ENERGYSOLUTIONS

March 22, 2022 CD-2022-062

Mr. Doug Hansen
Director
Division of Waste Management and Radiation Control
195 North 1950 West
Salt Lake City, UT 84114-4880

Subject: EPA ID Number UTD982598898
Request for a Site-Specific Treatment Variance for the Macroencapsulation of Lithium and Lithium-Ion Batteries

Dear Mr. Hansen:

Energy*Solutions* herein requests an exemption from Utah Administrative Code (UAC) R315-268-40 and R315-268-45 for the direct macroencapsulation treatment of lithium and lithium-ion batteries. This request is being submitted in accordance with the requirements of UAC R315-260-19.

The regulatory requirement authorizing this request is found in UAC R315-268-44 which allows a site-specific variance from an applicable treatment standard provided that the following condition is met:

> *UAC R315-268-44(h)(2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible.*

Lithium and lithium-ion batteries typically exhibit the hazardous characteristics of ignitability (D001) and reactivity (D003). Regulations in UAC R315-268-40 (40 CFR 268.40, 2015 Edition, incorporated by reference) require that these characteristic hazards be deactivated to remove the characteristic prior to land disposal. As an alternative, UAC R315-268-45 allows hazardous debris to be treated using an immobilization technology (e.g., macroencapsulation). However, the Environmental Protection Agency (EPA) has ruled that intact batteries are containers and not considered debris (see attached letter dated November 10, 1993). Furthermore, the definition of macroencapsulation in R315-268-42 states that "[M]acroencapsulation specifically does not include any material that would be classified as a tank or container."

In order to meet the regulatory standards described above, lithium and lithium-ion batteries would need to be shredded and mixed with chemicals to deactivate them; or punctured (and then considered debris) to macroencapsulate them. Both of these activities (shredding and puncturing) severely agitate the waste and would expose the reactive portion of the waste to open air which

299 South Main Street, Suite 1700 ▪ Salt Lake City, Utah 84111
(801) 649-2000 ▪ Fax: (801) 880-2879 ▪ www.energysolutions.com

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could cause an adverse reaction or explosion. Although this type of waste management is possible, from a safety and health standpoint, it is inappropriate.

Energy*Solutions* proposes to manage this waste by directly macroencapsulating the intact batteries. Macroencapsulation is a permitted treatment technology that isolates hazardous waste from the environment, eliminating the potential for harmful reactions from exposure to the environment. Macroencapsulation requires less handling of the waste and creates a waste form for disposal that is protective of human health and the environment.

Energy*Solutions* requested this same variance in a letter dated March 17, 2021 (CD-2021-039). This request was approved on May 13, 2021. Energy*Solutions* has received approximately 850 lbs. of this waste since the first variance approval in 2021. This variance request is for the ongoing processing and disposal of additional lithium and lithium-ion batteries.

Energy*Solutions* requests that a variance be granted to allow the receipt, macroencapsulation treatment and disposal of approximately 1000 lbs. of lithium and lithium-ion batteries.

The name, phone number, and address of the person who should be contacted to notify Energy*Solutions* of decisions by the Director is

Mr. Vern Rogers
Director of Regulatory Affairs
Energy*Solutions* LLC
299 South Main Street, Suite 1700
Salt Lake City, UT 84111
(801) 649-2000

Should there be any questions to this request, please contact me at (801) 649-2043.

Sincerely,

Steve D. Gurr
2022.03.22 12:54:45
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Steve D. Gurr
Environmental Engineer

I certify under penalty of law 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 gather and evaluate 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 am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

9441.1993(23)

REGULATORY STATUS OF BATTERY CARCASSES

United States Environmental Protection Agency
Washington, D.C. 20460
Office of Solid Waste and Emergency Response

November 10, 1993

Mr. Christopher L. Freed
Chemical Waste Management, Inc.
Manager - Environmental Regulations
3001 Butterfield Road
Oak Brook, Illinois 60521

Dear Mr. Freed:

Thank you for your letter of April 30, 1993 summarizing your meeting of April 29, 1993 with Richard Kinch of my staff. Upon further investigation of this issue since the receipt of your letter, however, it is clear that battery carcasses do not qualify as debris. They are considered to be containers, as explained below.

As discussed in detail in the preamble to the final rule establishing alternate treatment standards for hazardous debris, intact containers are not debris, and hence are not subject to the treatment standards for debris. 57 FR 37225 (August 18, 1992). In addition, in previous rulemakings EPA has stated that battery casings designed to hold free liquids for use other than storage are containers. I refer you specifically to 40 CFR 264.314(d)(3); 265.314(c)(3); and 55 FR 22637/2 (June 1, 1990). Thus, such intact battery casings are not debris.

In your letter, you state that EPA suggested, elsewhere in the preamble to the final debris rule, that batteries could be debris unless they are subject to a specific treatment standard. I believe you have based this statement on the discussion at 57 FR 37222 and footnote 10, which gives "lead acid or cadmium batteries" as an example of a debris subject to a specific treatment standard. Unfortunately, you then draw the inference that because mercury batteries are not mentioned in this footnote, they are therefore debris.

This is an incorrect conclusion. First, please note that the actual regulatory language does not contain the example of the lead acid battery. 57 FR at 37270. More important, as explained above, intact containers are never classified as debris. Consequently, the example in footnote 10 refers only to lead acid or cadmium batteries that are not intact. Such batteries would still not be subject to the treatment standards for debris because there is a more specific treatment standard for lead acid or cadmium batteries. The footnote does not, however, in any way vitiate the general principle that intact containers are not debris and that batteries are types of containers.

I hope this response, based on a thorough examination of the issue of concern, is helpful. If you need further information, please contact Richard Kinch, Chief of the Waste Treatment Branch in our Waste Management Division at (703) 308-8434.

Sincerely,
Bruce R. Weddle
Acting Director
Office of Solid Waste