Universal Waste Management

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What is Universal Waste?

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NOT Universal Studios' Movies Considered a Waste (of Time)

Critically Panned or Box Office Bombs

- ***Cats* (2019):** Widely criticized for its bizarre CGI ("digital fur technology") and unsettling character designs, resulting in a major box office loss.
- ***Dolittle* (2020):** Despite a high budget, this film was a massive box office bomb, suffering from poor reviews and a disjointed plot.
- ***The Turning* (2020):** Received an 'F' CinemaScore from audiences, often cited as a weak horror film with a disappointing ending.
- ***Howard the Duck* (1986):** A notorious critical and commercial failure that is often listed among the worst movies ever made.
- ***Virus* (1999):** Generally regarded as a formulaic and boring sci-fi thriller.
- ***The Watcher* (2000):** A thriller that failed to impress critics, often cited as a waste of a good premise. Reddit +1

Disappointing Sequels/Franchise Entries

- ***Little Fockers* (2010):** Seen as a tired, unnecessary addition to the *Meet the Parents* franchise that lacks the humor of the original.
- ***The Mummy: Tomb of the Dragon Emperor* (2008):** Many fans felt this lacked the charm of the first two Brendan Fraser *Mummy* movies, largely due to the absence of Rachel Weisz.
- ***Jaws 2* (1978):** While not as bad as later sequels, it is widely considered a massive step down from the original masterpiece.
- ***Your Highness* (2011):** A fantasy comedy that was both a critical flop and a box office disappointment. IMDb

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To Better Understand What Universal Waste Is

- We need to have a basic understanding of the term “Waste”
  - Types of Waste
    - Municipal Waste – Solid waste, trash, C&D, etc.
    - Residual Waste – Waste generated from an industrial process (specific to Pennsylvania Regulations)
    - Hazardous Waste – Discarded material which exhibit one or more of the following traits:

Ignitability, Corrosivity, Reactivity, Toxicity

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To Better Understand
What Universal Waste Is

- Listed Hazardous Waste (D008, U151, P35, etc.) – specified as “Hazardous” based on material and/or the process generating the waste.
- Hazardous waste materials which are Generated, Stored, Treated, Disposed, Transported are Regulated by US EPA and PA DEP.
- Complex Permitting and Requirements – 2nd Most Complicated Permitting after a Nuclear Power Plant
- So how do you prevent every site from being a hazardous waste site?

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Universal Waste

- A category of Hazardous Waste commonly generated by various business which are subject to STREAMLINE MANAGEMENT REGULATIONS
- US EPA and PA DEP Goals:
  - promote the collection and recycling of universal waste,
  - ease the regulatory burden on retail stores and other generators that wish to collect these wastes and transporters of these wastes, and
  - encourage the development of municipal and commercial programs to reduce the quantity of these wastes going to municipal solid waste landfills or combustors.

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Universal Waste Management

- To Encourage Collection, Recycling and/or Proper Disposal of Certain Hazardous Wastes
- Common Hazardous Wastes that Asphalt Industry May have at a Site
- Batteries
- Pesticide
- Mercury-Containing Equip.
- Lamps
- Aerosol Cans

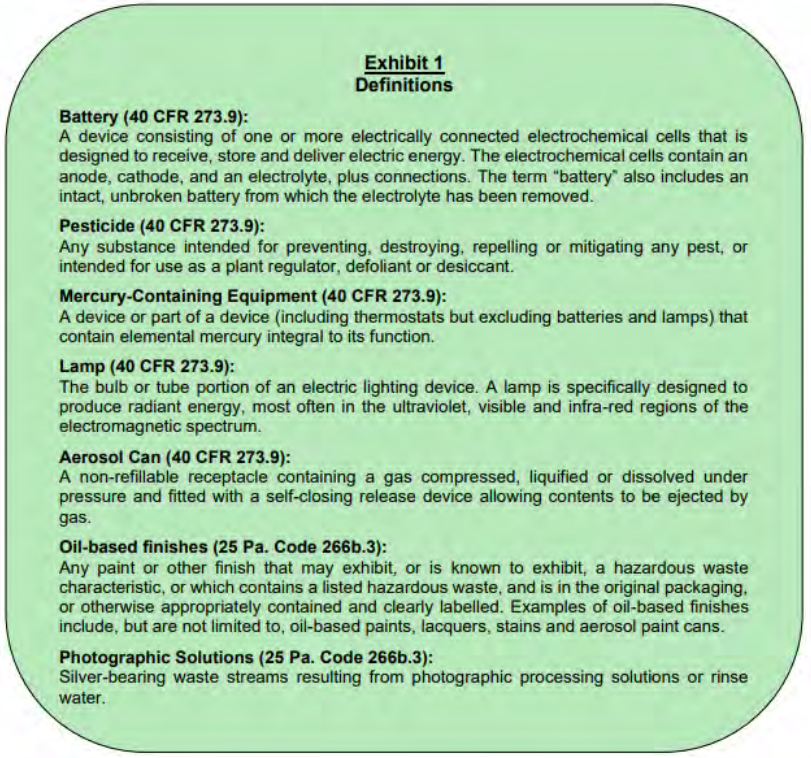

Exhibit 1
Definitions

Battery (40 CFR 273.9):
A device consisting of one or more electrically connected electrochemical cells that is designed to receive, store and deliver electric energy. The electrochemical cells contain an anode, cathode, and an electrolyte, plus connections. The term "battery" also includes an intact, unbroken battery from which the electrolyte has been removed.

Pesticide (40 CFR 273.9):
Any substance intended for preventing, destroying, repelling or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant.

Mercury-Containing Equipment (40 CFR 273.9):
A device or part of a device (including thermostats but excluding batteries and lamps) that contain elemental mercury integral to its function.

Lamp (40 CFR 273.9):
The bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible and infra-red regions of the electromagnetic spectrum.

Aerosol Can (40 CFR 273.9):
A non-refillable receptacle containing a gas compressed, liquified or dissolved under pressure and fitted with a self-closing release device allowing contents to be ejected by gas.

Oil-based finishes (25 Pa. Code 266b.3):
Any paint or other finish that may exhibit, or is known to exhibit, a hazardous waste characteristic, or which contains a listed hazardous waste, and is in the original packaging, or otherwise appropriately contained and clearly labelled. Examples of oil-based finishes include, but are not limited to, oil-based paints, lacquers, stains and aerosol paint cans.

Photographic Solutions (25 Pa. Code 266b.3):
Silver-bearing waste streams resulting from photographic processing solutions or rinse water.

Universal Waste Management

- Who do Universal Waste Regulations Apply to?
  - Generators, importers, exporters, treatment facilities
  - Accumulators and storage locations
  - Disposal or recycling facilities.

- IF you do one or more of the above activities, you're subject to the Universal Waste Regulations

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- When Does Universal Waste Become Regulated?
  - At the time when material is discarded or sent for reclamation.

- Once Discarded – these materials are Hazardous Waste usually because of the contents exhibiting one or more characteristics of:

Ignitability, Corrosivity, Reactivity, Toxicity

REVIEW SDS SHEETS

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- Determine the type of activity that you conduct:
  - Three (3) Categories
    - Universal Waste Handler
    - Universal Waste Transporter
    - Destination Facility

- For our Industry – Handler is the most likely category

- Universal Waste Handler - A universal waste handler is someone who generates universal wastes; receives universal wastes from other universal waste handlers; accumulates universal wastes; or sends universal wastes to another handler, a destination facility or a foreign destination.

  There are two categories of universal waste handlers based on the amount of universal wastes accumulated on site. Universal waste handlers are prohibited from treating universal wastes, except under the provisions of 40 CFR 273.13 or 273.33. If you treat universal wastes in a manner other than those specified in the regulations, you are subject to the requirements for destination facilities.

Universal Waste Management

a. Small Quantity Handler of Universal Waste (SQHUW): Someone who accumulates a total of less than 5,000 kilograms of one or more types of universal waste at one time.

5,000 kilograms = 5.5 Tons

b. Large Quantity Handler of Universal Waste (LQHUW): Someone who accumulates a total of 5,000 kilograms or more of one or more types of universal waste at one time.

- Universal Waste Transporter - someone who engages in off-site transportation of universal waste by air, rail, highway or water.

In General – We would likely be Small Quantity Handlers of Universal Waste But Keep in Mind that if you Transport Universal Waste, there are ADDITIONAL Requirements to consider.

Universal Waste Management

General Requirements

- Accumulation for NO longer than one (1) year from the date the Universal Waste is Generated (discarding).

- Demonstrate how long the Universal Wastes have been accumulated (stored).

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General Requirements

You must be able to demonstrate how long the universal wastes have been accumulated. You may do this by any of the following methods:

- Place the universal waste in a container and label the container with the earliest date that any universal waste in the container became a waste or was received.
- Mark each individual item of universal waste with the date it became a waste or was received.
- Maintain an on-site inventory system that identifies the earliest date that any universal waste in a group of universal waste items or containers became a waste or was received.
- Place the universal waste in a specific accumulation area and identify the earliest date that any universal waste in the area became a waste or was received; or
- Use any other method that clearly demonstrates the length of time that the universal waste has been accumulated, from the date it became a waste or was received.

Universal Waste Management

General Requirements

- As a SQHUW, you must inform all employees who handle or have responsibility for managing universal wastes of the proper handling and emergency procedures appropriate to the types of universal wastes handled at the facility.

- If any universal wastes are released at your facility, you must immediately contain the wastes and their residues.

- Manage Universal Waste that prevents releases to the environment.

- Prohibition from disposing, diluting, or treating universal waste.

Universal Waste Management

General Requirements – Sending Waste Offsite

- If you self-transport universal waste offsite, you are a universal waste transporter and have to comply with transporter requirements.
- If universal waste meets the definition of “hazardous materials”, you need to follow DOT requirements (labeling, packaging, placards, etc.)
- The receiving facility agrees to receive the shipment.
- If rejected, you must take back the waste, or arrange for material to go to an alternate facility (which has to agree to take the shipment).

Universal Waste Management

Batteries (Ni-Cd, Mercury oxide, lithium-ion, etc.)

Leaking or damaged batteries in closed structurally sound containers

If not breached, you can:

- Sort by type of battery
- Mix battery types in one container
- Discharge batteries to remove charge
- Regenerate batteries
- Disassemble batteries or packs
- Remove batteries from products
- Remove electrolyte and reseal

Label Containers

- Universal Waste Batteries
- Waste Batteries
- Used Batteries

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Pesticides (herbicides, insecticides, etc.)

Contain in closed structurally sound containers tank, vessel or transport vehicle compatible with the pesticide with no leaks or damage

Original Product Label

Label as Universal Waste Pesticide
Or Waste Pesticide

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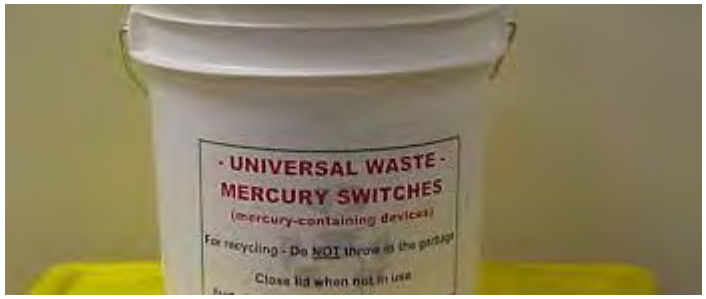
Mercury-Containing Equipment (thermometers, switches, thermocouples, manometers, etc.)



- Store in closed structurally sound containers
- Prevent breakage of thermostats/ampules
- Remove ampules over a containment device
- Mercury Cleanup system to transfer Mercury
- Well ventilated work area; OSHA monitoring
  - Vapor concerns
- Train employees on waste mercury handling
- Package to prevent breakage during storage, handling, or transport

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Lamps (fluorescent, mercury vapor, metal-halide, etc.)

- Contain UW lamps to prevent breaking, leaks or damage
- Immediately clean up broken lamps and place in container
- Store in closed structurally sound containers

Label as Universal Waste Lamps
or Waste Lamps, Used Lamps

Intentional crushing/breaking of spent mercury containing lamps is considered Treatment and **NOT** allowed in the Universal Waste Regulations - Permit

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Aerosol Cans (paints, lubricants, degreasers, etc.)

- Store in closed structurally sound containers
- Must be compatible with contents
- No leakage or damage
- Stored away from heat source
- If leaking, store in separate container
- Remove actuators to prevent accidental release

Labels
Universal Waste Aerosol Cans
Waste Aerosol Cans
Used Aerosol Cans

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Aerosol Cans Additional Requirements

- Emptied aerosol cans must be recycled
- Use of a device specifically designed to puncture aerosol cans
- Contain all contents and emissions
- Establish and follow a written protocol
- Prevent fires and releases by operating on a solid, flat surface in a well-ventilated area
- Immediately transfer contents to a container or tank
- Have a written procedure for prompt clean-up of spills/leaks and spill clean-up kit
- Conduct hazardous waste determinations of contents from cans

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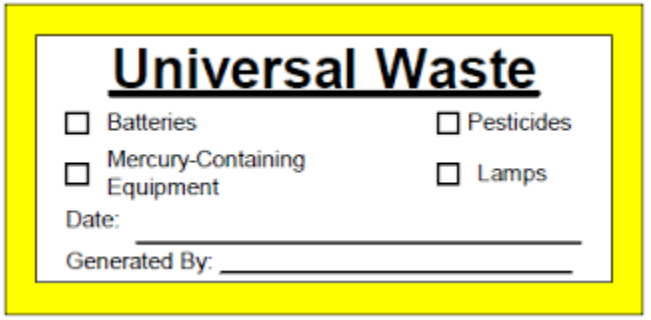
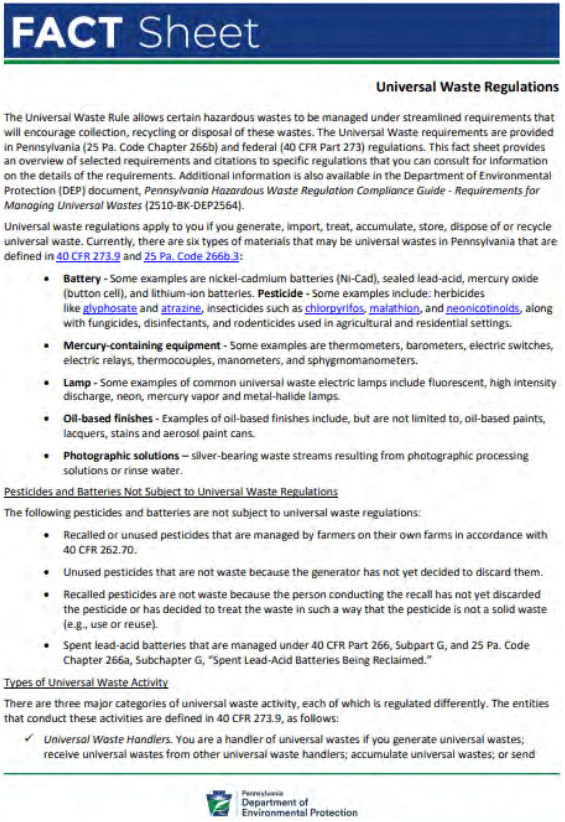
Universal Waste Management - Labels



Universal Waste PA DEP Resources



FACT Sheet

Universal Waste Regulations

The Universal Waste Rule allows certain hazardous wastes to be managed under streamlined requirements that will encourage collection, recycling or disposal of these wastes. The Universal Waste requirements are provided in Pennsylvania (25 Pa. Code Chapter 266b) and federal (40 CFR Part 273) regulations. This fact sheet provides an overview of selected requirements and citations to specific regulations that you can consult for information on the details of the requirements. Additional information is also available in the Department of Environmental Protection (DEP) document, *Pennsylvania Hazardous Waste Regulation Compliance Guide - Requirements for Managing Universal Wastes* (2510-BK-DEP2564).

Universal waste regulations apply to you if you generate, import, treat, accumulate, store, dispose of or recycle universal waste. Currently, there are six types of materials that may be universal wastes in Pennsylvania that are defined in 40 CFR 273.9 and 25 Pa. Code 266b.3:

- **Battery** - Some examples are nickel-cadmium batteries (Ni-Cad), sealed lead-acid, mercury oxide (button cell), and lithium-ion batteries. **Pesticide** - Some examples include: herbicides like glyphosate and atrazine, insecticides such as chlorpyrifos, malathion, and neonicotinoids, along with fungicides, disinfectants, and rodenticides used in agricultural and residential settings.
- **Mercury-containing equipment** - Some examples are thermometers, barometers, electric switches, electric relays, thermocouples, manometers, and sphygmomanometers.
- **Lamp** - Some examples of common universal waste electric lamps include fluorescent, high intensity discharge, neon, mercury vapor and metal-halide lamps.
- **Oil-based finishes** - Examples of oil-based finishes include, but are not limited to, oil-based paints, lacquers, stains and aerosol paint cans.
- **Photographic solutions** – silver-bearing waste streams resulting from photographic processing solutions or rinse water.

Pesticides and Batteries Not Subject to Universal Waste Regulations

The following pesticides and batteries are not subject to universal waste regulations:

- Recalled or unused pesticides that are managed by farmers on their own farms in accordance with 40 CFR 262.70.
- Unused pesticides that are not waste because the generator has not yet decided to discard them.
- Recalled pesticides are not waste because the person conducting the recall has not yet discarded the pesticide or has decided to treat the waste in such a way that the pesticide is not a solid waste (e.g., use or reuse).
- Spent lead-acid batteries that are managed under 40 CFR Part 266, Subpart G, and 25 Pa. Code Chapter 266a, Subchapter G, "Spent Lead-Acid Batteries Being Reclaimed."

Types of Universal Waste Activity

There are three major categories of universal waste activity, each of which is regulated differently. The entities that conduct these activities are defined in 40 CFR 273.9, as follows:

✓ *Universal Waste Handlers.* You are a handler of universal wastes if you generate universal wastes; receive universal wastes from other universal waste handlers; accumulate universal wastes; or send

Pennsylvania Department of Environmental Protection

https://www.pa.gov/agencies/dep/programs-and-services/waste-programs/solid-waste-programs/hazardous-waste-program/universal

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UNIVERSAL WASTE MANAGEMENT QUESTIONS

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OPEN DISCUSSION of Environmental Issues with Peers

(Air, Waste, Stormwater, Contingency Planning, Clean Fill, etc.)

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Stormwater Management Discussion Scenario

Asphalt Plant with PAG-03 Permit

Semi-Annual Sampling

Analytical Results for Outfall Shows Elevated COD, TSS, Metals

2 Consecutive Sampling Periods Over Benchmark Values

Discussion – What steps to you take next?

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Stormwater Management Discussion Scenario

- Review potential sources causing exceedances
- Improve best management practices
- Prepare and submit Corrective Action Plan (CAP)

If you have 4 consecutive exceedances, you must submit CAP and Stormwater BMP Checklist

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Stormwater Management Discussion Scenario

Stormwater NPDES BMP Checklist

3800-PM-BCW0083I Rev. 12/2022
Stormwater BMP Checklist

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STORMWATER ASSOCIATED WITH INDUSTRIAL ACTIVITY
STORMWATER BMP CHECKLIST

GENERAL INFORMATION

Permittee Name: _____ Permit No.: _____

Permittee Address: _____ Issuance Date: _____

Permittee City, State, Zip: _____ Permittee Phone: _____

Municipality _____ County: _____

Identify the PAG-03 Appendix(ces) the permittee is subject to: _____

APPLICABILITY

This checklist is for use by permittees who have experienced at least four (4) consecutive exceedances of pollutant benchmark values. The PAG-03 General Permit (Part C V.H) requires that, after four (4) or more consecutive benchmark exceedances, permittee must submit a new Corrective Action Plan (CAP) to DEP and include this Stormwater BMP Checklist within 90 days of the end of the monitoring period for which the fourth consecutive exceedance was identified (requirements may vary with individual permits). The permittee must consider implementation of all feasible BMPs under the PAG-03 appendices listed above that are not already present on-site, unless the permittee can demonstrate that (1) the BMPs are not feasible for at the facility; or (2) the exceedances are solely attributable to natural background sources or run-on from off-site; or (3) the exceedances were due to some aberration or extraordinary circumstances; or (4) further pollutant reductions are not necessary to prevent stormwater discharges from causing or contributing to an exceedance of applicable water quality standards.

In the applicable section(s) of this checklist, certify that the listed BMPs have been implemented by checking the box(es) or provide a reason why they were considered to be infeasible or were not implemented. Attach additional sheets to the checklist as necessary. Permittees should also review the BMPs contained in Part C II of the General Permit and all applicable appendices and certify below that all feasible BMPs have been implemented.

CERTIFICATION

I certify under penalty of law and subject to the penalties of 18 Pa. C.S. Section 4904 (relating to unsworn falsification to authorities) that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that the facility and operator described herein have implemented all sector-specific BMPs listed in the General Permit and applicable PAG-03 appendices, or individual permit if applicable, and have implemented the BMPs described herein in addition to those. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____
Name (type or print legibly) **Official Title**

_____ _____
Signature **Date Signed**

- 1 -

3800-PM-BCW0083I Rev. 12/2022
Stormwater BMP Checklist

APPENDIX M

ASPHALT PAVING, ROOFING MATERIALS AND LUBRICANTS

Best Management Practices	Reason Why Infeasible or Not Implemented
☐ 1. Ensure that all BMPs contained in Part C of the General Permit and all applicable appendices have been implemented are in good working order.	
☐ 2. Confine storage, loading/unloading, and transfer activities to designated, labeled areas outside of drainage paths and away from surface waters and high traffic areas.	
☐ 3. Provide concrete or otherwise impervious pads and adequate secondary containment for all storage of drums, containers, materials, fuel tanks, etc. and provide permanent cover or locate pads indoors.	
☐ 4. Prevent run-on and divert stormwater around fueling areas using vegetated swales and/or berms.	
☐ 5. Use curbing, dikes, and gutters to contain and collect spills.	
☐ 6. Divert stormwater around storage areas using vegetated swales and/or berms.	
☐ 7. Implement an increased regular sweeping, maintenance, and inspection schedule for all areas, containers, and BMPs.	

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Contingency Plan
Discussion Scenario

Oil delivery late in the day Thursday

While removing hose from the tank, oil spills into the 2nd containment area. Estimated to be a few gallons which is left in the containment overnight.

Friday you complete a routine inspection and observed evidence of sheen and water at the drain valve (rain occurred overnight).

Discussion – What do you do next?

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Contingency Plan Discussion Scenario

- Determine if release goes offsite (implement SPCC Plan if needed)
- Clean up released oil, follow SPCC Plan steps
- Complete root-cause analysis (value issue, inspection issue, response time issue?)
- Update SPCC Plan procedures, retrain employees, repair faulty equipment, etc.
- Document the release and actions to avoid in the future in the SPCC Plan

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Due Diligence and Clean Fill Discussion Scenario

Due diligence completed prior to work, soil characterized for PA DEP Clean Fill

Lead detected at 300 mg/kg in all samples

PA DEP issues new Statewide Health Standards after the start of project and lead Standard is reduced to 200 mg/kg

6000 Tons still to remove

Discussion – What do you do next?

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Due Diligence and Clean Fill Discussion Scenario

- Manage remaining volume onsite or within the project right-of-way
- Confirm that initial material was placed as Clean Fill prior to Standard Changes
- Reclassify the remaining material as Regulated fill and move to alternate site
- Resample material remaining and determine if lead is still a concern.

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OPEN DISCUSSION AND QUESTIONS

(TIME PERMITTING)

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