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August 5, 2024

U.S. Environmental Protection Agency
Office of Resource Conservation and Recovery
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

via email – universalwaste@epa.gov

Re: Federalism (EO 13132) Consultation Comments: Revisions to the Universal Waste Rule

Dear Sir or Madam:

The Hazardous Waste Subcommittee (HWSC) and Lithium Battery Workgroup of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) appreciates the opportunity to provide early comment on the U.S. Environmental Protection Agency's (EPA) Solar Panel and Lithium Battery Universal Waste Proposed Rule. EPA is seeking these comments in accordance with its Federalism Consultation process described in Executive Order 13132. These comments have not been reviewed or adopted by the ASTSWMO Board of Directors. In addition, individual State or Territorial waste programs may also provide comments directly to EPA based on their own State perspectives and experiences.

ASTSWMO is an association representing the waste management and remediation programs of the fifty (50) States, five (5) Territories and the District of Columbia (States). Our membership includes State waste program experts in the management and regulation of solid and hazardous waste.

Our comments will address solar panels and lithium batteries separately.

Solar Panels

The HWSC supports EPA promulgating regulations to include solar panels as universal waste. When solar panels reach their end of life, they are particularly challenging to handle, as some solar panels contain hazardous constituents, including lead and silver. It has been reported that concentrations of hazardous constituents can vary by manufacturer or can vary within the same manufacturer depending on the raw materials used any given day. Because of this and the multiple components involved in solar panel construction, it is challenging to make an accurate hazardous waste determination on each solar panel sent for recycling or disposal once it reaches end of life. EPA's proposal to allow solar panels to be managed as universal waste will significantly reduce the burden associated with making a hazardous waste determination. ASTSWMO has previously published a fact sheet on the management of solar panels that have reached their end of life that details these challenges[1]. We believe this rulemaking is particularly time sensitive as we expect a large number of solar panels to reach their end of life in the upcoming years.

[1] https://astswmo.org/files/Resources/Hazardous_Waste/2022-11-PV-Modules-Fact-Sheet.pdf

1015 18th Street, NW, Suite 803, Washington, DC 20036
T: (202) 640-1060 F: (202) 331-3254
www.astswmo.org

The HWSC has identified specific challenges that it believes need to be addressed either directly in EPA's rulemaking or guidance issued simultaneously with the promulgated regulations:

1. How are solar panels on residential structures that reach their end of life handled? Do they meet the definition of household hazardous waste and thus are exempt from RCRA regulation? Or are they subject to RCRA regulation because the household hazardous waste exemption does not apply? Designating these wastes as universal waste will ease the burden related to RCRA requirements; however, the underlying determination as to RCRA applicability still needs to be addressed.

2. If generators of waste solar panels choose not to manage the solar panels as universal waste, how should a hazardous waste determination be made? Is a hazardous waste determination required on each specific component? We believe consistent guidance is necessary to ensure a level playing field among entities managing solar panels that have reached their end of life.

Lithium Batteries

The HSWC and Lithium Battery Workgroup support EPA promulgating regulations to include specific requirements for lithium batteries under the universal waste designation. While batteries are already included as a category of universal waste, lithium batteries present significant challenges that were not envisioned when the original universal waste battery regulations were written.

The HSWC and Lithium Battery Workgroup have identified specific challenges that they believe need to be addressed directly in EPA's rulemaking for universal waste lithium batteries:

1. Notification - Currently notification is not required for small quantity handlers of universal waste (i.e., handlers that accumulate less than 5,000 kg (11,000 lb) of universal waste on site at any one time). It is recommended that EPA consult with industry experts to determine a lower, more appropriate notification threshold for handlers of universal waste lithium batteries based on the increased fire risk. In addition, having a notification option on the EPA Form 8700-12 specific to lithium battery handlers will better enable targeted outreach and inspections of lithium battery handlers.

2. Financial Assurance - Due to potential harm to human health and the environment from the fire risk associated with management of lithium batteries, a requirement for financial assurance to address environmental cleanup and disposal should be included for large quantity handlers of universal waste lithium batteries due to the costs associated with transportation and disposal of fire-damaged batteries. The U.S. Department of Transportation (USDOT) has special requirements for packaging and transport of damaged, defective, or recalled (DDR) batteries which can be extremely labor intensive and expensive, particularly when large volumes of fire-damaged batteries are involved. In addition, fire-damaged batteries oftentimes cannot be recycled due to the inability to identify and/or separate by battery chemistry and disposal options are limited and costly. If financial assurance is not required at collection facilities, the cleanup and disposal required at many of these facilities will be left to the States and EPA to fund.

3. Hazardous Secondary Material and Commercial Chemical Product Provisions - Spent lithium batteries being sent for reclamation are increasingly being managed under the Hazardous Secondary Material (HSM) exclusions found at 40 CFR 261.4(a). Similarly, off-specification, unused lithium batteries are increasingly being managed as a commercial chemical product being sent for reclamation in accordance with 40 CFR 261.2(c)(3). The fire risk associated with lithium batteries being managed as HSM or a

commercial chemical product is no different than for those managed as universal waste. Therefore, the new standards developed for universal waste lithium batteries should also be applied to lithium batteries managed as HSM or a commercial chemical product.

4. Preparedness, Prevention, and Emergency Procedures - Similar to the requirement for large quantity generators found at 40 CFR part 262 subpart M and the requirement for management of excluded hazardous secondary materials found at 40 CFR part 261 subpart M, a requirement should be included for large quantity handlers of universal waste lithium batteries to:
   - Maintain and operate their facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release which could threaten human health or the environment.
   - Maintain equipment necessary to prepare for and respond to emergencies.
   - Make arrangements with local fire departments to familiarize them with the layout of the facility, the properties of the universal waste handled at the facility and associated hazards, places where personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes as well as the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.
   - Have an emergency response coordinator.
   - Maintain a contingency plan.

5. Employee Training - The general employee training requirements currently included in the universal waste regulations should be expanded for handlers and added for transporters of lithium batteries to specifically address safe handling, fire prevention measures, and emergency response procedures.

6. Accumulation - Accumulation requirements for large quantity handlers of lithium batteries should be included to both reduce the potential for fire and the ability of fires to spread according to applicable industry standards. For example, requiring:
   - Battery terminal protection.
   - Storage containers constructed of non-combustible materials.
   - Storage container size limits.
   - Storage area capacity limits.
   - Storage area construction guidelines.
   - Separation/aisle space between individual storage containers.
   - Separation/aisle space between lithium battery storage containers and combustible materials.
   - Separation/aisle space between lithium battery storage containers and other hazardous wastes.
   - Adequate ventilation.
   - Temperature control.
   - Distance of lithium battery storage areas from access doors/exits.
   - Distance of lithium battery storage areas from property lines.
   - Siting requirements.
   - Fire barriers.
   - Inspections.

7. Accumulation of Damaged Lithium Batteries - Current requirements for handling universal waste batteries that show evidence of leakage, spillage, or damage include containment within a closed, structurally sound, and compatible container. The USDOT has developed additional packaging and labeling requirements for DDR lithium batteries based on increased fire risks. It is recommended that the new universal waste lithium battery standards reference the USDOT requirements and incorporate more stringent accumulation requirements and shorter accumulation time limits for DDR batteries due

to their increased fire risk. Additionally, the regulations should make it clear that DDR batteries with breached casings must be managed as hazardous waste.

8. Allowable Handler Activities - Currently, universal waste battery handlers are allowed to conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal):
   - Sort batteries by type
   - Mix battery types in one container
   - Discharge batteries to remove the electric charge
   - Regenerate used batteries
   - Disassemble batteries or packs into individual modules or cells
   - Remove batteries from consumer products
   - Remove electrolyte from batteries

   Based on the lack of industry standards and fire risk associated with regeneration of used lithium batteries, the option of handlers being allowed to regenerate used batteries should be removed from the new universal waste lithium battery standards. In addition, it is suggested that a definition for "regeneration" be added to 40 CFR part 273.

   Based on the structure of lithium batteries and the fire risk associated with breaching the casing of a lithium battery, the option of handlers being allowed to remove electrolyte from used batteries should be removed from the new universal waste lithium battery standards.

9. Labeling of Non-DDR Universal Waste Lithium Batteries - Require that universal waste lithium batteries (i.e., each battery pack), or a container in which the batteries are contained be labeled or marked clearly with the following phrase: "Universal Waste Lithium Battery(ies)," or "Lithium Waste Battery(ies)," or "Lithium Used Battery(ies)" and an indication of the hazards of the contents.

Thank you for your consideration of our comments. If you have any questions, please contact Melissa Ferree, Chair of ASTSWMO's Hazardous Waste Subcommittee (melissa.ferree@delaware.gov or 302-739-9403), or Holly Nelson, Chair of ASTSWMO's Lithium Battery Workgroup (holly.nelson1@dnr.ga.gov or 470-604-9530).

Sincerely,

Melissa Ferree (DE), Chair
ASTSWMO Hazardous Waste Subcommittee

Holly Nelson (GA), Chair
ASTSWMO Lithium Battery Workgroup