

SPENCER J. COX Governor

DEIDRE HENDERSON Lieutenant Governor

Department of Environmental Quality

Kimberly D. Shelley Executive Director

DIVISION OF WASTE MANAGEMENT AND RADIATION CONTROL

> Douglas J. Hansen Director

A meeting of the Waste Management and Radiation Control Board has been scheduled for June 9, 2022, 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 persons may participate in 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.
- II. Public Comments on Agenda Items.
- III. Declarations of Conflict of Interest.
- IV. Approval of the meeting minutes for the May 12, 2022, Board meeting (**Board Action Item**)... Tab 1
- V. Petroleum Storage Tanks Update...... Tab 2
- VI. Low-Level Radioactive Waste Tab 3
 - A. Energy*Solutions* request for a site-specific treatment variance from the Hazardous Waste Management Rules. Energy*Solutions* seeks authorization to receive Cemented Uranium Extraction Process Residues for disposal (Board Action Item).
 - B. Energy*Solutions* request for a site-specific treatment variance from the Hazardous Waste Management Rules. Energy*Solutions* seeks authorization to receive lithium and lithium-ion batteries for treatment and disposal (**Board Action Item**).
- VII. Informational Highlight.
 - A. A presentation on E-Cigarette/Vape Waste Disposal for Schools.

VIII. Other Business.

- A. Miscellaneous Information Items.
- B. Scheduling of next Board meeting (July 14, 2022).
- IX. Adjourn.

In compliance with the Americans with Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact Larene Wyss, Office of Human Resources at (801) 536-4284, Telecommunications Relay Service 711, or by email at "<u>lwyss@utah.gov</u>".

DSHW-2022-013143

Waste Management and Radiation Control Board Meeting Utah Department of Environmental Quality Multi-Agency State Office Building (Conf. Room #1015) 195 North 1950 West, SLC May 12, 2022 1:30 p.m.

Board Members Participating at Anchor Location: Brett Mickelson (Chair), Mark Franc, Kim Shelley, Shane Whitney

Board Members Participating Virtually: Richard Codell, Steve McIff, Nathan Rich, Dennis Riding (Vice-Chair), Vern Rogers, Scott Wardle

Board Members Excused: Danielle Endres

UDEQ Staff Members Participating at Anchor Location:

Brent Everett, Doug Hansen, Tom Ball, Therron Blatter, Avery Holyoak, Arlene Lovato, Mike Pecorelli, Bret Randall, Elisa Smith

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

I. Call to Order.

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

- **II. Public Comments on Agenda Items** None.
- **III. Declarations of Conflict of Interest** None.
- IV. Approval of the meeting minutes for the April 14, 2022 Board meeting (Board Action Item).

It was moved by Shane Whitney and seconded by Richard Codell and UNANIMOULSY CARRIED to approve the April 14, 2022 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) Trust Fund at the end of March 2022, was \$25,570, 649.00. The preliminary estimate of the cash balance of the PST Trust Fund for the end of April 2022, was \$25,762,988.00. The DERR continues to watch the balance of the PST Trust Fund closely to ensure sufficient cash is available to provide coverage of qualified claims for releases. There were no comments or questions.

- VI. Underground Storage Tank Rules.
 - A. Approval of proposed changes to Underground Storage Tank Rules R311-200, 201, 203, 204, 205, 206, 207, 208, 211, and 212 for initial publication and 30-day public comment period (Board Action Item).

Therron Blatter, PST Branch Manager, informed the Board that the DERR is seeking approval to proceed with the public comment period for the proposed underground storage tank rule changes.

The proposed rule changes are for:

- R311-200, Underground Storage Tanks: Definitions.
- R311-201, Underground Storage Tanks: Certification Programs and UST Operator Training.
- R311-203, Underground Storage Tanks: Technical Standards.
- R311-204, Underground Storage Tanks: Closure and Remediation.
- R311-205, Underground Storage Tanks: Site Assessment Protocol.
- R311-206, Underground Storage Tanks: Certificate of Compliance and Financial Assurance Mechanisms.
- R311-207, Accessing the Petroleum Storage Tank Trust Fund for Leaking Petroleum Storage Tanks.
- R311-208, Underground Storage Tank Penalty Guidance.
- R311-211, Corrective Action Cleanup Standards Policy-UST and CERCLA Sites.
- R311-212, Administration of the Petroleum Storage Tank Loan Program.

The DERR has incorporated changes into the proposed rules that were discussed at the April 2022 Board meeting. These changes are in response to questions posed by Board members and due to requests for formatting changes from the Office of Administrative Rules. The DERR has reached out to the Board members that had questions to further discuss their concerns and the changes the DERR has made in order to address these concerns. The DERR also discussed these changes with the PST Advisory Task Force at their quarterly meeting.

Nathan Rich thanked the DERR for their outreach efforts and the changes to make a better rule. Scott Wardle also thanked the DERR for their efforts.

It was moved by Mark Franc and seconded by Nathan Rich and UNANIMOUSLY CARRIED to approve the public comment period for changes to Utah Administrative Code Rule R311-200, 201, 203, 204, 205, 206, 207, 208, 211 and 212. The public comment period will run from June 1, 2022 through June 30, 2022.

VII. Administrative Rules.

A. Final adoption of proposed rule changes to Utah Administrative Code Rule R313-12-3, Definitions, and R313-19-100, Transportation, to incorporate federal regulatory changes made by the NRC to the federal radioactive materials regulations in 2015 (80 FR 33987) and 2019 (84 FR 65639) (Board Action Item).

Tom Ball, Planning and Technical Support Section Manager of the Division of Waste Management and Radiation Control, reviewed the request for the Board to approve for final adoption the proposed rule changes to R313-12-3 and R313-19-100 of the Radiation Control Rules, to incorporate federal regulatory changes made by the Nuclear Regulation Commission to the federal radioactive materials regulations in 2015 and 2019. The changes are necessary to maintain regulatory compatibility with the federal rules. At the Board meeting on March 10, 2022, the Board approved the proposed changes to be filed with the Office of Administrative Rules for publication in the Utah State Bulletin. The proposed changes were published in the April 1, 2022, issue of the Utah State Bulletin. Selected pages from the Utah State Bulletin showing the publication of the proposed changes were included in the May 12, 2022 Board packet.

The public comment period for this rulemaking ended on May 2, 2022. No comments were received. Board approval for final adoption of the proposed rule changes is necessary. The Director recommends the Board approve final adoption of the changes to UAC R313-12-3 and R313-19-100 as published in the April 1, 2022, issue of the Utah State Bulletin and set an effective date of May16, 2022. No comments or questions were asked regarding this matter.

It was moved by Steve McIff and seconded by Vern Rogers and UNANIMOUSLY CARRIED to approve for final adoption the proposed rule changes to Utah Administrative Code Rule R313-12-3 (Definitions), and R313-19-100 (Transportation) as published in the April 1, 2022, issue of the Utah State Bulletin and set an effective date of May 16, 2022.

VIII. X-Ray Program.

A. Approval of Mammography Imaging Medical Physicists (MIMPs) in accordance with UCA 19-3-103.1(2)(c) of the Utah Code Annotated (Board Action Item).

Tom Ball, Planning and Technical Support Section Manager of the Division of Waste Management and Radiation Control, reviewed the request for the Board to approve five new applicants to be certified as Mammography Imaging Medical Physicist (MIMPs)

The MIMPs must submit an application for review of qualifications to be certified by the Board. The MIMPs perform radiation surveys and evaluate the quality control programs of the facilities in Utah providing mammography examinations.

A list of the applicants were included in the May 12, 2022 Board packet. Division staff has reviewed the applicants' qualifications and all the applicants meet the requirements detailed in R313-28-140.

Board approval for the applicants' to be certified as MIMPs is necessary. The Director of the Division of Waste Management and Radiation Control recommends the Board issue a certificate of approval from May 12, 2022 to May 31, 2024, for each of the five MIMP applicants reviewed and presented to the Board.

No comments or questions were asked regarding this matter.

<u>It was moved by Mark Franc and seconded by Shane Whitney and UNANIMOUSLY CARRIED to</u> approve the 5 applicants for Mammography Imaging Medical Physicists (MIMPs) in accordance with UCA 19-3-103.1(2)(c), effective May 12, 2022 to May 31, 2024.

IX. Director's Report.

Doug Hansen, Director of the Division of Waste Management and Radiation Control, reminded the Board that in a previous meeting a brief discussion was held regarding reappointment of Board members whose terms are set to expire this summer. At that time, Director Hansen committed to obtaining information regarding the reappointment process. Since that time, Division staff have reached out to the new Director of Boards and Commission to identify the process for reappointment and as soon as a response is received, those affected Board members will be informed.

Director Hansen stated that some monthly Board meetings are required to convene because of time critical matters that require Board action. However, at some of those meetings, the agenda items may be few, requiring only a 20-minute Board meeting. Director Hansen stated that when the above scenario has occurred in the past, staff members have taken the opportunity to present to the Board information on the various other programs/topics that both Divisions regulate. Director Hansen asked if the Board felt the above scenario would be valuable moving forward. Director Hansen stated that an active running list could be created on programs/topics of interest to the Board that do not get the notoriety before the Board that some of the other programs receive. This list would include other programs/topics that the Board has responsibility for. So, when a Board agenda is light, these other programs/topics will be added to the agenda as an educational item. The active running list above would be prioritized and shared with the Board to identify what programs/topics they are interested in receiving additional information on.

Chairman Mickelson stated that he recently discussed the above subject with Director Hansen and felt this is a great idea, not just for the Board and those attending Board meetings to receive additional information, but it is helpful to have those talking points when dealing with the general public regarding Division matters.

Shane Whitney stated that he felt that it would be very beneficial and indicated that in the past Board field trips have also been conducted.

Nathan Rich commented that he is very supportive of this idea and is appreciative of Director Hansen's thoughtfulness of the Board's time and stated that any additional information regarding rules and programs would be helpful to the Board and also looks forward to interacting and meeting with staff members as they present their information to the Board.

Mark Franc echoed Mr. Rich's comments and stated that he would also appreciate the opportunity to get to know additional staff members and their functions. One additional idea he presented was the possibility of offering opportunities for the regulated facilities and community to appear before the Board to provide short presentations identifying what they accomplish. For example, allowing a radiation physicist the opportunity to present to the Board their unique job functions. Mr. Franc felt that if that opportunity was offered there are some individuals and regulated facilities that would be interested. Mr. Franc also stated that other facilities of interest could be allowed to provide a short presentation. These would include Clean Harbors and those types of facilities, as well as facilities dealing with waste tires or storage tanks. These short presentations (5 to 10 minutes) would allow for a better understanding from the Board, as they make decisions that impact these types of facilities and regulated communities.

Richard Codell commented that he would be interested in additional discussion and information regarding uranium mining and milling, specifically any active programs occurring in the state.

X. Other Business.

A. Miscellaneous Information Items.

Kim Shelley, Executive Director of the Utah Department of Environmental Quality (DEQ), informed the Board that DEQ hosted the Governor's Sub-Cabinet Infrastructure Meeting on Wednesday, May 11, 2022. The Governor, Lieutenant Governor and cabinet members from Natural Resources, Veteran Affairs, and National Guard were in attendance. Topics discussed included fuel and fuel prices, the drought and a tour of DEQs Technical Support Center was conducted.

Executive Director Shelley stated the meeting included great conversation and was pleased to point out to the delegates in attendance the projects that relate to this Board as well as the services DEQ provides. Executive Director Shelley stated that overall it was a very successful meeting with the Governor who is fully supportive of DEQ and recognizes the value that DEQ provides to the citizens by the work being conducted. Executive Director Shelley acknowledged staff members from both the Division of Environmental Response and Remediation and the Division of Waste Management and Radiation Control for the work they do, as it is important and it matters and the Governor appreciates it as well.

B. Scheduling of next Board meeting (June 9, 2022).

The next meeting is scheduled for June 9, 2022 at 1:30 p.m. at the Utah Department of Environmental Quality, Multi-Agency State Office Building.

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

XI. Adjourn.

The meeting adjourned at 2:00 p.m.

| | | | | | | PST STATI | | | | | | | |
|---|--------------|--------------|--------------|--------------|--------------|----------------------|-----------------------|--------------|--------------|--------------|--------------|--------------|----------------|
| | | | | | | | 21 April 3 PROGRAM | 0, 2022 | | | | | |
| | Мау | June | July | August | September | October | November | December | January | February | March | April | (+/-) OR Total |
| Regulated Tanks | 4,146 | 4,139 | 4,142 | 4,140 | 4,128 | 4,136 | 4,142 | 4,136 | 4,132 | 4,150 | 4,157 | 4,178 | 32 |
| Tanks with Certificate of Compliance | 4,063 | 4,067 | 4,065 | 4,056 | 4,050 | 4,052 | 4,060 | 4,049 | 4,048 | 4,059 | 4,061 | 4,057 | (6) |
| Tanks without COC | 83 | 72 | 77 | 84 | 78 | 84 | 82 | 87 | 84 | 91 | 96 | 121 | 38 |
| Cumulative Facilitlies with Registered A Operators | 1,250 | 1,291 | 1,294 | 1,290 | 1,291 | 1,288 | 1,284 | 1,288 | 1,287 | 1,285 | 1,284 | 1,288 | 98.17% |
| Cumulative Facilitlies with Registered B Operators | 1,251 | 1,295 | 1,295 | 1,292 | 1,292 | 1,289 | 1,285 | 1,288 | 1,288 | 1,285 | 1,285 | 1,289 | 98.25% |
| New LUST Sites | 2 | 10 | 8 | 3 | 8 | 5 | 7 | 2 | 10 | 12 | 9 | 7 | 83 |
| Closed LUST Sites | 4 | 17 | 6 | 0 | 9 | 4 | 6 | 1 | 2 | 13 | 13 | 14 | 89 |
| Cumulative Closed LUST Sites | 5356 | 5374 | 5378 | 5378 | 5390 | 5397 | 5398 | 5399 | 5405 | 5419 | 5431 | 5447 | 91 |
| | May | June | July | August | September | FINANCIAL October | November | December | January | February | March | April | (+/-) |
| Tanks on PST Fund | 2,664 | 2,664 | 2,662 | 2,653 | 2,649 | 2,642 | 2,646 | 2,635 | 2,629 | 2,631 | 2,628 | 2,619 | (45) |
| PST Claims (Cumulative) | 693 | 696 | 701 | 701 | 702 | 702 | 702 | 702 | 703 | 704 | 705 | 706 | 13 |
| Equity Balance | -\$7,719,626 | -\$6,964,420 | -\$6,684,027 | -\$5,540,984 | -\$4,033,695 | -\$3,921,878 | -\$2,867,569 | -\$2,900,167 | -\$2,363,604 | -\$1,761,847 | -\$1,826,879 | -\$1,634,540 | \$6,085,086 |
| Cash Balance | \$20,715,654 | \$21,470,860 | \$21,751,253 | \$22,894,296 | \$23,363,833 | \$23,475,650 | \$24,529,959 | \$24,497,361 | \$25,033,924 | \$25,635,681 | \$25,570,649 | \$25,762,988 | \$5,047,334 |
| Loans | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative Loans | 121 | 121 | 121 | 121 | 121 | 121 | 121 | 121 | 121 | 121 | 121 | 121 | 0 |
| Cumulative Amount | \$4,738,367 | \$4,738,367 | \$4,738,367 | \$4,738,367 | \$4,738,367 | \$4,738,367 | \$4,738,367 | \$4,738,367 | \$4,738,367 | \$4,738,367 | \$4,738,367 | \$4,738,367 | \$0 |
| Defaults/Amount | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | -2 |
| | Мау | June | July | August | September | October | November | December | January | February | March | April | TOTAL |
| Speed Memos | 81 | 76 | 82 | 51 | 78 | 100 | 77 | 61 | 41 | 50 | 76 | 59 | 832 |
| Compliance Letters | 8 | 7 | 15 | 16 | 21 | 8 | 21 | 16 | 11 | 18 | 16 | 15 | 172 |
| Notice of Intent to Revoke | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 2 | 0 | 6 |
| Orders | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 7 |

WASTE MANAGEMENT AND RADIATION CONTROL BOARD Executive Summary REQUEST FOR A SITE-SPECIFIC TREATMENT VARIANCE EnergySolutions, LLC June 9, 2022

| What is the issue before the Board? | On March 22, 2022, Energy <i>Solutions</i> , LLC submitted a request 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. Energy <i>Solutions</i> seeks authorization to receive an exemption from the treatment standards described in Utah Administrative Code (UAC) R315-40(a)(2) for macroencapsulated uranium extraction process residuals. | | | |
|--|--|--|--|--|
| What is the historical background or context for this issue? | uranium extraction process residuals. Energy <i>Solutions</i> requests approval to receive 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 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. All other required treatment standards associated with the waste will be met prior to disposal. This variance is being requested for approximately 1,500 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 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, 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 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 Energy Solutions Clive facility. The characteristic hazardous waste codes associated with the process residues has numerical concentrationbased treatment standards based upon the leachability of the contaminants. Treatment of the monolithic form for these concentrationbased 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.

Energy*Solutions* 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.

| | Final disposal of the waste will occur in the Mixed Waste Disposal Cell at the Energy<i>Solutions</i> Mixed Waste Facility. A notice for public comment was published in the <i>Salt Lake Tribune</i>, the <i>Deseret News</i> and the <i>Tooele County Transcript Bulletin</i>. The 30-day public comment period began April 14, 2022 and ended May 13, 2022. No public comments were received. |
|---|---|
| What is the governing statutory or regulatory citation? | 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 R315-268-44 of the Utah Administrative Code. |
| Is Board action required? | Yes, this is an action item before the Board. The Variance Request was presented to the Board on April 14, 2022. |
| What is the Division/Director's recommendation? | 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. |
| Where can more information be obtained? | For technical questions, please contact Tyler Hegburg (801) 536-4271. For legal questions, please contact Bret Randall at (801) 536-0284. EnergySolutions request for a site-specific treatment variance for Cemented Uranium Extraction Process Residues was provided in the April 14, 2022 Board packet. |

DSHW-2022-011622

WASTE MANAGEMENT AND RADIATION CONTROL BOARD Executive Summary REQUEST FOR A SITE-SPECIFIC TREATMENT VARIANCE EnergySolutions, LLC June 9, 2022

| Juiic 9, 2022 | | | |
|---|---|--|--|
| What is the issue before the Board? | On March 22, 2022, Energy <i>Solutions</i> , LLC submitted a request 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. Energy <i>Solutions</i> seeks authorization to receive 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. | | |
| What is the historical background or context for this issue? | The Mixed Waste Facility proposes to receive lithium and lithium-ion batteries for treatment and disposal at EnergySolutions Mixed Waste Facility. 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. Furthermore, the definition of macroencapsulation in R315-268-42 states that "Macroencapsulation 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 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 proposal is 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 of leaching media and 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. Final disposal of the waste will occur in the Mixed Waste Disposal Cell at the EnergySolutions Mixed Waste Facility. | | |

| | A notice for public comment was published in the <i>Salt Lake Tribune</i>, the <i>Deseret News</i> and the <i>Tooele County Transcript Bulletin</i>. The 30-day public comment period began April 14, 2022, and ended May 13, 2022. No public comments were received. |
|---|---|
| What is the governing statutory or regulatory citation? | 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 R315-268-44 of the Utah Administrative Code. |
| Is Board action required? | Yes, this is an action item before the Board. The Variance Request was presented to the Board on April 14, 2022. |
| What is the Division/Director's recommendation? | 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. |
| Where can more information be obtained? | For technical questions, please contact Tyler Hegburg (801) 536-4271. For legal questions, please contact Bret Randall at (801) 536-0284. Energy <i>Solutions</i> request for a site-specific treatment variance for the Macroencapsulation of Lithium and Lithium-ion Batteries was provided in the April 14, 2022 Board packet. |

DSHW-2022-011641