

WASTE MANAGEMENT AND RADIATION CONTROL BOARD
 Executive Summary
 REQUEST FOR A SITE-SPECIFIC TREATMENT VARIANCE
 EnergySolutions LLC
 April 14, 2016

<p>What is the issue before the Board?</p>	<p>EnergySolutions LLC has requested a site-specific treatment variance from the Utah Hazardous Waste Management Rules. EnergySolutions seeks authorization to dispose of lithium-thionyl chloride batteries following macroencapsulation.</p>
<p>What is the historical background or context for this issue?</p>	<p>The Mixed Waste Facility has received one, 5-gallon bucket of spent lithium-thionyl chloride batteries.</p> <p>The land disposal regulations require that batteries containing lithium be deactivated prior to land disposal. Macroencapsulation technology requires the waste to be classified as debris (which is a material exceeding 60 mm) before that technology can be used.</p> <p>EnergySolutions proposes to treat this 5-gallon bucket by macroencapsulation (even though the batteries are smaller than 60 mm) in the Mixed Waste Landfill Cell. This method will isolate the waste from precipitation and potential leaching. This request is based on the fact that, in order to deactivate the batteries, they would first need to be shredded. This method of treatment creates additional hazards to the employees without the assurance that the batteries, based on their size and shape, would be shredded. Final disposal of the waste will occur in the Mixed Waste Landfill Cell at the Mixed Waste Facility.</p> <p>A notice for public comment was published in the Salt Lake Tribune, the Deseret News and the Tooele County Transcript Bulletin on March 1, 2016. The comment period began March 1, 2016 and ended March 30, 2016. No comments were received.</p>
<p>What is the governing statutory or regulatory citation?</p>	<p>Variances are provided for in 19-6-111 of the Utah Solid and Hazardous Waste Act and R315-2-13 of the Utah Administrative Code. This is a one-time site-specific variance from an applicable treatment standard as allowed by R315-13-1 (40 CFR 268.44(h)(2) by reference).</p>

Is Board action required?	Yes, this is an action item before the Board.
What is the Division Director's recommendation?	The Director recommends approval of this variance request based on the following findings: the proposed alternative treatment method meets the regulatory basis for a variance, will be as safe to human health and the environment as the required method, and the rules would allow macroencapsulation of this waste if it contained slightly larger pieces.
Where can more information be obtained?	<p>For technical questions, please call Otis Willoughby (801) 536-0220.</p> <p>For legal questions, please call Raymond Wixom at (801) 536-0290.</p>



Management
Division

FEB 18 2016

DSHW-2016-005942

February 18, 2016

Mr. Scott T. Anderson
Director
Division of Solid and Hazardous Waste
P.O. Box 144880
Salt Lake City, UT 84114-4880

CD16-0034
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FEB 18 2016

Division of Solid and Hazardous Waste
Environmental Services

Subject: EPA ID Number UTD982598898 ✓
Request for a Site-Specific Treatment Variance
Treatment of Lithium Batteries

Dear Mr. Anderson:

EnergySolutions LLC hereby requests an exemption from the treatment standards of 40 CFR 268.40(a)(2) for lithium-thionyl chloride batteries. In accordance with Division of Waste Management and Radiation Control guidance and the associated Material Safety Data Sheet, the batteries retain the characteristic hazardous waste codes of ignitability (D001) and reactivity (D003).

This request is submitted in accordance with R315-13-1 (40 CFR 268.44 incorporated by reference), which may allow a site-specific variance from an applicable treatment standard provided the following condition is met:

40 CFR 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.

This request is submitted in accordance with the requirements of 40 CFR 260.20(b).

40 CFR 260.20(b)(1): This petition is being submitted by

EnergySolutions LLC
423 West 300 South, Suite 200
Salt Lake City, UT 84101

40 CFR 260.20(b)(2): EnergySolutions requests approval to macroencapsulate approximately one cubic foot of lithium-thionyl chloride batteries that retain the

characteristic codes D001 and D003. All actions requested in this variance will be performed in accordance with EnergySolutions' State-issued Part B Permit.

40 CFR 260.20(b)(3): EnergySolutions proposes that the batteries, after acceptance at the facility in accordance with EnergySolutions' State-issued Part B Permit, be macroencapsulated in accordance with permit requirements and disposed in the Mixed Waste Landfill Cell.

40 CFR 260.20(b)(4): The need and justification for this action are as follows.

This variance is being requested for one 5-gallon bucket of spent lithium-thionyl chloride batteries that retain characteristic codes from EnergySolutions generator 9113-01. In accordance with R315-13-1 (40 CFR 268.40 incorporated by reference), the batteries are required to be "deactivated" (DEACT) prior to disposal.

The most applicable method of deactivation would be macroencapsulation of the waste to isolate the waste (and its characteristics) from the environment. The macroencapsulation technology requires the waste to be classified as debris which is defined as a solid material exceeding 60 mm (~2.36 inches) in any dimension. However, the batteries have a maximum length less than two inches; therefore, they do not meet the definition of debris.

To deactivate the waste without using macroencapsulation would require the batteries be shredded, in order to release the characteristic contents from the battery enclosure, and the resulting fluff treated with chemicals to create a non-characteristic monolith. This method of treatment creates additional hazards by exposing the ignitable and reactive nature of the batteries to the atmosphere, causing potential unnecessary risks to personnel and the environment. Further, due to their size and shape, it is unlikely all of the batteries would be opened during the shredding process and a portion of the batteries would not be treated to their characteristic core.

Rather than risking the consequences of shredding, EnergySolutions proposes to macroencapsulate the batteries even though they do not meet the size requirement of debris for macroencapsulation. Macroencapsulation is a permitted process utilized at the Clive facility that significantly reduces the potential for migration (leaching) of waste. Macroencapsulation requires less handling of the waste, particular the hazardous internal

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portion of the waste, and creates a final form for disposal that is protective of human health and the environment.

EnergySolutions requests that a variance be granted to allow the macroencapsulation treatment of approximately one cubic foot of hazardous lithium-thionyl chloride batteries that do not meet the size requirement for debris as is required for macroencapsulation.

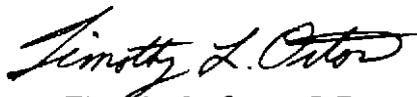
This waste is an ongoing waste stream from this generator who expects to have a minimal volume of lithium-thionyl chloride batteries for disposal each year. This variance was previously submitted to the Director in a letter dated December 16, 2014 (CD14-0284) and was approved by the Solid and Hazardous Waste Board on February 12, 2015.

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
Manager, Compliance and Permitting
EnergySolutions LLC
423 West 300 South, Suite 200
Salt Lake City, UT 84101
(801) 649-2000

Should there be any questions to this request, please contact me at 801-649-2144.

Sincerely,



Timothy L. Orton, P.E.
Environmental Engineer

cc: Otis Willoughby, DSHW

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.