



State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Tim Davis
Commissioner

DIVISION OF WASTE MANAGEMENT
AND RADIATION CONTROL

Ted H. Sonnenburg, P.E., L.E.H.S.
Director

A meeting of the Utah Waste Management and Radiation Control Board has been scheduled for May 14, 2026 at 1:30 p.m. at the Utah Department of Environmental Quality, (Multi-Agency State Office Building) Conference Room #1015, 195 North 1950 West, SLC.

Board members and interested individuals may participate electronically/telephonically.

Join via the Internet: meet.google.com/gad-sxsd-uvs
Join via the Phone: (US) +1 978-593-3748 PIN: 902 672 356#

AGENDA

- I. Call to Order and Roll Call.
- II. Public Comments on Agenda Items.
- III. Declarations of Conflict of Interest.
- IV. Approval of meeting minutes for the April 9, 2026, Board meeting..... Tab 1
(Board Action Item)
- V. Petroleum Storage Tanks Update..... Tab 2
- VI. Annual Open and Public Meetings, Conflicts, Ethics, and Records Training
(Presented by Raymond Wixom, Assistant Attorney General, Utah Attorney General’s Office)
(Information Item).
- VII. Low-Level Radioactive Waste..... Tab 3
 - A. EnergySolutions’ request for a one-time site-specific treatment variance from the Utah Hazardous Waste Management Rules. EnergySolutions seeks authorization to receive an exemption from the treatment standards for uranium extraction process residuals encased in cement for macroencapsulation (Information Item).

(Over)

- B. EnergySolutions' request for a one-time site-specific treatment variance from the Utah Hazardous Waste Management Rules. EnergySolutions seeks authorization to receive a variance from Utah Administrative Codes R315-268-40 and R315-268-45 for the direct macroencapsulation treatment of approximately 1,200 lbs. of lithium and lithium-ion batteries (**Board Action Item**).

VIII. Director's Report.

IX. Commissioner's Report.

X. Other Business.

- A. Miscellaneous Information Items.

- B. Scheduling of next Board meeting (June 11, 2026).

XI. Adjourn.

In compliance with the Americans with Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact LeAnn Johnson, Office of Human Resources at 385-226-4881, Telecommunications Relay Service 711, or by email at leannjohnson@utah.gov.

Utah Waste Management and Radiation Control Board Meeting Minutes
Utah Department of Environmental Quality
Multi-Agency State Office Building, (Conf. Room #1015)
195 North 1950 West, SLC
April 9, 2026
1:30 p.m.

In conjunction with the April Board Meeting, a Board Working Lunch Meeting was held to discuss the progress of the Utah Solid Waste Management Plan.

This meeting took place from 12:00 p.m. to 1:00 p.m. in Conference Rooms 1019 A/B.
No virtual component provided.

Board Members Participating: Brett Mickelson (Chair), Dennis Riding (Vice-Chair) Dr. Richard Codell, Mark Franc, Neil Schwendiman, Shane Whitney

UDEQ Staff Members Participating: Jalynn Knudsen, Kelly Shaw, Brian Speer, Morgan Atkinson, Lecia Cope, Arlene Lovato, Elisa Smith

Others Attending: Cherie Anderson, Jesse Simonsen

Please find below an overview of the working meeting regarding the statewide Solid Waste Management Plan (Plan).

Staff reviewed the Plan requirements presented at the September Board Meeting and addressed key talking points to foster an open discussion. Both staff and Board members engaged in a productive Q&A session during the meeting.

Additional topics presented regarding the Plan included the following: SWIFR Grant Overview; Phase 1: Waste Characterization and Recycling Study; Phase 2: Plan Update; Plan Purpose and Mandate; Scope and Schedule; Statutory Requirements for the Plan; Contemporary Waste Concerns; Economics and Tons Disposed; Project Timeline; Key Milestones; and Regional Outreach.

These discussions ensured alignment between the Division and the Board regarding the Plan's objectives. A copy of the presentation is available upon request.

No final voting action was taken on any matter during this working meeting. The unedited audio can be accessed at <https://www.utah.gov/pmn/files/1420629.MP3>

Utah Waste Management and Radiation Control Board Meeting Minutes

Board Members Participating at Anchor Location: Brett Mickelson (Chair), Dennis Riding (Vice-Chair)
Dr. Richard Codell , Mark Franc, Neil Schwendiman,
Shane Whitney

Board Members Participating Virtually: Vern Rogers

Board Members Excused: Tim Davis, Dr. Danielle Endres, Jeremy Hawk, Dr. Steve McIff, Scott Wardle

UDEQ Staff Members Participating at Anchor Location: Brent Everett, Jalynn Knudsen, Morgan Atkinson,
Brenden Catt, Lecia Cope, Brandon Davis, Tyler Hebgurg, Chris Howell, Arlene Lovato, Deborah Ng, Mike Pecorelli,
Elisa Smith, Paige Walton, Scott Wendt

Others Attending at Anchor Location: Cherie Anderson, Steve Gurr

Other UDEQ employees and interested members of the public also participated either virtually or telephonically.

This meeting was recorded. The unedited audio can be accessed at <https://www.utah.gov/pmn/files/1416931.mp3>

I. Call to Order and Roll Call.

Chairman Mickelson called the meeting to order at 1:30 p.m. Roll call of Board members was conducted; see above.

II. Public Comments on Agenda Items – None.

III. Declaration of Conflict of Interest – None.

IV. Approval of the meeting minutes for March 12, 2026, Board meeting (Board Action Item).

It was moved by Shane Whitney and seconded by Dennis Riding and UNANIMOUSLY CARRIED to approve the March 12, 2026, Board meeting minutes.

V. Petroleum Storage Tanks Update.

Brent Everett, Director of the Division of Environmental Response and Remediation (DERR), informed the Board that the cash balance of the Petroleum Storage Tank (PST) Enterprise Fund (Fund) for the end of March 2026, was \$39,475,423.00. The DERR continues to monitor the balance of the PST Fund closely to ensure sufficient cash is available to cover qualified claims for releases.

Director Everett also mentioned that some errors on the PST Statistical Summary have been corrected. He provided updates on some that were remaining. The DERR will continue to work on ensuring the information provided in the Board packet is correct. Vern Rogers appreciated the update and corrections.

VI. Administrative Rules.

A. Request for approval from the Board to proceed with final adoption of the proposed changes to Utah Administrative Code R315-101 of the Utah Solid and Hazardous Waste Rules (Board Action Item).

Paige Walton, Hazardous Waste Cleanup Section Manager in the Division of Waste Management and Radiation Control (Division), reviewed the request for approval from the Board to proceed with final adoption of the proposed changes to Utah Administrative Code R315-101 of the Utah Solid and Hazardous Waste Rules.

On February 12, 2026, the Board approved the proposed changes to Utah Admin. Code R315-101, Cleanup Action and Risk-Based Closure Standards, to be filed with the Office of Administrative Rules for publication in the *Utah State Bulletin*. The proposed changes were published in the March 1, 2026, issue of the *Utah State Bulletin* (Vol. 2026, No. 5).

Ms. Walton noted a minor clerical correction regarding the public notice comment period. When originally presented to the Board, the comment period was scheduled to begin on March 1, 2026. However, due to a minor clerical error, the 30-day public comment period officially ran from March 2, 2026, through March 31, 2026, rather than ending on March 30, 2026.

No public comments were received on March 1, nor were any received during the actual comment period of March 2 through March 31, 2026. Because no comments were submitted during this 31-day window, no further action or resubmission is required regarding this public comment period.

This is a Board action item. The Director recommends the Board approval for final adoption of the proposed changes to Utah Administrative Code R315-101, as published in the March 1, 2026, *Utah State Bulletin* and set an effective date of April 16, 2026.

It was moved by Mark Franc and seconded by Dr. Codell and UNANIMOUSLY CARRIED for the Board to approve for final adoption the proposed changes to Utah Administrative Code R315-101 of the Utah Solid and Hazardous Waste Rules as published in the March 1, 2026, issue of the *Utah State Bulletin* and set an effective date of April 16, 2026.

VII. Low-Level Radioactive Waste.

A. **EnergySolutions' request for a one-time site-specific treatment variance from the Utah Hazardous Waste Management Rules. EnergySolutions seeks authorization to receive a variance from Utah Administrative Codes R315-268-40 and R315-268-45 for the direct macroencapsulation treatment of approximately 1200 lbs. of lithium and lithium-ion batteries (Information Item).**

Tyler Hegburg, Environmental Scientist, Low-Level Radioactive Section, Division of Waste Management and Radiation Control, introduced Steve Gurr, EnergySolutions representative, who presented a one-time site-specific treatment variance request for the direct macroencapsulation treatment of lithium and lithium-ion batteries to the Board.

Lithium and lithium-ion batteries typically exhibit the hazardous characteristics of ignitability (D001) and reactivity (D003). Regulations in Utah Admin. Code R315-268-40 require the removal of the characteristic codes prior to land disposal. The U.S. Environmental Protection Agency (U.S. EPA) has ruled that intact batteries are containers and not considered debris under the definition that would allow them to be macroencapsulated. In order for lithium batteries to meet the U.S. EPA definition of debris, they would need to be shredded and mixed with chemicals to deactivate them and then they could be macroencapsulated. Issues of shredding severely agitate the waste and exposes the reactive portion of the waste to the 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 has received approval for this same variance request four times previously, from 2021 through 2024, and in the last year 2025. The waste quantities have remained similar over this time period, averaging approximately 800 lbs. being received each year. EnergySolutions anticipates receiving similar waste volumes over the next twelve months under this variance request.

Shane Whitney inquired whether *EnergySolutions* has encountered any issues in prior years regarding the macroencapsulation of lithium batteries. Mr. Gurr commented that the process has been successful every year a variance has been received.

Dennis Riding inquired whether *EnergySolutions* has experienced any fires or management issues associated with lithium-ion batteries. Mr. Gurr stated that he recalled initial instances of reactions and fires when the facility first attempted shredding the batteries; however, there have been no such issues since post-variance approval.

Dr. Codell stated that he has located a few advisory reports, not rules, from the U.S. EPA and overseas Irish EPA regarding this matter and inquired if *EnergySolutions* is up-to-date of what the U.S. EPA and what other government agencies' perspectives are on burying lithium batteries. Mr. Gurr clarified that part of the research in this matter is that the U.S. EPA does not consider the batteries as containers, and therefore they cannot be macroencapsulated. Mr. Gurr emphasized that the macroencapsulation process is very safe and effective method for isolating lithium batteries from any reactions.

Mr. Gurr commented that he has not reviewed any additional literature/advisory reports on this matter but agreed it is a good idea to keep current on findings regarding this matter. Dr. Codell expressed concern that the regulations cited date back to 1993 (pre-lithium battery) and may not reflect modern, lithium battery technology. Dr. Codell further commented while some lithium batteries were around back then, they did not consist of the bigger larger-scale lithium batteries being dealt with today. Dr. Codell was hopeful that more current information was available in dealing with this matter. Mr. Gurr stated that he will look into this matter and agreed that lithium batteries are much more common today than previous years and acknowledged Dr. Codell's point.

Mark Franc commented that given the popularity of this topic and the issues seen in hauling operations at municipal disposal landfills, this topic was also discussed during the working lunch. During that meeting, it was agreed that the proper handling of these types of batteries is compiling and disposing of them properly as opposed to being hidden in trash, which is causing problems. Mr. Franc further commented *EnergySolutions'* current handling of these types of batteries appears be an appropriate way to actually compile and dispose of the batteries. Mr. Franc commended *EnergySolutions* for their efforts in this area.

VIII. Director's Report.

Jalynn Knudsen, Assistant Director in the Division of Waste Management and Radiation Control, informed the Board that the terms for the following three members will end in August of this year: Mark Franc, Dr. Steve McIff, and Dennis Riding. We will contact these Board members to discuss their desire to continue serving on the Board and to review the reappointment process.

The reappointment process normally begins 90-days prior to the end of their term, which is around May. Arlene Lovato will coordinate these efforts with the three Board members accordingly.

Assistant Director Knudsen noted that all Utah Waste Management and Radiation Control Board positions require both the Senate and Governor approval.

IX. Executive Director's Report - This agenda item was tabled.

X. Other Business.

A. Miscellaneous Information Items.

Director Everett mentioned that he and Commissioner Davis attended the Moab Uranium Mill Tailings Remedial Action (UMTRA) 16 Million Tons removed celebration earlier in the day in Moab. This has been an effort by

the Department of Energy to remove the Atlas Tailings to a repository near Crescent Junction. While not a Board item, this project had touchpoints with the Department (DWMRC and DERR).

B. Scheduling of next Board meeting (May 14, 2026).

The next Board meeting is scheduled for May 14, 2026, at the Utah Department of Environmental Quality, Multi-Agency State Office Building.

Interested parties can join via the internet at: meet.google.com/gad-sxsd-uvs
Or by phone at (US) + 1 978-593-3748 PIN: 902 672 356#

XI. Adjourn.

The meeting adjourned at 1:45 p.m.

DRAFT

PST STATISTICAL SUMMARY
April 1, 2025 -- March 31, 2026

PROGRAM

	April	May	June	July	August	September	October	November	December	January	February	March	(+/-) OR Total
Regulated Tanks	4,897	4,907	4,902	4,907	4,912	4,906	4,907	4,917	4,914	4,894	4,903	4,909	12
Tanks with Certificate of Compliance	4,682	4,683	4,692	4,695	4,701	4,721	4,731	4,756	4,753	4,751	4,758	4,753	71
Tanks without COC	215	223	210	212	211	185	176	161	161	143	145	156	(59)
Cumulative Facilities with Registered A Operators	1,271	1,272	1,254	1,267	1,271	1,273	1,274	1,276	1,277	1,206	1,243	1,207	79.36%
Cumulative Facilities with Registered B Operators	1,273	1,273	1,256	1,266	1,270	1,272	1,272	1,274	1,275	1,176	1,206	1,183	77.78%
New LUST Sites	6	4	8	5	12	7	7	8	3	2	7	6	75
Closed LUST Sites	4	5	3	8	5	3	6	1	4	2	5	3	49
Cumulative Closed LUST Sites	5748	5751	5758	5765	5768	5774	5776	5780	5783	5464	5790	5796	48

FINANCIAL

	April	May	June	July	August	September	October	November	December	January	February	March	(+/-)
Tanks on PST Fund	3,064	3,059	3,067	3,064	3,062	3,084	3,100	3,105	3,102	3,097	3,109	3,102	38
PST Claims (Cumulative)	741	740	740	739	739	739	740	739	740	683	683	683	(58)
Equity Balance	\$8,511,914	\$9,321,582	\$9,640,627	\$9,913,949	\$10,715,671	\$9,541,937	\$15,156,203	\$15,801,900	\$14,878,066	\$15,432,509	\$15,703,063	\$14,418,028	\$5,906,114
Cash Balance	\$38,830,213	\$39,639,881	\$39,958,926	\$40,232,248	\$41,033,970	\$39,860,236	\$40,213,598	\$40,859,295	\$39,935,461	\$40,489,904	\$40,760,458	\$39,475,423	\$645,210
Loans	0	0	0	0	0	2	0	0	0	0	0	0	0
Cumulative Loans	129	129	129	129	129	131	131	131	131	131	131	131	2
Cumulative Amount	\$6,123,705	\$6,123,705	\$6,123,705	\$6,123,705	\$6,123,705	\$6,520,492	\$6,520,492	\$6,520,492	\$6,520,492	\$6,520,492	\$6,520,492	\$6,520,492	\$396,787
Defaults/Amount	1	2	2	2	2	2	3	2	2	2	1	1	0

	April	May	June	July	August	September	October	November	December	January	February	March	TOTAL
Speed Memos	199	135	165	135	114	118	133	191	161	78	86	126	1,641
Compliance Letters	11	18	10	9	11	8	3	8	16	3	3	2	102
Notice of Intent to Revoke	0	0	0	0	0	0	0	0	0	0	0	0	0
Orders	0	0	2	1	0	0	2	0	3	0	0	1	9

UTAH WASTE MANAGEMENT AND RADIATION CONTROL BOARD

Executive Summary

REQUEST FOR A SITE-SPECIFIC TREATMENT VARIANCE

EnergySolutions, LLC

May 14, 2026

<p>What is the issue before the Board?</p>	<p>On April 14, 2026, EnergySolutions, LLC submitted a request (DSHW-2026-001825) to the Director of the Division of Waste Management and Radiation Control for a one-time site-specific treatment variance from the Utah Hazardous Waste Management Rules. EnergySolutions seeks authorization to receive a variance from the treatment standards described in Utah Administrative Code R315-268-40(a)(2) for uranium extraction process residuals encased in cement for macroencapsulation.</p>
<p>What is the historical background or context for this issue?</p>	<p>EnergySolutions requests approval of a variance from the treatment standards described in Utah Admin. Code R315-268-40(a)(2) for uranium extraction process residuals encased in cement that retain hazardous waste codes D004 (arsenic); D005 (barium); D006 (cadmium); D007 (chromium) D008 (Lead); D010 (Selenium); D011 (Silver); D030 (2,4-dinitrotolunene); D032 (hexachlorobenzene); D033 (hexachlorobutadiene) and F001, F002, and F005 (spent solvents) for macroencapsulation treatment and disposal. All other required treatment standards associated with the waste will be met prior to disposal.</p> <p>This variance is requested for approximately 2,100 cubic feet of cemented uranium extraction process residuals as part of uranium recovery processes at the generator’s facility. The residual waste from each of these processes is collected in small cans (~ 2 ½ gallons each) and stored at the generator’s facility. The processed residuals within the cans have been characterized through a random sampling and analysis process. At the beginning of this campaign, approximately 2,000 cans of process residues were collected and stored by the generator. The process is ongoing, and additional cans are being generated every year. Furthermore, due to safety concerns, some of the cans are being split prior to the repackaging process described below; thereby generating more total material for disposal.</p> <p>The generator has three distinct points of generation for this material including (1) enriched uranium contaminated ash that has been thermally processed and the recovered through an organic solvent extraction process; (2) oxide powders and dried sludges associated with this enriched uranium-thorium fuels; and (3) sludge residue from the bottom of salt baths used in the processing of the uranium.</p> <p>F-listed solvent codes within this waste are derived from rags that are burned in a furnace in order to recover the uranium present within them. None of the F-listed constituents were present above their respective treatment standard concentrations within the random characterization samples of the process residues. The random characterization samples were also analyzed for metals using the Toxicity Characteristic Leaching Procedure (TCLP).</p>

These samples detected elevated concentrations of barium (up to 6,740 mg/L TCLP), cadmium (up to 16.4 mg/L TCLP), chromium (up to 15.2 mg/L TCLP), and lead (up to 10.5 mg/L TCLP). Based on these elevated metal concentrations, the characteristic waste codes D005, D006, D007, and D008 were applied to the process residues. Slightly elevated concentrations of arsenic (D004), selenium (D010), silver (D011), 2,4-dinitrotoluene (D030), hexachlorobenzene (D032) and hexachlorobutadiene (D033) were also detected in separate analyses. The residue may potentially contain these codes also.

The uranium content within the process residues is enriched. From a health and safety standpoint, the enrichment makes the waste more hazardous to employees managing the waste. Further, the enriched material has increased security concerns and must be managed appropriately. To ensure the enriched uranium concentration limits required for worker safety, security, and transportation of this waste are met, appropriate packaging procedures were created and are currently being utilized at the generator's facility. These packaging procedures include repackaging the 2 ½ gallon cans into 16-gallon drums and filling the void spaces with cement; formal treatment for the elevated metals concentrations is not performed during this process. The generator has assessed other options, including treatment for the hazardous constituents; however, additional processing introduced unacceptable hazards from a health, safety, and security viewpoint. Additionally, the waste within the cans is inherently safe from a criticality aspect and the generator concluded that it is unwise to perform extra processing that could potentially change this aspect. Furthermore, encasing enriched uranium within concrete is the preferred method of stabilization as recommended by the U.S. Nuclear Regulatory Commission (NRC). The waste material packaged in these 16-gallon monolithic forms is inherently safe and is the form that will be shipped and received at the EnergySolutions Clive facility. The characteristic hazardous waste codes associated with the process residues have numerical concentration-based treatment standards based upon the leachability of the contaminants. Treatment of the monolithic form for these concentration-based treatment standards would entail a process that includes shredding of the monolith followed by mixing with a stabilizing reagent in a permitted mixer. Both steps could mobilize the enriched uranium and possibly cause airborne contamination, increasing the potential for releases to the environment as well as the potential for personnel exposure; thereby violating radiation protection (ALARA – As Low as Reasonably Achievable) principles. Lastly, the shredding of the solidified uranium ash results in a more accessible form of enriched uranium with potential security ramifications.

EnergySolutions' proposes to macroencapsulate the waste, thereby isolating the waste and decreasing the leaching potential of the media. 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 and creates a waste form for disposal that is protective of human health and the environment.

	<p>Macroencapsulation also adds a further level of security by restricting the access to the enriched uranium as the media is contained in an additional layer of cementations fill.</p> <p>EnergySolutions will manage this waste as debris and final disposal of the waste will occur in the Mixed Waste Disposal Cell at the EnergySolutions Mixed Waste Facility following all appropriate requirements in their state-issued Part B permit.</p> <p>A notice for public comment was published in the <i>Salt Lake Tribune</i>, the <i>Tooele Transcript Bulletin</i> on May 6, 2026, and the <i>Deseret News</i> on May 8, 2026. The public comment period began May 11, 2026, and will end June 9, 2026.</p>
<p>What is the governing statutory or regulatory citation?</p>	<p>Variations are provided for in 19-6-111 of the Utah Solid and Hazardous Waste Act. This is a one-time site-specific variance from an applicable treatment standard as allowed by Utah Admin. Code R315-268-44.</p>
<p>Is Board action required?</p>	<p>No. This is an informational item before the Board.</p>
<p>What is the Division/Director's recommendation?</p>	<p>The Director will provide a recommendation following the public comment period at the next Board meeting.</p>
<p>Where can more information be obtained?</p>	<p>For technical questions, please contact Tyler Hegburg 385-622-1875. For legal questions, please contact Bret Randall at 801-536-0284.</p>

April 14, 2026

CD-2026-069

Mr. Ted Sonnenburg
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 Cemented Uranium Extraction Process Residues

Dear Mr. Sonnenburg,

EnergySolutions herein requests from the Waste Management and Radiation Control board an exemption from the treatment standards described in Utah Administrative Code (UAC) R315-40(a)(2) for uranium extraction process residuals encased in cement that retain the hazardous waste codes D004 (arsenic); D005 (barium); D006 (cadmium); D007 (chromium); D008 (lead); D010 (selenium); D011 (silver); D030 (2,4-dinitrotoluene); D032 (hexachlorobenzene); D033 (hexachlorobutadiene) and F001, F002, and F005 (spent solvents). This exemption is requested for the purposes of safety, security, and transportation of the radioactive waste. This request is 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 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.

This variance is being requested for approximately 2,100 cubic feet of cemented uranium extraction process residuals from EnergySolutions generator 9061-06. The waste is generated as part of uranium recovery processes at the generator's facility. The generator has three different points of generation for this waste: (1) an enriched uranium contaminated ash that has been thermally processed and then recovered through an organic solvent extraction process; (2) oxide powders and dried sludges associated with highly enriched uranium-thorium fuels; and (3) residue (sludge) from the bottom of salt

baths used in the processing of uranium. The residual waste from each of these processes is collected in small cans (~ 2 ½ gallons each) and stored at the generator's facility. The process residuals within the cans have been characterized through a random sampling and analysis process. At the beginning of this campaign, approximately 2,000 cans of process residues were collected and stored by the generator. The process is ongoing and additional cans are being generated every year. Further, due to safety concerns, some of the cans are being split prior to the repackaging process described below; thereby generating more total material for disposal.

F-listed solvent codes within this waste are derived from rags that are burned in a furnace in order to recover the uranium present within them. None of the F-listed constituents were present above their respective treatment standard concentrations within the random characterization samples of the process residues. The random characterization samples were also analyzed for metals using the Toxicity Characteristic Leaching Procedure (TCLP). These samples detected elevated concentrations of barium (up to 6,740 mg/L TCLP), cadmium (up to 16.4 mg/L TCLP), chromium (up to 15.2 mg/L TCLP), and lead (up to 10.5 mg/L TCLP). Based on these elevated metal concentrations, the characteristic waste codes D005, D006, D007, and D008 were applied to the process residues. Slightly elevated concentrations of arsenic (D004), selenium (D010), silver (D011), 2,4-dinitrotoluene (D030), hexachlorobenzene (D032) and hexachlorobutadiene (D033) were also detected in separate analyses. The residue may potentially contain these codes also.

The uranium content within the process residues is enriched. From a health and safety standpoint, the enrichment makes the waste more hazardous to employees managing the waste. Further, enriched material has increased security concerns and must be managed appropriately. To ensure the enriched uranium concentration limits required for worker safety, security, and transportation of this waste are met, appropriate packaging procedures were created and are currently being utilized at the generator's facility. These packaging procedures include repackaging the cans into 16-gallon drums and filling the void spaces with cement; formal treatment for the elevated metals concentrations is not performed during this process. The generator has assessed other options, including treatment for the hazardous constituents; however, additional processing introduced unacceptable hazards from a health and safety and security viewpoint. Additionally, the waste within the cans is inherently safe from a criticality aspect and the generator concluded that it is unwise to perform extra processing that could potentially change this aspect. Furthermore, encasing enriched uranium within concrete is the preferred method of stabilization as recommended by the Nuclear Regulatory Commission (NRC). The waste material packaged in these 16-gallon monolithic forms is inherently safe and is the form that will be shipped and received at the EnergySolutions Clive facility.

The characteristic hazardous waste codes associated with the process residues has numerical concentration-based treatment standards based upon the leachability of the contaminants. Treatment of the monolithic form for these concentration-based treatment standards would entail a process that includes shredding of the monolith followed by mixing with a stabilizing reagent in a permitted mixer. Both of these steps could mobilize the enriched uranium and possibly cause airborne contamination, increasing the potential for releases to the environment as well as the potential for personnel exposure; thereby violating radiation protection (ALARA – As Low As Reasonably Achievable) principles. Also, the shredding of the solidified uranium ash results in a more accessible form of enriched uranium with potential security ramifications.

EnergySolutions proposes to macroencapsulate the waste, thereby isolating the waste from potential leaching media. 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 and creates a waste form for disposal that is protective of human health and the environment. Macroencapsulation also adds a further level of security restricting access to the enriched uranium.

In summary, a variance should be granted based upon three considerations:

1. for both health and security reasons, the enriched uranium concentration within the waste precludes actual treatment of the waste;
2. processing this waste in preparation for stabilization treatment would increase worker exposures and the potential for releases to the environment; and
3. the leachability of the waste would be significantly reduced through macroencapsulation, thereby protecting human health and the environment.

EnergySolutions requested this same variance 17 times (previously) for this generator in letters dated July 20, 2007; July 28, 2008; July 15, 2009; July 15, 2010; July 28, 2011; August 13, 2012; July 15, 2013; July 25, 2015; November 4, 2015; October 27, 2016; November 20, 2018; December 9, 2019; January 11, 2021; March 22, 2022; April 18, 2023; April 16, 2024; and April 15, 2025. These previous requests were approved on September 13, 2007; September 13, 2008; September 10, 2009; September 9, 2010; September 8, 2011; September 13, 2012; September 12, 2013; August 14, 2014; December 10, 2015; November 9, 2017; January 10, 2019; March 12, 2020; April 8, 2021; June 9, 2022; June 8, 2023; June 13, 2024, and June 12, 2025; respectively.



Mr. Ted Sonnenburg
April 14, 2026
CD-2026-069
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Shipments began in April 2008 and have been relatively continuous since that time. Since the last variance was approved, EnergySolutions has received approximately 2,080 cubic feet of this waste (the 16-gallon monoliths). EnergySolutions has received approximately 20,800 cubic feet of this waste since the first variance approval in 2008. This variance request is for the ongoing processing and disposal of additional uranium extraction process residues created by the generator.

EnergySolutions requests that a variance be granted to allow the receipt, macroencapsulation treatment and disposal of approximately ~2,100 cubic feet of cemented uranium extraction process residuals that retain hazardous waste codes. Upon approval of this variance, the monolithic waste will be managed as debris.

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

Mr. Vern C. 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 801-649-2043.

Sincerely,

A handwritten signature in black ink that reads "Steve D. Gurr".

Digitally signed
by Steve D. Gurr
Date: 2026.04.14
14:21:18 -06'00'

Steve D. Gurr
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 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.

UTAH WASTE MANAGEMENT AND RADIATION CONTROL BOARD

Executive Summary

REQUEST FOR A SITE-SPECIFIC TREATMENT VARIANCE

EnergySolutions, LLC

May 14, 2026

<p>What is the issue before the Board?</p>	<p>On March 11, 2026, EnergySolutions, LLC submitted a request (DSHW-2026-001369) to the Director of the Division of Waste Management and Radiation Control for a one-time site-specific treatment variance from the Utah Hazardous Waste Management Rules. EnergySolutions seeks authorization to receive a variance from Utah Administrative Codes R315-268-40 and R315-268-45 for the direct macroencapsulation treatment of approximately 1,200 lbs. of lithium and lithium-ion batteries.</p>
<p>What is the historical background or context for this issue?</p>	<p>Lithium and lithium-ion batteries typically exhibit the hazardous characteristics of ignitability (D001) and reactivity (D003). Regulations in Utah Admin. Code 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, Utah Admin. Code R315-268-45 allows hazardous debris to be treated using immobilization technologies (e.g., macroencapsulation). However, the U.S. Environmental Protection Agency (U.S. EPA) has ruled that intact batteries are containers and not considered debris. Furthermore, the definition of macroencapsulation in Utah Admin. Code R315-268-42 states that “Macroencapsulation specifically does not include any material that would be classified as a tank or container.”</p> <p>For EnergySolutions 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 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.</p> <p>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.</p> <p>Final disposal of the lithium and lithium-ion batteries will occur in the Mixed Waste Disposal Cell at the EnergySolutions’ Mixed Waste Facility using the appropriate attachments of modules of the state-issued Part B permit.</p>

	<p>A notice for public comment was published in the <i>Deseret News</i> on April 3, 2026, and the <i>Salt Lake Tribune</i> and <i>Tooele Transcript-Bulletin</i> on April 8, 2026. The 30-day public comment period began April 9, 2026 and will on end May 11, 2026.</p> <p>EnergySolutions, LLC requested this same variance five times previously in letters dated March 17, 2021 (CD-2021-039), March 22, 2022 (CD-2022-062), April 11, 2023 (CD-2023-081), April 16, 2024 (CD-2024-085) and April 15, 2025 (CD-2025-075).</p> <p>These requests were approved on May 13, 2021 (DSHW-2021-007602), June 9, 2022 (DSHW-2022-015603), June 8, 2023 (DSHW-2023-205003), June 13, 2024 (DSHW-2024-006740) and June 12, 2025 (DSHW-2025-002871).</p> <p>EnergySolutions, LLC has received approximately 900 lbs. of this waste since the variance was approved in 2025.</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. This is a one-time site-specific variance from an applicable treatment standard as allowed by Utah Admin. Code R315-268-44.</p>
<p>Is Board action required?</p>	<p>Yes, this is an action item before the Board. The Variance Request was presented to the Board as an information item on April 9, 2026.</p>
<p>What is the Division/Director's recommendation?</p>	<p>The Director recommends approval of this variance request. The Director's recommendation is based on the following findings: the proposed alternative treatment method meets the regulatory basis for a variance and will be as safe to human health and the environment as the required method.</p>
<p>Where can more information be obtained?</p>	<p>For technical questions, please contact Tyler Hegburg 385-622-1875. For legal questions, please contact Bret Randall at 801-536-0284.</p>

DSHW-2026-001704
Attachment: DSHW-2026-001369

MAR 24 2026

DSHW-2026-001369

March 11, 2026

CD-2026-048

Mr. Ted Sonnenburg
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. Sonnenburg:

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.”



Mr. Ted Sonnenburg
March 11, 2026
CD-2026-048
Page 2 of 3

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 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.

EnergySolutions requested this same variance 5 times previously in letters dated March 17, 2021 (CD-2021-039), March 22, 2022 (CD-2022-062), April 11, 2023 (CD-2023-081), April 16, 2024 (CD-2024-085) and April 15, 2025 (CD-2025-075). These requests were approved on May 13, 2021 (DSHW-2021-007602), June 9, 2022 (DSHW-2022-015603), June 8, 2023 (DSHW-2023-205003), June 13, 2024 (DSHW-2024-006740) and June 12, 2025 (DSHW-2025-002871). EnergySolutions has received approximately 900 lbs. of this waste since the variance was approved in 2025. This variance request is for the ongoing processing and disposal of additional lithium and lithium-ion batteries.

EnergySolutions requests that a variance be granted to allow the receipt, macroencapsulation treatment and disposal of approximately 1200 lbs. of lithium and lithium-ion batteries.

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) 649-2043.

Sincerely,



Mr. Ted Sonnenburg
March 11, 2026
CD-2026-048
Page 3 of 3

A handwritten signature in black ink that reads "Steve D. Gurr".

Digitally signed by
Steve D. Gurr
Date: 2026.03.11
08:25:32 -06'00'

Steve D. Gurr
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.

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