



Maintenance Management Order

SUBJECT: Used Lamp Management Maintenance Policies and Procedures

DATE: October 22, 2015

- TO:**
1. Plant Managers, All Maintenance Capable Offices
 2. Maintenance Manager, All Maintenance Capable Offices
 3. Manager, Maintenance Support, Area Offices
 4. Human Resource Analyst/Safety, Area Offices
 5. Plant Safety Specialists
 6. Human Resource Analyst/Safety, Area Offices
 7. Manager, Safety and Health, District Offices

NO: MMO-135-15
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This online change updates Attachment 1, Section 2.2 and 3.1.1 for LED Lamp disposal requirements, updates Attachment 2 to include LED lamps into row indicating manage as universal waste, and Attachment 4 changed from Week to Month.

This Maintenance Management Order (MMO) provides policy for the management and disposal of used mercury-containing lamps pursuant to federal requirements set forth in the Resource Conservation and Recovery Act (RCRA). **MMO-135-15 supersedes MMO-098-15 and MMO-029-95.** The Acronym is BLDG, Class Code P.

Ongoing building maintenance and planned facility improvement projects (e.g., lighting system upgrades) may involve the removal and disposal of used lamps containing small amounts of hazardous materials. Used lamps containing hazardous materials are subject to environmental regulations and have strict management requirements to protect employees and the environment. These hazardous materials are sealed inside the lamp and do not pose a danger as long as they are not leaking or otherwise damaged.

This MMO contains U.S. Postal Service (USPS) requirements for storage, handling, and disposal of lamps containing mercury. This MMO applies to all sites generating waste and spent or otherwise used lamps.

NOTE

In many cases the USPS retains basic maintenance responsibilities, including lamp management, at leased sites. In addition to sites owned by the Postal Service, this MMO applies to USPS employees that manage lamps at leased facilities. For questions about site maintenance responsibilities, contact Facilities, <http://blue.usps.gov/facilities/welcome.htm>.

Direct any questions or comments concerning this bulletin to the MTSC HelpDesk, online at <https://tickets.mtsc.usps.gov/login.php> or call (800) 366-4123.



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- Attachments:
1. Used Lamp Management
 2. Used Lamp Management Summary Table
 3. Universal Waste Accumulation Area Sign
 4. Universal Waste Inspection Form
 5. Mailback Program Tracking Form

ATTACHMENT 1

USED LAMP MANAGEMENT

1.0. REGULATIONS AND POLICY

The USPS complies with all applicable environmental laws and regulations including federal requirements addressing the proper management, storage, and recycling of used lamps. These requirements include:

1. Resource Conservation and Recovery Act (RCRA) regulates hazardous wastes, including lamps containing mercury. RCRA imposes strict waste management and recycling requirements on specific types of wastes. Those requirements include container management and labeling standards, accumulation restrictions, and training. RCRA allows generators to manage used lamps containing mercury under streamlined universal waste requirements.
2. Additionally, USPS has policies pertaining to lamps. These policies require sites to recycle used lamps containing mercury and prohibit the use of lamp crushing units.

NOTE

This MMO does not include a comprehensive review of state and local regulations that may specify additional waste management requirements for used lamps. For additional information regarding applicable state and local requirements, contact the facility designated environmental contact.

NOTE

For the purpose of this MMO, the term “lamp” refers to the bulb.

NOTE

This MMO applies to out-of-service or no longer useable (i.e., spent or waste) lamps. The term “used” describes lamps that have been identified for disposal (i.e., used lamp).

2.0. IDENTIFICATION

2.1. LAMPS CONTAINING MERCURY

USPS uses a variety of electric lamps to light its facilities, vehicles, and equipment. USPS sites must manage used lamps containing mercury as universal waste and recycle them.

Manage the following types of lamps containing mercury as universal waste:

1. **Fluorescent lamps:** include, but are not limited to, two (2)-foot, four (4)-foot, eight (8)-foot, U-shaped, circular and compact fluorescent lamp (CFL) bulbs.

2. **Neon lighting:** “neon” lights that emit colors other than red because they use gases such as argon and krypton and typically contain mercury.

NOTE

True neon lamps (emitting red light) typically do not contain mercury.

3. **Nixie tubes:** found in display signs and electronic devices for displaying numerals or other information.
4. **HID lamps:** include mercury vapor, metal halide, sodium vapor, high-pressure sodium, and ceramic metal halide lamps. These lamps will light large interior spaces, with high ceilings (i.e., warehouses and processing areas), and exterior lighting (i.e., peripheral security lighting, streetlights, and fuel island lighting). Newer motor vehicle headlights, liquid crystal display (LCD), digital light processing (DLP) projection television sets, and projection displays may also contain these lamps.
5. **Mercury short-arc lamps:** special application lamps, such as searchlights, scientific, and medical equipment lamps.

NOTE

Some manufacturers of fluorescent tube lamps produce “low-mercury” lamps that manufacturers claim are not hazardous. Green end caps (i.e., “green tipped” lamps) or green etchings on the lamp distinguish “low-mercury” lamps from typical fluorescent tube lamps. **DO NOT** assume “low mercury” lamps are non-hazardous. Manage “low mercury” lamps as universal waste and recycle in the same manner as other fluorescent lamps. Section 3.1, Management of Lamps Containing Mercury, describes management requirements for lamps containing mercury.

2.2. OTHER LAMPS

Incandescent and halogen lamps typically do not contain mercury. Manage these lamps as non-hazardous waste by recycling them or, if no recycling options exist, disposing of them in the trash.

Light emitting diode (LED) lamps may contain lead, nickel, arsenic, copper, antimony, zinc, and chromium. USPS sites should manage LED lamps in the same manner as mercury-containing lamps. Specifically, USPS sites should manage LED lamps as universal waste as described in Section 3.0, Management Requirements. USPS sites should recycle LED lamps.

3.0. MANAGEMENT REQUIREMENTS

3.1. MANAGEMENT OF LAMPS CONTAINING MERCURY

Federal universal waste regulations impose specific handling, storage, and recycling requirements for lamps containing mercury. USPS sites must manage spent lamps containing mercury as universal waste and must recycle them.

NOTE

USPS policy prohibits the use of lamp crushing (or bulb crushing) units.

3.1.1 Management of Intact Lamps Containing Mercury

USPS sites must implement the following management practices for intact lamps containing mercury:

1. Store used lamps in a designated universal waste accumulation area clearly marked with a sign stating "Universal Waste Accumulation Storage Area." Attachment 3, Universal Waste Accumulation Area Sign, may be used for this signage.
2. Store used lamps in a structurally sound container that prevents breakage.
 - a. Containers may include drums, boxes, or the original packaging.
 - b. Close container lid tightly, unless adding or removing waste.
 - c. Secure container with tape prior to shipment.
3. Clearly label containers with "UNIVERSAL WASTE: Lamps", "Waste Lamps", or "Used Lamps."
4. Mark container label with the accumulation date or "start date," which is the date the first lamp is placed into the container. The employee placing the first waste lamp into the container should enter the accumulation date.
5. Ship the container off-site for recycling within 365 days (one year) of the accumulation start date, which is marked on the container. See Item 7 below for recycling contracts and other mechanisms available.

NOTE

Do not accumulate lamps in quantities greater than 5,000 kilograms (11,000 pounds) at any time, even if it has been less than one year. Use the following average weights for fluorescent lamps by type for this calculation: four-foot and U-shaped fluorescent lamps (0.5 pounds), eight-foot fluorescent lamp (2.0 pounds), and CFLs (0.3 pounds).

6. Conduct regular inspections of universal waste storage areas, and document findings. The USPS recommends monthly inspections as a best management practice. Attachment 4, Universal Waste Inspection Form, is available for conducting and documenting inspections. The local Maintenance Manager or other designated employee should maintain hard copy records in the site Environmental Filing System. Electronic versions of the inspection records may also be uploaded in the Environmental Tool Kit (ETK).
7. Arrange for on-site pick up and off-site recycling using a USPS National Waste Management Service Contractor, available through eBuy2. Smaller sites may also utilize the following mechanisms for recycling:
 - a. Smaller sites (e.g., stations or auxiliary vehicle maintenance facilities) may send unbroken universal waste lamps to larger sites (plants or vehicle maintenance facilities) for consolidation and pick up by a USPS National Regulated Waste Management Service Contractor. This is permissible if the arrangement is mutually agreed to by both sites.
 - b. Smaller sites that generate small amounts of intact used lamps (i.e., stations, small Post Offices, and vehicle maintenance facilities) may also use mailback services available “on-catalog” in eBuy2. For additional information about available contract resources and mailback services, including mailing procedures, refer to the Office of Sustainability Website at: <http://blue.usps.gov/sustainability/environmental/waste-mgmt.htm>. LED lamps are not eligible for mailback programs.

Attachment 5, Mailback Program Tracking Form, may be used to maintain records of mailback shipments.
8. Complete appropriate bills of lading, obtain recycling certificates, and, if applicable, document lamps sent to larger USPS sites and/or via mailback programs. Maintain all records on site as discussed in Section 5.1, Records for Lamps Containing Mercury.

3.1.2 Management of Broken Lamps Containing Mercury

Contain broken lamps containing mercury immediately and handle them properly to minimize releases to the environment. USPS sites must implement the following management practices for broken lamps containing mercury.

3.1.2.1 Storage and Disposal of Broken Lamps Containing Mercury

1. Store broken lamps, lamp debris, and clean up materials separately from intact lamps in impermeable containers or boxes wrapped in plastic to prevent further releases. Store the box in a well-ventilated area away from employee work areas, as mercury vapors can penetrate cardboard wrapped in plastic.
2. Manage incidental numbers of broken lamps containing mercury (four or less) in the same manner as intact universal waste lamps as described in Section 3.1.2, Management of Intact Lamps Containing Mercury. However, label containers with “UNIVERSAL WASTE: Broken Lamps”, and keep broken lamps separate from intact used lamps.

3. Manage quantities of five or more broken lamps containing mercury as hazardous waste. This includes proper labelling, storage, and record keeping requirements. Federal regulations require a facility generating hazardous waste to track the quantity of hazardous waste generated on a monthly basis, limit the time and volume of hazardous waste stored on site, accumulate hazardous waste in dedicated containers with specific label requirements, adhere to training requirements, and maintain records of all hazardous waste manifests. Refer to the current Hazardous Waste Management Requirements Environmental Compliance Bulletin (see <http://blue.usps.gov/sustainability/>) for details of all regulatory requirements for managing hazardous waste. See Section 6, Additional USPS Resources.
4. Broken lamps containing mercury are **not** eligible for USPS mailback recycling programs. Additionally, **do not** transfer broken lamps containing mercury to another USPS facility for management.
5. Arrange for a USPS National Regulated Waste Management Service Contractor available on eBuy2 to pick up the broken lamps containing mercury for recycling.
6. Complete appropriate bills of lading, manifests and obtain recycling certificates, if applicable. Maintain all records on site as discussed in Section 5.1, Records for Lamps Containing Mercury.

3.1.2.2 Mercury Spill Response

There should not be visible mercury released as droplets from lamps containing mercury, but vapor or powder containing mercury may be present. For mercury releases to the environment, follow the facility internal and external notification procedures, complete USPS Form 8187, Hazardous and Regulated Substance Release Form, and notify affected staff and appropriate supervisors.

Mercury release response procedures are described in the USPS document Hazardous Materials Release Guidance: Use of USPS Emergency Preparedness Response Contracts for Mercury Spills. This document, along with other guidance, is available on the Safety website Mercury Page at <http://SafetyToolkit.usps.gov:12/mercury.aspx>. See Section 6, Additional USPS Resources.

These procedures include the following:

1. Employee reports spill to supervisor.
2. Secure operations area.
 - a. Shut down the equipment in the area.
 - b. Shut off heating ventilation and air conditioning (HVAC) in the area.
 - c. Cordon off the area to prevent access.
 - d. Place signs clearly instructing individuals to stay out of the area.

3. Supervisor determines whether any employees have been exposed to mercury.
 - a. If yes, isolate the employee, wash the employee's hands, and remove any clothing and shoes that may have come into contact with mercury. Seal clothes and shoes inside a secure container.
4. Contact Safety and the designated environmental contact to report spill and request assistance. During consultation, determine if it is necessary to contact the USPS Emergency Preparedness Response and Remediation Contractor to request assistance with assessment, clean up, and reporting (e.g., if more than five lamps were broken).
5. Ensure spill area is cleaned up of spill material, decontaminated and activities are documented. Refer to the Safety website Mercury Page for more information at <http://SafetyToolkit.usps.gov:12/mercury.aspx>.
6. Retain all records of the mercury spill, spill response, and clean up actions for a minimum of seven years.
7. Deliver stand up talk to employees explaining the situation and the actions taken to address it.

4.0. TRAINING REQUIREMENTS

Federal environmental regulations impose specific training requirements for lamps containing mercury handling and management.

4.1. TRAINING REQUIREMENTS FOR LAMPS CONTAINING MERCURY

1. Employees, with used lamps containing mercury management responsibilities, must complete universal waste management training annually. The RCRA/Universal Waste Management course satisfies this requirement and is available in the Learning Management System (LMS). Additionally, a Universal Waste Handler stand up talk is available on the Office of Sustainability website at: http://blue.usps.gov/sustainability/environmental/environmental_training.htm
2. New hires must complete universal waste training within six (6) months of assignment to duties directly related to universal waste management, spill/emergency response, and/or inspection activities. Employees must also participate in annual refresher training.
3. Employees, with hazardous waste management responsibilities, must complete hazardous waste management and manifest signer training. This includes employees with hazardous waste management responsibilities in facilities that generate large quantities of broken lamps which must be managed as hazardous waste. RCRA/Hazardous Waste Management Training and RCRA/Hazardous Waste Manifest Signer/DOT Hazmat Training courses satisfy this requirement and are available in the LMS.
4. Training requirements may also vary according to state and locality. Contact the designated environmental contact for information on local or state specific requirements.

5.0. RECORDS MANAGEMENT

All USPS sites must maintain required records to demonstrate compliance. The local Maintenance Manager or designee should maintain hard copy records in the site Environmental Filing System and electronic versions in the ETK. In accordance with USPS policy, sites must retain **ALL** records specified below for a minimum of seven (7) years.

5.1. RECORDS FOR LAMPS CONTAINING MERCURY

The following records are required for all sites with lamps containing mercury:

1. Waste characterization documentation;
2. Universal waste storage area inspection documentation (e.g., completed Universal Waste Accumulation Area Inspection Forms);
3. Bills of lading and/or other shipping papers and/or records of wastes shipped through mailback programs;
4. Certificates of recycling;
5. Records of mercury spills, spill response, sampling results, and clean up actions;
6. Records of all training; and
7. Other records as required by state or local regulations.

6.0. ADDITIONAL USPS RESOURCES

The following resources provide more information regarding lamp policies and management:

1. ETK website: <https://etk/welcome.do>
2. Maintenance Technical Support Center (MTSC) website: <http://www1.mtsc.usps.gov/apps/mtsc/index.php#>
3. Management Instruction, Response to Hazardous Materials Releases (EL-810-2006-3)
4. Office of Sustainability website: <http://blue.usps.gov/sustainability/environmental.htm> or email questions to sustainability@usps.gov.
 - a. Universal Waste Management Requirements Environmental Compliance Bulletin
 - b. Used Ballasts Environmental Compliance Bulletin
 - c. Waste Lamps Environmental Compliance Bulletin
 - d. Hazardous Waste Management Requirements Environmental Compliance Bulletin

- e. Contact the designated environmental contact for information on local or state specific requirements. Contacts, which are assigned by District, are listed here: <http://blue.usps.gov/sustainability/contact.htm>
5. Safety website Mercury Page: <http://SafetyToolkit.usps.gov:12/mercury.aspx>
 - a. Hazardous Materials Release Guidance: Use of USPS Emergency Preparedness Response Contracts for Mercury Spills

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ATTACHMENT 2

USED LAMP MANAGEMENT SUMMARY TABLE

	Identification	Waste Management	Container Labeling	Employee Training	Record Retention
Intact Lamps Containing Mercury and LED Lamps	<ul style="list-style-type: none"> • Fluorescent lamps • Green-tipped or green-etched fluorescent lamps • Neon bulbs emitting colors other than red • Nixie tubes • HID lamps • Mercury short-arc lamps 	<ul style="list-style-type: none"> • Store in designated universal waste accumulation area with sign having the words "Universal Waste Accumulation Storage Area" • Store lamps in a structurally sound container • Do not accumulate over 11,000 pounds of lamps at any time • Ship the container off-site for recycling within 365 days of the accumulation start date using approved National Regulated Waste Management Service Contractor from eBuy2 • Small site may transfer to larger sites for consolidation before disposal using approved National Regulated Waste Management Service Contractor from eBuy2. • Small sites may utilize mailback services on-catalogue in eBuy2. • Conduct regular inspections of universal waste storage areas and document findings 	<ul style="list-style-type: none"> • Label containers: <ul style="list-style-type: none"> - "Universal Waste: Lamps" or - "Waste Lamps" or - "Used Lamps" • Accumulation start date • Follow state universal waste labeling requirements 	<ul style="list-style-type: none"> • Universal Waste management* • Additional training may be required based on state and local requirements <p>*New hires must complete training within six months of assignment to duties related to universal waste management, spill/emergency response, and/or inspection activities.</p>	<ul style="list-style-type: none"> • Waste characterization documentation • Universal waste storage area inspection records • Bills of lading • Recycling certificates • Records of all training • Other records, as required by state or local regulations
MMO Section	2.1, Lamps Containing Mercury	3.1.1, Management of Intact Lamps Containing Mercury	3.1.1, Management of Intact Lamps Containing Mercury	4.1, Training Requirements for Lamps Containing Mercury	5.1, Records for Lamps Containing Mercury

	Identification	Waste Management	Container Labeling	Employee Training	Record Retention
<p>Broken Lamps Containing Mercury</p> <p>(Always wear chemical resistant gloves and other PPE)</p>	<ul style="list-style-type: none"> Fluorescent lamps Green-tipped or green-etched fluorescent lamps Neon bulbs emitting colors other than red Nixie tubes HID lamps Mercury short-arc lamps 	<ul style="list-style-type: none"> Broken lamps containing mercury must be contained immediately Report spill to manager Prevent access to the area Clean up broken glass, debris, and contaminated clothing Store broken lamps containing mercury, debris, and cleanup materials separately in impermeable containers; lined or wrapped in plastic to prevent further releases Manage four (4) or less broken lamps containing mercury as universal waste Manage five (5) or more broken lamps containing mercury as Hazardous Waste Conduct regular inspections of waste storage areas and document findings Ship waste containers off-site for disposal within 365 days of the accumulation start date using approved National Regulated Waste Management Service Contractor from eBuy2 	<ul style="list-style-type: none"> For four (4) or less broken lamps containing mercury <ul style="list-style-type: none"> Label container "UNIVERSAL WASTE: Broken Lamps" Accumulation start date Store broken lamps separate from unbroken lamps For five (5) or more broken lamps containing mercury, label container "Hazardous Waste: Broken Lamps" 	<ul style="list-style-type: none"> For four (4) or less broken lamps containing mercury: <ul style="list-style-type: none"> Universal Waste management* Additional training may be required based on state and local requirements *New hires must complete training within six months of assignment to duties related to universal waste management, spill/emergency response, and/or inspection activities For five (5) or more broken lamps containing mercury <ul style="list-style-type: none"> RCRA/Hazardous Waste Management Training and RCRA/Hazardous Waste Manifest Signer/DOT Hazmat Training. 	<ul style="list-style-type: none"> Waste characterization documentation For four (4) or less broken lamps containing mercury: <ul style="list-style-type: none"> Universal waste storage area inspection records Bills of lading Spill response and clean up records Recycling certificates Records of all training For five (5) or more broken lamps containing mercury <ul style="list-style-type: none"> Hazardous waste storage area inspection records Hazardous waste manifests Spill response and clean-up records Other records as required by state or local regulations.
MMO Section	2.1, Lamps Containing Mercury	3.1.2.1, Storage and Disposal of Broken Lamps Containing Mercury	3.1.2.1, Storage and Disposal of Broken Lamps Containing Mercury	4.1, Training Requirements for Lamps Containing Mercury	5.1, Records for Lamps Containing Mercury
Other Lamps	<ul style="list-style-type: none"> Non-mercury containing lamps, such as incandescent and halogen lamps 	<ul style="list-style-type: none"> Recycle lamps thru eBuy2 or dispose as trash 	NONE	NONE	NONE
MMO Section	2.2, Other Lamps	2.2, Other Lamps	2.2, Other Lamps	N/A	N/A

ATTACHMENT 3

UNIVERSAL WASTE ACCUMULATION AREA SIGN



Figure 3-1. Area Sign

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ATTACHMENT 4
UNIVERSAL WASTE INSPECTION FORM

Answer each question with Y for "Yes," NA for "Not Applicable" or N for "No." "No" responses are deficiencies that must be explained in the comments section below and corrected with feedback from the supervisor.

Month 1	Month 2	Month 3	Month 4	Month 5
Date:	Date:	Date:	Date:	Date:

Universal Waste Container Management

Are all containers closed?					
Are all containers in good condition (properly stored without evidence of damage, leakage or breakage)?					
Do all containers have a universal waste label affixed to them?					
Do all labels clearly identify the container contents?					
Do all labels clearly indicate a start date (for containers that contain universal waste items)?					
Are all start dates less than 365 days old? Note: containers <u>must</u> be shipped off site within one year of start date.					

Accumulation storage area management

Is the accumulation storage area sign posted in the storage area?					
Are universal wastes clearly segregated from other materials and wastes?					
Are < 11,000 pounds of all total universal wastes stored at any one time?					
Inspector's Name: Inspector (initial): Date:					
Supervisor's Name: Inspector (initial): Date:					

Comments:

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ATTACHMENT 5
MAILBACK PROGRAM TRACKING FORM

Date Shipped:	Name of Receiving Facility	Type of Universal Waste	Quantity	Description	Employee Name	Employee Title
		Batteries <input type="checkbox"/> Lamps <input type="checkbox"/>				
		Batteries <input type="checkbox"/> Lamps <input type="checkbox"/>				
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