

March 17, 2021

CD-2021-039

Mr. Ty Howard  
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. Howard:

EnergySolutions 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



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

EnergySolutions 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.

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

Mr. Vern Rogers  
Director of Regulatory Affairs  
EnergySolutions 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) 649-2144.

Sincerely,

 Tim Orton  
Mar 17 2021 10:59 AM  
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Timothy L. Orton, P.E.  
Environmental Engineer and Manager

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.