemical Management Process webpage. The reports will be updated at least quarterly. The MSA Chemical Management Lead is responsible to review the chemical contents of each aerosol product to determine chemical compatibility issues. Screening evaluations will be performed for newly acquired aerosol products and for other undocumented aerosol containers. Results of the evaluations will be entered into the MSA Chemical Inventory Tracking System database (CITS). Aerosol product disposition, roles, and responsibilities are included in MSC-PRO-WP-10468, Chemical Management Process.

6.4.2 Aerosol Product Acceptance Criteria for Generators

1. Utilize the CITS database or CITS generated reports to identify aerosol products that are Accepted or Rejected from being shipped to the CCRC.

2. The following group category codes will identify which aerosols products are acceptable or rejected from being shipped to the CCRC:
   - **Accepted**: Code CCRC-A
   - **Rejected**: Chemical Compatibility: Code: CCRC-RC
   - **Rejected**: Regulation: Code: CCRC-RR
   - **Rejected**: Physical Damage: Code: CCRC-RP
3. Use the CITS database or reports generated from CITS to identify aerosol products that are approved to be shipped to the CCRC. Group Category code which identifies accepted aerosol can products: **Accepted: Code CCRC-A.**

**NOTE:** CITS database summary reports listing acceptable or rejected aerosol cans are available at MSA Chemical Management Process (CMP) website.

4. Contact SDS/MSDS data administrator to have an evaluation performed if the aerosol product has not been previously evaluated by the CMP Lead.

5. Complete A-6006-637, **CCRC Submittal Form for Approved Aerosol Products.**

6. Electronically submit A-6006-637 for approval **prior to shipping aerosol boxes to the CCRC,** to

   6a. CCRC personnel will approve, date, and electronically return the CCRC Submittal Form for Approved Aerosol Products, A-6006-637, to the generator.

7. Upon return of the “Approved” CCRC Submittal Form, **remove any Rejected Aerosols from submittal form & fiberboard box.**

8. Include the CCRC Approved Aerosol Submittal Form with your shipment of aerosol cans to the CCRC.

9. **No CCRC Rejected Group Category Coded Aerosols** listed on the CCRC Aerosol Submittal Inventory Forms **will be accepted at the CCRC.** Rejected Group Category Coded aerosols shall be returned to the generator at their expense.

10. Work with CCRC to schedule a date and time to ship aerosol products to the CCRC.

**6.4.3 Marking and Labeling**

1. Recycle accumulation logo with the words “Aerosol Products” written on it shall be on each box. Logos are available on the CCRC website under Misc. Forms and Labels.

2. Fiberboard Box (FB) **number on each box.** On the top and one end of the fiberboard box. Each fiberboard box (FB) shall have a separate CCRC Submittal Form for Approved Aerosol Products & FB Number assigned to it. The same FB number shall be written on the CCRC Submittal Form for Approved Aerosol Products, A-6006-637 and the fiberboard box.

3. Shipped per DOT Hazardous Materials Regulations 49 CFR 171-180, if applicable

**6.4.4 Packaging**

1. Only chemically compatible aerosol products shall be packaged together.
2. HNF-EP-0863, Rev. 3 Management Plan for Recyclable Materials Administered by Hanford’s Centralized Consolidation/Recycling Center, requires all aerosol to have caps on them, when shipped to the CCRC.

3. Ensure aerosol product box gross weight does not exceed 40 lbs.

6.4.5 Required Documentation

The following forms are required:

1. Non-Radiological Determination Form (A-6005-944), including Part E or equivalent

2. Certificate of Scrap Metal for Recycling (A-6003-149) or equivalent

3. Hazardous Material Shipment Record (HMSR), as applicable

6.4.6 Prohibited Items

1. The following group category codes in the Chemical Inventory Tracking System (CITS) reports will identify which aerosols products are rejected from being shipped to the CCRC:
   • Rejected: Chemical Compatibility: Code: CCRC-RC
   • Rejected: Regulation: Code: CCRC-RR
   • Rejected: Physical Damage: Code: CCRC-RP

2. No CCRC Rejected Group Category Coded Aerosols listed on the CCRC Aerosol Submittal Inventory Forms will be accepted at the CCRC. Rejected Group Category Coded aerosols shall be returned to the generator at their expense.

6.5 LEAD ACID/GEL CELL/GLASS MAT BATTERIES

No fully charged lead acid/gel cell/glass mat batteries are accepted. Lead acid/gel cell/glass mat batteries consolidated at the CCRC will be managed in accordance with WAC-173-303-520, “Special Requirements for Reclaiming Spent Lead Acid Battery Wastes.”

6.5.1 Marking and Labeling

Prior to shipping to the CCRC, each container is required to be labeled or marked on the top as follows:

1. Recycle Accumulation Logo, with Lead Acid/Gel Cell/Glass Mat written on it. Logos are available on the CCRC website under Misc. Forms and Labels

2. CIN/PIN number

6.5.2 Packaging

1. All liquid-filled batteries shall have caps, plugs, or covers over the opening to prevent spills or releases.

2. Package lead acid/gel cell/glass mat batteries in **IH2 poly drums smaller than 5 gallon** containers or in wooden boxes on skids.
   
   **Note:** *No metal drums or larger than 5 gallon plastic containers shall be used.*

3. Large batteries shall be packaged in wooden shipping boxes on skids with secured lid.

4. Boxes require two metal bands wrapped horizontally for support:
   - One band approximately 6 inches from the top
   - The other band approximately 8 inches from the top

5. The weight of batteries shall not exceed the capacity of wooden plywood boxes to safely transport without cracking or splitting.

6. Ensure batteries are packaged upright to avoid movement and must be secured within battery box to prevent the batteries from reorienting in transport.

**NOTE:** *Glass-cased batteries are accepted on a case by case basis. Contact the CCRC for approval.*

6.5.3 Required Documentation

The following forms are required:

- CCRC Lead Acid/Gel Cell/Glass Mat Batteries Shipment Form (A-6006-644)
- Non-Radiological Determination Form (A-6005-944) or equivalent
- HMSR as applicable.

6.5.4 Prohibited Items

The following are not accepted at the CCRC:

- Lead Acid/Gel Cell/Glass Mat batteries as **Universal Waste**
- No fully charged batteries
- Batteries banded to pallets
- Leaking or cracked batteries (cracked on a case by case basis)
- Oil filled batteries
- Missile, aluminum, oil filled batteries
- Drained battery carcasses.
6.5  ELECTRICAL BALLAST OR CAPACITORS

6.5.1  Packaging

1. Small (no larger than 12 inches x 12 inches or no bigger than a 5 gallon water container) and large capacitors shall be segregated and packaged separately.

2. Drums shall weigh ≤450 lbs.

3. Containers shall be closed per manufacturer's instructions.

6.5.2  Marking and Labeling

Prior to shipping to the CCRC, each container is required to be labeled on the top and one side of each container as follows:

1. Accumulation Logo, with “Electrical Ballasts” or “Capacitors” written on it. Logos are available on the CCRC website under Misc. Forms and Labels.

2. CIN/PIN Number


6.5.3  Required Documentation

The following forms are required:

- CCRC Electrical Ballasts or Capacitors Shipment Form
- Non-Radiological Determination Form (A-6005-944) or equivalent.

6.5.4  Prohibited Items

Ballasts or capacitors containing PCBs are prohibited from acceptance at the CCRC.
7.0 REFERENCES


## APPENDIX A

**BATTERY TERMINAL PROTECTION GUIDE TABLE**

<table>
<thead>
<tr>
<th>#</th>
<th>Battery Type and Abbreviation</th>
<th>If Battery is 9 Volts or Less, is Protection of Battery Terminals Required?</th>
<th>If Battery is &gt;9 Volts, is Protection of Battery Terminals Required?</th>
<th>Acceptable Tape for Terminal Protection</th>
<th>Can Batteries that Require Terminal Protection be Placed in a Closed Plastic Bag or Manufacturer’s Packaging without Taping Terminals?</th>
<th>Can Corroded Batteries be Placed in Recycling Container?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Nickel Cadmium (NiCd/NiCad)</td>
<td>Dry – No Wet - Yes</td>
<td>Yes</td>
<td>Clear carton/box sealing tape, electrical tape, duct tape</td>
<td>Dry -Yes, individually in closed plastic baggies</td>
<td>Dry –Yes after corrosion wiped off. Place into closed baggies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Wet - No</td>
<td>Wet -No</td>
</tr>
<tr>
<td>2.</td>
<td>Lithium Ion (rechargeable) Li-ion</td>
<td>Yes</td>
<td>Yes</td>
<td>Electrical tape or duct tape</td>
<td>Yes, individually in closed plastic baggies</td>
<td>No</td>
</tr>
<tr>
<td>3.</td>
<td>Lithium Metal (small button type, electronics, cameras,)</td>
<td>Yes</td>
<td>Yes</td>
<td>Electrical tape or duct tape</td>
<td>Yes, individually in plastic baggies</td>
<td>No</td>
</tr>
<tr>
<td>4.</td>
<td>Damaged or Defective Ion or Metal Lithium</td>
<td>Yes</td>
<td>Yes</td>
<td>Electrical tape or duct tape</td>
<td>NO Inner packaging must be Packing Group I level</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Damaged or defective Ion or Metal Lithium Cell Batteries will be accepted at the CCRC on a case by case basis. Contact the CCRC PRIOR to managing them as UW Batteries</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Alkaline (ALK)</td>
<td>Dry – No Wet-Yes</td>
<td>Dry- Yes Wet-Yes</td>
<td>Clear carton/box sealing tape, electrical tape, duct tape</td>
<td>Dry -Yes, closed plastic baggies (multiple batteries)</td>
<td>Yes, after corrosion wiped off. Place into closed baggies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No- Wet</td>
<td>No- Wet</td>
</tr>
<tr>
<td>#</td>
<td>Battery Type and Abbreviation</td>
<td>If Battery is 9 Volts or Less, is Protection of Battery Terminals Required?</td>
<td>If Battery is &gt;9 Volts, is Protection of Battery Terminals Required?</td>
<td>Acceptable Tape for Terminal Protection</td>
<td>Can Batteries that Require Terminal Protection be Placed in a Closed Plastic Bag or Manufacturer’s Packaging without Taping Terminals?</td>
<td>Can Corroded Batteries be Placed in Recycling Container?</td>
</tr>
<tr>
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<td>-------------------------------------------------</td>
</tr>
<tr>
<td>6.</td>
<td>Carbon-Zinc (CarZinc)</td>
<td>No</td>
<td>Yes</td>
<td>Clear carton/box sealing tape, electrical tape, duct tape</td>
<td>Yes, in closed plastic baggy</td>
<td>Yes, after corrosion wiped off and placed into closed baggy</td>
</tr>
<tr>
<td>7.</td>
<td>Chloride (SLA) Sealed Lead Acid</td>
<td>Yes</td>
<td>Yes</td>
<td>Electrical tape or duct tape</td>
<td>Sealed Lead Acids should have all terminals taped</td>
<td>No. Contact ECO if generated.</td>
</tr>
<tr>
<td>8.</td>
<td>Nickel Metal Hydride (NIMH)</td>
<td>No</td>
<td>Yes</td>
<td>Duct tape or electrical tape</td>
<td>Yes, in closed plastic baggy</td>
<td>Yes, after corrosion wiped off and placed into closed baggy</td>
</tr>
<tr>
<td>9.</td>
<td>Mercury Button Cell (HG)</td>
<td>No</td>
<td>Yes</td>
<td>Clear carton/box sealing tape, electrical tape or duct tape</td>
<td>Yes, in closed plastic baggy</td>
<td>No. Contact ECO if generated.</td>
</tr>
<tr>
<td>10.</td>
<td>Mercuric Oxide-Zinc (HG)</td>
<td>No</td>
<td>Yes</td>
<td>Clear carton/box sealing tape, electrical tape, or duct tape</td>
<td>Yes, in closed plastic baggy</td>
<td>Yes, After corrosion wiped off and placed into closed baggy</td>
</tr>
<tr>
<td>11.</td>
<td>Magnesium (MG)</td>
<td>No</td>
<td>Yes</td>
<td>Electrical tape or duct tape</td>
<td>Yes, in closed plastic baggy</td>
<td>Yes, After corrosion wiped off and placed into closed baggy</td>
</tr>
<tr>
<td>12.</td>
<td>Zinc-Silver</td>
<td>No</td>
<td>Yes</td>
<td>Electrical tape or duct tape</td>
<td>Yes, in closed plastic baggy</td>
<td>Yes, After corrosion wiped off and placed into closed baggy</td>
</tr>
<tr>
<td>13.</td>
<td>Zinc-Chloride Same as Carbon zinc (CARZINC)</td>
<td>No</td>
<td>Yes</td>
<td>Electrical tape or duct tape</td>
<td>Yes, in closed plastic baggy</td>
<td>Yes, After corrosion wiped off and placed into closed baggy</td>
</tr>
<tr>
<td>#</td>
<td>Battery Type and Abbreviation</td>
<td>If Battery is 9 Volts or Less, is Protection of Battery Terminals Required?</td>
<td>If Battery is &gt;9 Volts, is Protection of Battery Terminals Required?</td>
<td>Acceptable Tape for Terminal Protection</td>
<td>Can Batteries that Require Terminal Protection be Placed in a Closed Plastic Bag or Manufacturer’s Packaging without Taping Terminals?</td>
<td>Can Corroded Batteries be Placed in Recycling Container?</td>
</tr>
<tr>
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</tr>
<tr>
<td>14.</td>
<td>Polaroid Polar Pulse</td>
<td>No</td>
<td>Yes</td>
<td>Clear carton/box sealing tape, electrical tape, or duct tape</td>
<td>Yes, in closed plastic baggy</td>
<td>Yes, After corrosion wiped off and placed into closed baggy</td>
</tr>
</tbody>
</table>
## APPENDIX B
### SUMMARY TABLE OF WASTE STREAMS RECEIVED AT THE CCRC

<table>
<thead>
<tr>
<th>Waste Stream</th>
<th>Requirement</th>
<th>Required form</th>
<th>Prohibited Items</th>
</tr>
</thead>
</table>
| Universal Waste (UW) Lamps        | • UW Lamps may be accumulated at the initial generating facility for no longer than one year. UW Lamps must be marked or labeled “Universal Waste – Lamp(s),” “Waste Lamp(s),” or “Used Lamp(s).”  
• UW Lamps shall be marked with the earliest date the UW became a waste or was received.  
• Segregate and package by lamp type (e.g., intact fluorescent, compact fluorescent, intact incandescent, sodium, mercury vapor).  
• All UW Lamp boxes shall be securely taped. | • CCRC UW Lamp Shipment Forms.  
• Non-Radiological Determination Form (A-6005-944) or equivalent. | The following are prohibited from the CCRC:  
• Cracked, broken, or crushed sodium lamps (high or low pressure)  
• Cracked, broken HID mercury lamps  
• Fiberboard drums  
• Exposed or protruding lamps from boxes  
• Boxes with holes, gaps, or openings  
• No masking tape to be used. Masking tape dries out and loses adhesiveness, and the container/box may not be closed properly. |
| Universal Waste (UW) Batteries    | • UW batteries may be accumulated at the initial generating facility for no longer than one year. UW batteries must be marked or labeled “Universal Waste – Battery(s),” “Waste Battery(s),” or “Used Battery(s).”  
• Prior to shipping batteries to the CCRC, every battery container is required to have the following information written on the top of and one side of the container:  
  - Identification of battery type  
  - CIN/PIN  
  - Gross Weight in pounds.  
• UW Batteries shall be marked with the earliest date the UW became a waste or was received. | • CCRC UW Battery or UW Lithium Ion/Metal Shipment Forms.  
• Non-Radiological Determination Form (A-6005-944) or equivalent.  
• Hazardous Materiel Shipment Record (HMSR), if applicable  
• Closure instructions shall accompany containers with proper shipping names (PSNs). | The following are prohibited from the CCRC:  
• Leaking or corroded lithium batteries  
• Leaking or corroded “wet” batteries. |
<table>
<thead>
<tr>
<th>Waste Stream</th>
<th>Requirement</th>
<th>Required form</th>
<th>Prohibited Items</th>
</tr>
</thead>
</table>
| Universal Waste (UW) Mercury-Containing Equipment (MCE) or Universal Waste (UW) Mercury Thermostat(s) | • The following Used or Spent Dry sealed batteries must have terminal ends taped with clear/carton/box sealing tape, duct tape, or electrical tape, or be individually placed in a plastic baggie or placed in the manufacturer’s packaging prior to placing in container for shipment to CCRC.  
• Great than 9 volts  
• Batteries with a specific shipping name.  
• UW MCE must be labeled or marked clearly with any of the following phrases: “Universal Waste-Mercury-Containing Equipment,” “Waste Mercury-Containing Equipment,” or “Used Mercury-Containing Equipment.”  
• UW Mercury Thermostat(s) shall be marked with the accumulation start date the UW became a waste.  
• Prior to shipping UW MCE and UW Mercury Thermostat(s) to the CCRC, every container is required to have the following information written on the tope and one side of the container:  
  - Identification Material  
  - CIN/PIN  
  - Gross Weight in pounds. | • **CCRC UW MCE or UW Mercury Thermostats Shipment Forms.**  
• Non-Radiological Determination Form (A-6005-944) or equivalent.  
• HMSR or Bill of Lading, as applicable.  
• Closure instruction shall accompany containers with PSNs. | The CCRC does not accept bulk elemental mercury or  
UW MCE or UW Mercury Thermostat(s), if free mercury is outside of the broken piece of equipment.  
Broken UW MCE or UW Mercury Thermostat(s), will be evaluated on a case by case basis. |
<table>
<thead>
<tr>
<th>Waste Stream</th>
<th>Requirement</th>
<th>Required form</th>
<th>Prohibited Items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• UW MCE and UW Mercury-containing thermostats shall be shipped to the CCRC in separate containers.</td>
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<tr>
<td></td>
<td>• UW MCE and UW Mercury-containing thermostats packaging shall be approved by the CCRC personnel, prior to packaging and shipping.</td>
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<tr>
<td></td>
<td>• Container must be closed, structurally sound, compatible with contents of the device, must lack evidence of leakage, and must be reasonably designed to prevent escape of mercury into the environment by volatilization.</td>
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<td></td>
</tr>
<tr>
<td>Aerosol Products</td>
<td>• The generator shall contact CCRC staff to ensure there is adequate storage capacity to accept the shipment.</td>
<td>A-6006-637, CCRC Submittal Form for Approved Aerosol Products.</td>
<td>• Use the CITS database or reports generated from CITS to identify aerosol products that are approved to be shipped to the CCRC.</td>
</tr>
<tr>
<td></td>
<td>• Recycling accumulation logo with the words “Aerosol Products” shall be on each box.</td>
<td>Electronically submit A-6006-637 for approval prior to shipping aerosol boxes to the CCRC</td>
<td>Group category code which identifies Accepted Aerosol can products</td>
</tr>
<tr>
<td></td>
<td>• PIN number on each box. PIN should coordinate with form for Aerosol Products.</td>
<td>CCRC personnel will approve, date, and electronically return the CCRC Submittal Form for Aerosol Products A-6006-637, to the generator.</td>
<td>Accepted: Code CCRC-A</td>
</tr>
<tr>
<td></td>
<td>• All cans shall have caps on them.</td>
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<td></td>
<td>• Shipped per DOT Hazardous Material Regulation 49 CFR 171-180.</td>
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<td>• Only chemically compatible aerosol products shall be packaged together.</td>
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<td></td>
<td>• Ensure aerosol boxes do not exceed gross weight of 40 pounds per box.</td>
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<tr>
<td></td>
<td>• The following group category codes will identify which aerosols products are Rejected Aerosol can products</td>
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<tr>
<td></td>
<td>• Include CCRC Approved CCRC Submittal Form for</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Rejected: Chemical Compatibility: Code: CCRC-RC</td>
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<td></td>
<td>• Rejected: Regulations: Code: CCRC-RR</td>
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<tr>
<td></td>
<td>• Rejected: Physical Damage: Code: CCRC-RP</td>
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</tr>
</tbody>
</table>
## Waste Stream Requirement

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Required form</th>
<th>Prohibited Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved Aerosol Products, A-6006-637, Rev. 1</td>
<td>No CCRC Rejected Group Category Coded Aerosols listed on the CCRC Aerosol Submittal Inventory Forms will be accepted at the CCRC.</td>
<td></td>
</tr>
<tr>
<td>Non-Radiological Determination Form (A-6005-944) or equivalent.</td>
<td>Rejected Group Category Coded aerosols shall be returned to the generator at their expense.</td>
<td></td>
</tr>
<tr>
<td>HMSR, as applicable.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Lead Acid/Gel Cell/Glass Mat Batteries

- No fully charged lead acid/gel cell/glass mat batteries are accepted. All liquid-filled batteries shall have caps, plugs, or covers over the opening to prevent spills or releases.
- Prior to shipping to the CCRC, each container is required to be labeled or marked on the top as follows:
  - Recycle Accumulation Logo
  - PIN Number
  - Gross weight in pounds.
- Package lead acid/gel cell/glass mat batteries in IH2 poly drums smaller than 5 gallon containers or in plywood boxes on skids.
- Batteries shall be packaged upright and must be secured within the wooden box to prevent the battery from reorienting in transport.
- Weight of batteries shall not exceed the capacity of wooden plywood boxes to

### CCRC Lead Acid/Gel Cell/Glass Mat Batteries Shipment Form.

- Non-Radiological Determination Form (A-6005-944) or equivalent.
- HMSR, as applicable.

- The following are not accepted at the CCRC:
  - Lead Acid/Gel Cell/Glass Mat batteries labeled as UW
  - No fully charged batteries
  - Batteries banded to pallets
  - Leaking or cracked batteries (cracked batteries on a case by case basis)
  - Oil filled batteries
  - Missile, aluminum, oil filled, batteries.
<table>
<thead>
<tr>
<th>Waste Stream</th>
<th>Requirement</th>
<th>Required form</th>
<th>Prohibited Items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>safely transport without cracking or splitting</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>• Boxes require two metal bands wrapped horizontally, approximately 6 inches</td>
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<td>from the bottom and approximately 8 inches from the top. Lid secured to</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>box.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Ballast or</td>
<td>• Small (no larger than 12 inches x 12 inches or no bigger than a 5 gallon</td>
<td>• CCRC Electrical Ballasts or Capacitors Shipment Form.</td>
<td>Ballast or capacitors containing PCBs are prohibited from acceptance at the CCRC.</td>
</tr>
<tr>
<td>Capacitors</td>
<td>water container) and large capacitors shall be segregated and packaged</td>
<td>• Non-Radiological Determination Form (A-6005-944) or equivalent.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>separately.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Package lead acid/ gel cell batteries in &lt;5 gallon size poly containers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1H2) or in plywood boxes on skids.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Drums shall weigh &lt;450 lbs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Containers shall be closed per manufacturer’s instructions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prior to shipping to the CCRC, each container is required to be labeled on</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>the top and one side of each container as follows:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- CIN/PIN number,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Accumulation Logo</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Gross weight in pounds.</td>
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<td></td>
</tr>
</tbody>
</table>