



State of Utah

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 September 14, 2023, 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 electronically/telephonically.

Join via the Internet: [meet.google.com/gad-sxsd-uvs](https://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 the meeting minutes for the July 13, 2023, Board meeting..... Tab 1  
**(Board Action Item).**
- V. Petroleum Storage Tanks Update..... Tab 2
- VI. Administrative Rules ..... Tab 3
  - A. Final adoption of proposed rule changes to Radiation Control Rules UAC R313-12-3 and UAC R313-32-2, to incorporate federal regulatory changes made by the NRC to the federal radioactive materials regulations in 2020 **(Board Action Item).**
- VII. Low-Level Radioactive Waste..... Tab 4
  - A. EnergySolutions' request for a site-specific treatment variance from the Hazardous Waste Management Rules. EnergySolutions seeks authorization to dispose of waste containing D009 or U151 High Mercury-Organic Subcategory and High Mercury-Inorganic Subcategory hazardous waste codes **(Board Action Item).**

(Over)

- B. EnergySolutions' request for a site-specific treatment variance from the Utah Hazardous Waste Management Rules. EnergySolutions seeks authorization to macroencapsulate and dispose of waste containing high concentrations of arsenic in quantities greater than 1,000mg/L that cannot be treated to the specified treatment standard (Information Item).
- C. EnergySolutions' request for a site-specific treatment variance from the Utah Hazardous Waste Management Rule UAC R315-268-40(a)(3) to receive incinerator ash containing dioxan/furan contaminants above Universal Treatment Standards (Information Item).

VIII. Director's Report.

IX. Other Business.

- A. Miscellaneous Information Items.
- B. Scheduling of next Board Meeting (October 12, 2023).

X. 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 "lwyss@utah.gov".

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  
July 13, 2023  
1:30 p.m.

**Board Members Participating at Anchor Location:** Brett Mickelson (Chair), Dennis Riding (Vice-Chair),  
Jeremy Hawk, Dr. Steve McIff, Nathan Rich, Vern Rogers

**Board Members Participating Virtually:** Dr. Richard Codell, Danielle Endres, Scott Wardle

**Board Members Excused:** Mark Franc, Kim Shelley, Shane Whitney

**UDEQ Staff Members Participating at Anchor Location:**

Brent Everett, Doug Hansen, Morgan Atkinson, Tom Ball, Brenden Catt, Tyler Hegburg, Avery Holyoak,  
Jalynn Knudsen, Arlene Lovato, Stevie Norcross, Mike Pecorelli, Bret Randall, Elisa Smith, Otis Willoughby

**Others Attending at Anchor Location:** Steve Gurr and Tim Orton

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

**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 the June 8, 2023 Board meeting.**

**It was moved by Dr. Codell and seconded by Danielle Endres and UNANIMOUSLY CARRIED to approve the June 8, 2023 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 preliminary estimate of the cash balance of the Petroleum Storage Tank (PST) Fund for the end of June 2023, is \$30,685,747.00. The actual cash balance at the end of May 2023, was \$30,105,505.00. The DERR continues to watch the balance of the PST Fund closely to ensure sufficient cash is available to cover qualified claims for releases. There were no comments or questions.

**VI. Administrative Rules.**

**A. Approval to proceed with formal rulemaking and public comment on proposed changes to Radiation Control Rules UAC R313-12-3 and UAC R313-32-2, to incorporate federal regulatory changes made by the NRC to the federal radioactive materials regulations in 2020 (85 FR 33527, 44685, and 65656) (Board Action Item).**

Tom Ball, Planning and Technical Support Section Manager in the Division of Waste Management and Radiation Control (Division), reviewed the request for the Board's approval to proceed with formal rulemaking and a 30-day public comment on proposed changes to Radiation Control Rules Utah Administrative Code (UAC) R313-12-3 and UAC R313-32-2, to incorporate federal regulatory changes made by the Nuclear Regulatory Commission (NRC) to the federal radioactive materials regulations in 2020. As an agreement state with the NRC for the radioactive materials program, Utah is required to maintain regulatory compatibility with the corresponding NRC radioactive materials regulations.

The NRC has designated the proposed changes as necessary for an Agreement State to adopt to maintain regulatory compatibility with the NRC. These changes incorporate the NRC amendments to its regulations to implement the Social Security Number Fraud Prevention Act of 2017 and makes miscellaneous corrections. The changes being made include amending regulations to prohibit the inclusion of an individual's Social Security Number on any document sent through the mail; other miscellaneous changes include redesignating footnotes, correcting references, typographical errors, nomenclature, titles, e-mail addresses, and contact information. The changes made by the NRC were to the rules that the Division incorporates by reference into the Utah Radiation Control Rules. So, changes to these Radiation Control Rules are simply changing the dates of incorporation.

In addition, as normal protocol, corrections were made to any typographical and formatting errors found while reviewing them.

This is a Board action item and the Director of the Division of Waste Management and Radiation Control recommended the Board approve proceeding with formal rulemaking and public comment by publishing in the August 1, 2023, Utah State Bulletin the proposed changes to UAC R313-12-3 and UAC R313-32-2 and conducting a 30-day public comment period from August 1, 2023 to August 31, 2023.

Danielle Endres asked if there were any other official rules that pertain to sending social security numbers through the mail and asked if it would make sense to make this potential change in other rules or is this the only one.

Mr. Ball stated that to his knowledge this is the only place that exists in these Radiation Control Rules and does not believe any rule change would be required in any of the other Division rules. Mr. Ball informed the Board that Utah's Hazardous Waste Rules essentially copy the Federal hazardous waste regulations, so if a change is made to Federal hazardous waste regulations, the state has adopted that change and it would be incorporated into the state's Hazardous Waste Rules as well. For Radiation Control Rules, this is the only place that Mr. Ball is aware of where that change needs to occur.

**It was moved by Vern Rogers and seconded by Jeremy Hawk and UNANIMOUSLY CARRIED to approve to proceed with formal rulemaking by publishing in the August 1, 2023 Utah State Bulletin and conducting a 30-day public comment from August 1, 2023 to August 31, 2023 on the proposed changes to Radiation Control Rules UAC R313-12-3 and UAC R313-32-2, to incorporate federal regulatory changes made by the NRC to the federal radioactive materials regulations in 2020 (85 FR 33527, 44685, and 65656).**

## VII. Low-Level Radioactive Waste.

**EnergySolutions' request for a site-specific treatment variance from the Hazardous Waste Management Rules. EnergySolutions seeks authorization to dispose of waste containing D009 or U151 High Mercury-Organic Subcategory and High Mercury-Inorganic Subcategory hazardous waste codes (Information Item).**

Tyler Hegburg, Environmental Scientist, Low-Level Radioactive Section, Division of Waste Management and Radiation Control, introduced to the Board as an information item EnergySolutions' request for a one-

time site-specific treatment variance from the Hazardous Waste Management Rules for High Subcategory Mercury.

Steve Gurr, representative of *EnergySolutions*, further explained and reviewed *EnergySolutions*' request for a one-time variance request to dispose, in *EnergySolutions*' Mixed Waste Landfill Cell, waste containing the D009 or U151 High Mercury-Organic Subcategory and High Mercury-Inorganic Subcategory hazardous waste codes that have been treated using stabilization/amalgamation technologies.

*EnergySolutions* will perform the stabilization/amalgamation treatment on the high mercury subcategory waste. At the time of disposal, the waste will be verified to have a mercury concentration less than 0.2 mg/L using the Toxicity Characteristic Leaching Procedure (TCLP) or less than 0.25 mg/L TCLP if the waste is a soil matrix. All actions will be performed in accordance with *EnergySolutions*' state-issued Part B Permit.

The listed treatment technology in 40 CFR 268.40 for the D009 High Mercury-Organic Subcategory is either incineration (IMERC) or retorting/roasting for mercury recovery (RMERC). The listed treatment technology for the D009 High Mercury-Inorganic Subcategory and for U151 is RMERC.

The intent of the RMERC treatment technology is to recover elemental mercury for recycling. However, radioactive mercury cannot be recycled, and the RMERC process generates secondary waste (radioactive elemental mercury) that requires additional treatment by amalgamation (a stabilization technology) prior to disposal.

The IMERC technology is also intended to be a mercury recovery technology where the waste is incinerated and the mercury recovered in the ash or in a specific off-gas control system. For radioactive mercury, both the ash and the control equipment/media will require further treatment. Furthermore, IMERC involves an extra handling step for the radioactive residue.

The U.S. EPA has reviewed the treatment of mercury-bearing waste in Federal Register Notice 68 FR 4481. In this notice, the U.S. EPA concluded that treatment of mercury waste is possible, and it is suggested that stakeholders should use the site-specific treatment variance process to achieve approval for the treatment of high subcategory mercury wastes. The notice specifically designates an example of when this would be appropriate as the case of a high mercury subcategory waste that is also radioactive.

*EnergySolutions* has requested and the Board has approved over eighteen times similar site-specific treatment variances for High Mercury Subcategory waste, beginning in 2001.

To date, *EnergySolutions* has disposed of approximately 16,800 cubic feet of treated High Mercury Subcategory waste. *EnergySolutions* anticipates in this upcoming year, under this variance, receiving less than 2,000 cubic feet of additional High Mercury Subcategory waste for disposal.

Danielle Endres asked if *EnergySolutions* could speak on the success of the previous times that this waste stream has been stored and how it is monitored and the results of the waste that has been stored through the previous variances.

Mr. Gurr responded that throughout the years *EnergySolutions* treatment processes have been very successful. Following treatment, *EnergySolutions* will analyze post-treatment and send those results off-site (independent analysis), to verify that *EnergySolutions* is meeting that point of the 0.2, or the 0.25 if the waste is a soil matrix. Historically, *EnergySolutions* has been very successful in reaching those limits.

Ms. Endres asked if those limits are set by the NRC or the U.S. EPA.

Mr. Gurr stated that those limits are the land disposal requirements in the State regulations.

Ms. Endres also commented that much of the work of the Board on the radiation side deals with site-specific treatment variances and stated she is curious as to what percentage of waste that *EnergySolutions* manages has to go through these variance requests/processes.

Mr. Gurr stated that roughly 10% of the waste on the RCRA side of the facility that *EnergySolutions* receives goes through the various variance requests/processes.

Dennis Riding directed his question to Division staff and stated that in the past, the Board would receive in their Executive Summary a list of the previous times that a particular variance had been requested and asked why this information had been removed over the past several years. Mr. Riding stated that now, in order to obtain that particular information, they need to review the accompanying documentation. For example, in reviewing this documentation, this variance request was first approved in 2001.

Mr. Gurr stated that Mr. Riding is correct. This variance request was first approved in 2001, and this will be the eighteenth time this variance request has been approved.

Mr. Hegburg stated that he removed that information as he considered it was excess information, but now being informed it is relevant information, he will resume providing it. Mr. Riding explained that with these types of variances, it is beneficial to see the track record, specifically how many times the Board has previously approved a variance request.

Nathan Rich stated that from the information provided that the material to be landfilled needs to be less than 0.25 mg/L TCLP and it has been presumably treated prior using stabilization or amalgamation. Mr. Rich questioned how high the actual samples of mercury that is treated are and if there has been some characterization work done. Mr. Rich further stated that he understands why *EnergySolutions* would not want to incinerate or retort radioactive material, but is further amalgamation or stabilization with Portland Cement, etc. needed or is that what this variance is requesting? Specifically, Mr. Rich asked how will the material be stabilized and how much mercury is in the actual material?

Mr. Gurr stated that the actual quantity of the mercury is greater than 260 mg/kg (TCLP) that is what takes it to the high subcategory as opposed to just elemental mercury that would be less than 260 mg/kg.

Mr. Gurr stated that the process to treat the material is amalgamation/stabilization. Mr. Gurr stated that is confidential treatment formula, but basically through a two-part stabilization process, *EnergySolutions* is successfully able to get it down below the limits of 0.25 mg/L.

Mr. Rich reiterated that the mercury is stabilize and then it is retested to ensure the material is below the 0.25 mg/L<sup>2</sup>. Mr. Gurr concurred.

Vern Rogers commented that Ms. Endres asked earlier how *EnergySolutions* demonstrates that the treatment is effective, and Mr. Gurr's response included that samples are taken off-site for an independent analysis. Vern Rogers asked if, post-disposal, is there another way that Mr. Gurr can describe to the Board how a sump might help *EnergySolutions* evaluate the effectiveness of treatment and stabilization to isolate the waste.

Mr. Gurr commented that before any disposal takes place, the mercury has to meet the specified limits; if it does not, then retreatment would be necessary, but it is a secondary monitoring device as *EnergySolutions* does monitor the leachate under the embankment and analyze it on an annual basis also to make sure that no leachate of the mercury is occurring into the leachate water.

Additionally, Mr. Hegburg addressed Dr. Codell's question on the cemented variance request that the Board approved last month. Mr. Hegburg informed Dr. Codell that he is still working with *EnergySolutions* to get him the information he requested. *EnergySolutions* has obtained a roughly eight-page document on this matter. However, the delay in releasing this document deals with security issues. Mr. Hegburg stated that as

soon as the delay in releasing the document is resolved, it will be distributed to Dr. Codell as quickly as possible.

Mr. Rogers clarified the security issue is not created by EnergySolutions; it is a federal security issue.

Dr. Codell stated that he is looking forward to receiving it.

## **VIII. Director's Report.**

Doug Hansen, Director of the Division of Waste Management and Radiation Control, informed the Board on the following matters:

Director Hansen informed the Board that several Board members terms are up for reappointment in the upcoming months. Those Board members should have received an email from Arlene Lovato providing instructions on the process to reapply. If they did not receive the email or if they have any questions to please reach out to Ms. Lovato or him for assistance.

Director Hansen stated that although the Board does not have a role in this process, he felt it was appropriate to inform them of what is currently occurring this time of year within the agency in preparing the budget for the next fiscal year. Director Hansen stated that Board members may wonder how long this process takes and Director Hansen informed the Board that activities taking place now in the Division is laying the groundwork for the next legislative session and budgets that come out for the next fiscal year, and the Division is always looking at least one year down the road all the time for meeting budget needs. Because of legislative changes that occurred this past year, restructuring of how the Division manages and collect fees is currently underway, and the Division will begin the process of stakeholder outreach/meetings with most of the Division programs over the course of the next month or so to give stakeholders a heads-up as to what the fee changes might look like. Some stakeholders have already met with the Division and obtained information regarding their fee changes.

Director Hansen stated that usually the Division may have one or two programs that might have a fee adjustment/increase, but because of the changes identified, fee adjustment will likely impact every program except the radioactive materials licensing fees, which were adjusted last year. Director Hansen stated that informal stakeholder meetings will continue this month with a more formal process to begin in a month.

Director Everett reported that the DERR is also conducting stakeholder outreach regarding possible fee changes that will likely be proposed next year.

Vern Rogers commented on the stakeholders fee meetings that as a representative of a fee payor (licensee), historically they have not had the opportunity to understand the basis for the fee increases and this is something new and unique and very much appreciated.

## **IX. Other Business.**

- A. Miscellaneous Information Items – None.**
- B. Scheduling of next Board Meeting (September 14, 2023).**

The August 10, 2023 Board meeting has been cancelled.

The next meeting is scheduled for September 14, 2023, at the Utah Department of Environmental Quality, Multi-Agency State Office Building.

Interested parties can join via the Internet: [meet.google.com/gad-sxsd-uvs](https://meet.google.com/gad-sxsd-uvs)

Or by phone: (US) +1 978-593-3748 PIN: 902 672 356#

**X. Adjourn.**

The meeting adjourned at 1:55 p.m.

DRAFT



**PST STATISTICAL SUMMARY**  
**August 1, 2022 -- July 31, 2023**

<b>PROGRAM</b>													
	<b>August</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>(+/-) OR Total</b>
<b>Regulated Tanks</b>	4,188	4,184	4,191	4,190	4,196	4,188	4,200	4,203	4,198	4,210	4,211	4,218	<b>30</b>
<b>Tanks with Certificate of Compliance</b>	4,065	4,072	4,073	4,085	4,083	4,089	4,088	4,093	4,103	4,105	4,110	4,122	<b>57</b>
<b>Tanks without COC</b>	123	112	118	105	113	99	112	110	95	105	101	96	<b>(27)</b>
<b>Cumulative Facilities with Registered A Operators</b>	1,285	1,279	1,278	1,276	1,282	1,280	1,279	1,276	1,279	1,279	1,282	1,289	<b>98.47%</b>
<b>Cumulative Facilities with Registered B Operators</b>	1,287	1,280	1,279	1,277	1,282	1,281	1,281	1,279	1,280	1,279	1,281	1,288	<b>98.40%</b>
<b>New LUST Sites</b>	11	5	10	8	9	9	9	4	2	9	6	5	<b>87</b>
<b>Closed LUST Sites</b>	12	7	3	14	3	7	8	17	6	11	4	7	<b>99</b>
<b>Cumulative Closed LUST Sites</b>	5474	5474	5491	5494	5501	5509	5524	5531	5539	5542	5549	5556	<b>82</b>
<b>FINANCIAL</b>													
	<b>August</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>(+/-)</b>
<b>Tanks on PST Fund</b>	2,655	2,645	2,636	2,635	2,628	2,623	2,621	2,617	2,619	2,617	2,618	2,621	<b>(34)</b>
<b>PST Claims (Cumulative)</b>	711	711	711	711	711	711	711	710	711	713	723	724	<b>13</b>
<b>Equity Balance</b>	-\$295,722	-\$127,174	-\$281,835	\$80,750	\$274,341	\$739,913	\$1,273,567	\$1,223,767	\$1,689,965	\$1,933,855	\$2,514,097	\$3,265,812	<b>\$3,561,534</b>
<b>Cash Balance</b>	\$27,693,250	\$27,524,702	\$27,889,815	\$28,252,400	\$28,445,991	\$28,911,563	\$29,445,217	\$29,395,417	\$29,861,615	\$30,105,505	\$30,685,747	\$31,437,462	<b>\$3,744,212</b>
<b>Loans</b>	1	5	0	0	0	0	0	0	0	0	0	1	<b>0</b>
<b>Cumulative Loans</b>	123	128	128	128	128	128	128	128	128	128	128	129	<b>6</b>
<b>Cumulative Amount</b>	\$5,040,989	\$6,014,420	\$6,014,420	\$6,014,420	\$6,014,420	\$6,014,420	\$6,014,420	\$6,014,420	\$6,014,420	\$6,014,420	\$6,014,420	\$6,213,705	<b>\$1,172,716</b>
<b>Defaults/Amount</b>	1	0	0	0	0	0	0	0	0	0	0	0	<b>-1</b>
	<b>August</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>TOTAL</b>
<b>Speed Memos</b>	47	77	105	60	31	42	44	79	40	61	102	62	<b>750</b>
<b>Compliance Letters</b>	8	7	7	9	9	5	3	7	27	5	17	4	<b>108</b>
<b>Notice of Intent to Revoke</b>	0	0	0	0	0	0	0	0	0	0	0	0	<b>0</b>
<b>Orders</b>	0	0	0	0	3	0	0	1	1	0	0	0	<b>5</b>

**WASTE MANAGEMENT AND RADIATION CONTROL BOARD**  
**Executive Summary**  
**Final Adoption**  
**Amendments to UAC R313-12-3 and UAC R313-32-2**  
**September 14, 2023**

<b>What is the issue before the Board?</b>	Approval from the Board is needed for final adoption of proposed changes to R313-12-3 and R313-32-2, to incorporate federal regulatory changes made by the NRC to the federal radioactive materials regulations in 2020.
<b>What is the historical background or context for this issue?</b>	<p>At the Board meeting on July 13, 2023, the Board approved the proposed changes to UAC R313-12-3 and UAC R313-32-2 to be filed with the Office of Administrative Rules for publication in the Utah State Bulletin. The proposed changes were published in the August 1, 2023, issue of the Utah State Bulletin (Vol. 2023, No. 15).</p> <p>Selected pages from the Utah State Bulletin showing the publication of the proposed changes follow this Executive Summary.</p> <p>The public comment period for this rulemaking ended on August 31, 2023. No comments were received.</p>
<b>What is the governing statutory or regulatory citation?</b>	<p>The Board is authorized under Subsections 19-3-103.1 and 19-3-104 to make rules to meet the requirements of federal law relating to radiation control to ensure the radiation control program is qualified to maintain primacy from the federal government and that are necessary to implement the provisions of the Radiation Control Act.</p> <p>The rule changes also meet existing DEQ and state rulemaking procedures.</p>
<b>Is Board action required?</b>	Yes. Board approval for final adoption of the rule changes is necessary.
<b>What is the Division Director's recommendation?</b>	The Director recommends the Board approve final adoption of the changes to UAC R313-12-3 and UAC R313-32-2 as published in the August 1, 2023, issue of the Utah State Bulletin and set an effective date of September 18, 2023.
<b>Where can more information be obtained?</b>	Please contact Tom Ball by phone at 385-454-5574 or by email at <a href="mailto:tball@utah.gov">tball@utah.gov</a> .

# UTAH STATE BULLETIN

OFFICIAL NOTICES OF UTAH STATE GOVERNMENT  
Filed July 01, 2023, 12:00 a.m. through July 14, 2023, 11:59 p.m.

Number 2023-15  
August 01, 2023

Nancy L. Lancaster, Managing Editor

The *Utah State Bulletin (Bulletin)* is an official noticing publication of the executive branch of Utah state government. The Office of Administrative Rules, part of the Department of Government Operations, produces the *Bulletin* under authority of Section 63G-3-402.

The Portable Document Format (PDF) version of the *Bulletin* is the official version. The PDF version of this issue is available at <https://rules.utah.gov/>. Any discrepancy between the PDF version and other versions will be resolved in favor of the PDF version.

Inquiries concerning the substance or applicability of an administrative rule that appears in the *Bulletin* should be addressed to the contact person for the rule. Questions about the *Bulletin* or the rulemaking process may be addressed to: Office of Administrative Rules, PO Box 141007, Salt Lake City, Utah 84114-1007, telephone 801-957-7110. Additional rulemaking information and electronic versions of all administrative rule publications are available at <https://rules.utah.gov/>.

The information in this *Bulletin* is summarized in the *Utah State Digest (Digest)* of the same volume and issue number. The *Digest* is available by e-mail subscription or online. Visit <https://rules.utah.gov/> for additional information.

Office of Administrative Rules, Salt Lake City 84114

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Utah state bulletin.

Semimonthly.

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- I. Utah. Office of Administrative Rules.

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## NOTICES OF PROPOSED RULES

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A state agency may file a **PROPOSED RULE** when it determines the need for a substantive change to an existing rule. With a **NOTICE OF PROPOSED RULE**, an agency may create a new rule, amend an existing rule, repeal an existing rule, or repeal an existing rule and reenact a new rule. Filings received between July 01, 2023, 12:00 a.m., and July 14, 2023, 11:59 p.m. are included in this, the August 01, 2023, issue of the *Utah State Bulletin*.

In this publication, each **PROPOSED RULE** is preceded by a **RULE ANALYSIS**. This analysis provides summary information about the **PROPOSED RULE** including the name of a contact person, anticipated cost impact of the rule, and legal cross-references.

Following the **RULE ANALYSIS**, the text of the **PROPOSED RULE** is usually printed. New rules or additions made to existing rules are underlined (example). Deletions made to existing rules are struck out with brackets surrounding them (~~example~~). Rules being repealed are completely struck out. A row of dots in the text between paragraphs (. . . . .) indicates that unaffected text from within a section was removed to conserve space. Unaffected sections are not usually printed. If a **PROPOSED RULE** is too long to print, the Office of Administrative Rules may include only the **RULE ANALYSIS**. A copy of each rule that is too long to print is available from the filing agency or from the Office of Administrative Rules.

The law requires that an agency accept public comment on **PROPOSED RULES** published in this issue of the *Utah State Bulletin* until at least August 31, 2023. The agency may accept comment beyond this date and will indicate the last day the agency will accept comment in the **RULE ANALYSIS**. The agency may also hold public hearings. Additionally, citizens or organizations may request the agency hold a hearing on a specific **PROPOSED RULE**. Section 63G-3-302 requires that a hearing request be received by the agency proposing the rule "in writing not more than 15 days after the publication date of the proposed rule."

From the end of the public comment period through November 29, 2023, the agency may notify the Office of Administrative Rules that it wants to make the **PROPOSED RULE** effective. The agency sets the effective date. The date may be no fewer than seven calendar days after the close of the public comment period nor more than 120 days after the publication date of this issue of the *Utah State Bulletin*. Alternatively, the agency may file a **CHANGE IN PROPOSED RULE** in response to comments received. If the Office of Administrative Rules does not receive a **NOTICE OF EFFECTIVE DATE** or a **CHANGE IN PROPOSED RULE**, the **PROPOSED RULE** lapses.

The public, interest groups, and governmental agencies are invited to review and comment on **PROPOSED RULES**. *Comment may be directed to the contact person identified on the **RULE ANALYSIS** for each rule.*

**PROPOSED RULES** are governed by Section 63G-3-301, Rule R15-2, and Sections R15-4-3, R15-4-4, R15-4-5a, R15-4-9, and R15-4-10.

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**The Proposed Rules Begin on the Following Page**

NOTICE OF PROPOSED RULE		
TYPE OF FILING: Amendment		
Rule or Section Number:	R313-12-3	Filing ID: 55531

**Agency Information**

<b>1. Department:</b>	Environmental Quality	
<b>Agency:</b>	Waste Management and Radiation Control, Radiation	
<b>Room number:</b>	2nd Floor	
<b>Building:</b>	MASOB	
<b>Street address:</b>	195 N 1950 W	
<b>City, state and zip:</b>	Salt Lake City, UT 84116	
<b>Mailing address:</b>	PO Box 144880	
<b>City, state and zip:</b>	Salt Lake City, UT 84114-4880	
<b>Contact persons:</b>		
<b>Name:</b>	<b>Phone:</b>	<b>Email:</b>
Tom Ball	385-454-5574	tball@utah.gov
Spencer Wickham	385-499-4895	swickham@utah.gov
<b>Please address questions regarding information on this notice to the persons listed above.</b>		

**General Information**

<b>2. Rule or section catchline:</b>
R313-12-3. Definitions
<b>3. Purpose of the new rule or reason for the change:</b>
The NRC is amending its regulations to implement the Social Security Number Fraud Prevention Act of 2017 and to make miscellaneous corrections.
These changes include amending regulations to prohibit the inclusion of an individual's Social Security number on any document sent through the mail, redesignating footnotes, correcting references, typographical errors, nomenclature, titles, email addresses, and contact information.
As an Agreement State, Utah must adopt these changes into the Radiation Control Rules to maintain compatibility with the federal program.
<b>4. Summary of the new rule or change:</b>
This amendment adds the year 2020 to two incorporations by reference found in the definition "A2".

Additionally, the Division of Waste Management and Radiation Control, Radiation is correcting typographical and formatting errors that have been discovered in this rule.

**Fiscal Information**

<b>5. Provide an estimate and written explanation of the aggregate anticipated cost or savings to:</b>
<b>A) State budget:</b>
It is not anticipated that there will be any additional costs or savings to the state budget due to this amendment because it does not add or remove any requirements or duties to the agency.
<b>B) Local governments:</b>
It is not anticipated that there will be any additional costs or savings to local governments due to this amendment because it does not add or remove any requirements that a local government would be required to follow.
<b>C) Small businesses</b> ("small business" means a business employing 1-49 persons):
It is not anticipated that there will be any additional costs or savings to any small businesses due to this amendment because it does not add or remove any requirements that a small business would be required to follow.
<b>D) Non-small businesses</b> ("non-small business" means a business employing 50 or more persons):
It is not anticipated that there will be any additional costs or savings to any non-small businesses due to this amendment because it does not add or remove any requirements that a non-small business would be required to follow.
<b>E) Persons other than small businesses, non-small businesses, state, or local government entities</b> ("person" means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an <b>agency</b> ):
It is not anticipated that there will be any additional costs or savings to any persons other than small businesses, non-small businesses or state or local governments due to this amendment because it does not add or remove any requirements that any such persons would be required to follow.
<b>F) Compliance costs for affected persons</b> (How much will it cost an impacted entity to adhere to this rule or its changes?):
There will be no additional compliance costs for affected persons due to this amendment beyond any costs that they already incur to comply with this rule prior to this amendment.

**G) Regulatory Impact Summary Table** (This table only includes fiscal impacts that could be measured. If there are inestimable fiscal impacts, they will not be included in this table. Inestimable impacts will be included in narratives above.)

<b>Regulatory Impact Table</b>			
<b>Fiscal Cost</b>	<b>FY2024</b>	<b>FY2025</b>	<b>FY2026</b>
State Government	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0
<b>Total Fiscal Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Fiscal Benefits</b>	<b>FY2024</b>	<b>FY2025</b>	<b>FY2026</b>
State Government	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0
<b>Total Fiscal Benefits</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Net Fiscal Benefits</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

**H) Department head comments on fiscal impact and approval of regulatory impact analysis:**

The Executive Director of the Department of Environmental Quality, Kimberly D Shelley, has reviewed and approved this regulatory impact analysis.

**Citation Information**

**6. Provide citations to the statutory authority for the rule. If there is also a federal requirement for the rule, provide a citation to that requirement:**

Section 19-3-104	Section 19-6-104	
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**Incorporations by Reference Information**

**7. Incorporations by Reference:**

**A) This rule adds, updates, or removes the following title of materials incorporated by references:**

<b>Official Title of</b>	Title 10 - Energy, Chapter I – Nuclear
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<b>Materials Incorporated (from title page)</b>	Regulatory Commission, Part 71 – Packaging and Transportation of Radioactive Material Appendix A to Part 71 – Determination of A1 and A2
<b>Publisher</b>	United States Government, Nuclear Regulatory Commission
<b>Issue Date</b>	10/16/2020

**Public Notice Information**

**8. The public may submit written or oral comments to the agency identified in box 1.** (The public may also request a hearing by submitting a written request to the agency. See Section 63G-3-302 and Rule R15-1 for more information.)

<b>A) Comments will be accepted until:</b>	08/31/2023
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<b>9. This rule change MAY become effective on:</b>	09/18/2023
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NOTE: The date above is the date the agency anticipates making the rule or its changes effective. It is NOT the effective date.

**Agency Authorization Information**

<b>Agency head or designee and title:</b>	Douglas J Hansen, Division Director	<b>Date:</b>	07/13/2023
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**R313. Environmental Quality, Waste Management and Radiation Control, Radiation.**

**R313-12. General Provisions.**

**R313-12-3. Definitions.**

As used in Rules R313-12, R313-14 through R313-19, R313-21, R313-22, R313-24 through R313-26, R313-28, R313-30, R313-32, R313-34 through R313-38 and R313-70, these terms shall have the definitions set forth in Section R313-12-3. Additional definitions used only in a certain rule will be found in that rule.

"A1" means the maximum activity of special form radioactive material permitted in a Type A package.

"A2" means the maximum activity of radioactive material, other than special form radioactive material, low specific activity, and surface contaminated object material permitted in a Type A package. These values are either listed in 10 CFR 71, Appendix A, (2020) which is incorporated by reference in Section R313-19-100 or may be derived in accordance with the procedures prescribed in 10 CFR 71, Appendix A, (2020) which is incorporated by reference in Section R313-19-100.

"Absorbed dose" means the energy imparted by ionizing radiation per unit mass of irradiated material. The units of absorbed dose are the gray (Gy) and the rad.

"Accelerator produced radioactive material" means material made radioactive by a particle accelerator.

"Act" means Utah Radiation Control Act, Title 19, Chapter 3.

"Activity" means the rate of disintegration or transformation or decay of radioactive material. The units of activity are the becquerel (Bq) and the curie (Ci).



## NOTICES OF PROPOSED RULES

"Adult" means an individual 18 or more years of age.

"Address of use" means the building or buildings that are identified on the license and where radioactive material may be received, used or stored.

"Advanced practice registered nurse" means an individual licensed by this state to engage in the practice of advanced practice registered nursing. See Sections 58-31b-101 through 58-31b-801, Nurse Practice Act.

"Agreement State" means a state with which the United States Nuclear Regulatory Commission or the Atomic Energy Commission has entered into an effective agreement under Section 274 b. of the Atomic Energy Act of 1954, as amended, [§]73 Stat. 689[§].

"Airborne radioactive material" means a radioactive material dispersed in the air in the form of dusts, fumes, particulates, mists, vapors, or gases.

"Airborne radioactivity area" means[±] a room, enclosure, or area in which airborne radioactive material exists in concentrations:

(a) [F]in excess of the derived air concentrations (DACs), specified in Rule R313-15; or

(b) [F]to a degree that an individual present in the area without respiratory protective equipment could exceed, during the hours an individual is present in a week, an intake of 0.6% of the annual limit on intake (ALI), or 12 DAC-hours.

"As low as reasonably achievable" (ALARA) means making [every]each reasonable effort to maintain exposures to radiation as far below the dose limits as is practical, consistent with the purpose for which the licensed or registered activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed or registered sources of radiation in the public interest.

"Area of use" means a portion of an address of use that has been set aside to receive, use, or store radioactive material.

"Background radiation" means radiation from cosmic sources; naturally occurring radioactive materials, including radon, except as a decay product of source or special nuclear material, and including global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation and are not under the control of the licensee. [§]Background radiation[§] does not include sources of radiation from radioactive materials regulated by the Division of Waste Management and Radiation Control under the Radiation Control Act or Rules R313-12, R313-14 through R313-19, R313-21, R313-22, R313-24 through R313-26, R313-28, R313-30, R313-32, R313-34 through R313-38 and R313-70.

"Becquerel" (Bq) means the SI unit of activity. One becquerel is equal to one disintegration or transformation per second.

"Bioassay" means the determination of kinds, quantities or concentrations, and in some cases, the locations of radioactive material in the human body, whether by direct measurement, in vivo counting, or by analysis and evaluation of materials excreted or removed from the human body. For purposes of these rules, "radiobioassay" is an equivalent term.

"Board" means the Waste Management and Radiation Control Board created under Section 19-1-106.

"Byproduct material" means:

(a) a radioactive material, with the exception of special nuclear material, yielded in or made radioactive by exposure to the

radiation incident to the process of producing or utilizing special nuclear material;

(b) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by these solution extraction operations do not constitute [§]byproduct material[§] within this definition;

(c) (i) a discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; or

(ii) material that:

(A) has been made radioactive by use of a particle accelerator; and

(B) is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; and

(d) a discrete source of naturally occurring radioactive material, other than source material, that

(i) The Commission, in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of Homeland Security, and the head of any other appropriate [F]federal agency, has determined would pose a threat similar to the threat posed by a discrete source of radium-226 to the public health and safety or the common defense and security; and

(ii) [B]before, on, or after August 8, 2005, is extracted or converted after extraction for use in a commercial, medical, or research activity.

"Calibration" means the determination of:

(a) the response or reading of an instrument relative to a series of known radiation values over the range of the instrument; or

(b) the strength of a source of radiation relative to a standard.

"CFR" means Code of Federal Regulations.

"Chelating agent" means a chemical ligand that can form coordination compounds in which the ligand occupies more than one coordination position. The agents include beta diketones, certain proteins, amine polycarboxylic acids, hydroxycarboxylic acids, gluconic acid, and polycarboxylic acids.

"Chiropractor" means an individual licensed by this state to engage in the practice of chiropractic. See Sections 58-73-101 through 58-73-701, Chiropractic Physician Practice Act.

"Collective dose" means the sum of the individual doses received in a given period of time by a specified population from exposure to a specified source of radiation.

"Commencement of construction" means taking any action defined as [§]construction[§] or any other activity at the site of a facility subject to these rules that have a reasonable nexus to radiological health and safety.

"Commission" means the U.S. Nuclear Regulatory Commission.

"Committed dose equivalent" (HT,50), means the dose equivalent to organs or tissues of reference (T), that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.

"Committed effective dose equivalent" (HE,50), is the sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to each of these organs or tissues.

"Consortium" means an association of medical use licensees and a PET radionuclide production facility in the same geographical area that jointly own or share in the operation and maintenance cost of the PET radionuclide production facility that produces PET radionuclides for use in producing radioactive drugs within the consortium for noncommercial distributions among its associated members for medical use. The PET radionuclide production facility within the consortium shall be located at an educational institution, a Federal facility, or a medical facility.

"Construction" means the installation of wells associated with radiological operations<sup>[§]</sup>, for example, production, injection, or monitoring well networks associated with in situ recovery or other facilities<sup>[§]</sup>, the installation of foundations, or in-place assembly, erection, fabrication, or testing for any structure, system, or component of a facility or activity subject to these rules that are related to radiological safety or security. The term "[ ]construction[ ]" does not include:

(a) changes for temporary use of the land for public recreational purposes;

(b) site exploration, including necessary borings to determine foundation conditions or other preconstruction monitoring to establish background information related to the suitability of the site, the environmental impacts of construction or operation, or the protection of environmental values;

(c) preparation of the site for construction of the facility, including clearing of the site, grading, installation of drainage, erosion and other environmental mitigation measures, and construction of temporary roads and borrow areas;

(d) erection of fences and other access control measures that are not related to the safe use of, or security of, radiological materials subject to this part;

(e) excavation;

(f) erection of support buildings<sup>[§]</sup>, for example, construction equipment storage sheds, warehouse and shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and office buildings<sup>[§]</sup>, for use in connection with the construction of the facility;

(g) building of service facilities<sup>[§]</sup>, for example, paved roads, parking lots, railroad spurs, exterior utility and lighting systems, potable water systems, sanitary sewerage treatment facilities, and transmission lines;

(h) procurement or fabrication of components or portions of the proposed facility occurring at other than the final, in-place location at the facility; or

(i) taking any other action that has no reasonable nexus to radiological health and safety.

"Controlled area" means an area, outside of a restricted area but inside the site boundary, access to which can be limited by the licensee or registrant for any reason.

"Critical group" means the group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances.

"Curie" means a unit of measurement of activity. One curie (Ci) is that quantity of radioactive material which decays at the rate of  $3.7 \times 10^{10}$  to the tenth power disintegrations or transformations per second (dps or tps).

"Cyclotron" means a particle accelerator in which the charged particles travel in an outward spiral or circular path. A cyclotron accelerates charged particles at energies usually in excess of ~~[40]~~ten megaelectron volts and is commonly used for production of short half-life radionuclides for medical use.

"Decommission" means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits:

(a) release of property for unrestricted use and termination of the license; or

(b) release of the property under restricted conditions and termination of the license.

"Deep dose equivalent" ( $H_d$ ), which applies to external whole body exposure, means the dose equivalent at a tissue depth of one centimeter ( $1000 \text{ mg/cm}^2$ ).

"Dentist" means an individual licensed by this state to engage in the practice of dentistry. See Sections 58-69-101 through 58-69-806, Dentist and Dental Hygienist Practice Act.

"Department" means the Utah Department of Environmental Quality.

"Depleted uranium" means the source material uranium in which the isotope uranium-235 is less than 0.711 weight percent of the total uranium present. Depleted uranium does not include special nuclear material.

"Diffuse source" means a radionuclide that has been unintentionally produced or concentrated during the processing of materials for use for commercial, medical, or research activities.

"Director" means the [D]irector of the Division of Waste Management and Radiation Control.

"Discrete source" means a radionuclide that has been processed so that its concentration within a material has been purposely increased for use for commercial, medical, or research activities.

"Distinguishable from background" means that the detectable concentration of a radionuclide is statistically different from the background concentration of that radionuclide in the vicinity of the site or, in the case of structures, in similar materials using adequate measurement technology, survey, and statistical techniques.

"Dose" is a generic term that means absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, or total effective dose equivalent. For purposes of these rules, "radiation dose" is an equivalent term.

"Dose equivalent" ( $H_T$ ), means the product of the absorbed dose in tissue, quality factor, and other necessary modifying factors at the location of interest. The units of dose equivalent are the sievert (Sv) and rem.

"Dose limits" means the permissible upper bounds of radiation doses established in accordance with these rules. For purpose of these rules, "limits" is an equivalent term.

"Effective dose equivalent" ( $H_E$ ), means the sum of the products of the dose equivalent to each organ or tissue ( $H_T$ ), and the weighting factor ( $w_T$ ), applicable to each of the body organs or tissues that are irradiated.

"Embryo/fetus" means the developing human organism from conception until the time of birth.

"Entrance or access point" means an opening through which an individual or extremity of an individual could gain access to radiation areas or to licensed or registered radioactive materials. This includes entry or exit portals of sufficient size to permit human entry, irrespective of their intended use.

"Explosive material" means a chemical compound, mixture, or device which produces a substantial instantaneous release of gas and heat spontaneously or by contact with sparks or flame.

## NOTICES OF PROPOSED RULES

"EXPOSURE" ~~when~~ if capitalized, means the quotient of dQ by dm where  $[^A]dQ[^A]$  is the absolute value of the total charge of the ions of one sign produced in air when ~~all~~ the electrons, both negatrons and positrons, liberated by photons in a volume element of air having a mass of  $[^A]dm[^A]$  are completely stopped in air. The special unit of EXPOSURE is the roentgen (R). See Section R313-12-20 Units of exposure and dose for the SI equivalent. For purposes of these rules, this term is used as a noun.

"Exposure" ~~when~~ if not capitalized, means being exposed to ionizing radiation or to radioactive material. For purposes of these rules, this term is used as a verb.

"EXPOSURE rate" means the EXPOSURE per unit of time, such as roentgen per minute and milliroentgen per hour.

"External dose" means that portion of the dose equivalent received from a source of radiation outside the body.

"Extremity" means hand, elbow, arm below the elbow, foot, knee, and leg below the knee.

"Facility" means the location within one building, vehicle, or under one roof and under the same administrative control

(a) at which the use, processing or storage of radioactive material is or was authorized; or

(b) at which one or more radiation-producing machines or radioactivity-inducing machines are installed or located.

"Former United States Atomic Energy Commission (AEC) or United States Nuclear Regulatory Commission (NRC) licensed facilities" means nuclear reactors, nuclear fuel reprocessing plants, uranium enrichment plants, or critical mass experimental facilities where AEC or NRC licenses have been terminated.

"Generally applicable environmental radiation standards" means standards issued by the U.S. Environmental Protection Agency under the authority of the Atomic Energy Act of 1954, as amended, that impose limits on radiation exposures or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material.

"Gray" (Gy) means the SI unit of absorbed dose. One gray is equal to an absorbed dose of one joule per kilogram.

"Hazardous waste" means those wastes designated as hazardous by the U.S. Environmental Protection Agency ~~rules~~ regulations in 40 CFR Part 261.

"Healing arts" means the disciplines of medicine, dentistry, osteopathy, chiropractic, and podiatry.

"High radiation area" means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of one mSv (0.1 rem), in one hour at 30 centimeters from the source of radiation or from a surface that the radiation penetrates. For purposes of these rules, rooms or areas in which diagnostic x-ray systems are used for healing arts purposes are not considered high radiation areas.

"Human use" means the intentional internal or external administration of radiation or radioactive material to human beings.

"Individual" means a human being.

"Individual monitoring" means the assessment of:

(a) dose equivalent, by the use of individual monitoring devices or, by the use of survey data; or

(b) committed effective dose equivalent by bioassay or by determination of the time weighted air concentrations to which an individual has been exposed, that is, DAC-hours.

"Individual monitoring devices" means devices designed to be worn by a single individual for the assessment of dose equivalent. For purposes of these rules, individual monitoring equipment and

personnel monitoring equipment are equivalent terms. Examples of individual monitoring devices are film badges, thermoluminescence dosimeters (TLD's), pocket ionization chambers, and personal air sampling devices.

"Inspection" means an official examination or observation including tests, surveys, and monitoring to determine compliance with rules, orders, requirements and conditions applicable to radiation sources.

"Interlock" means a device arranged or connected requiring the occurrence of an event or condition before a second condition can occur or continue to occur.

"Internal dose" means that portion of the dose equivalent received from radioactive material taken into the body.

"Lens dose equivalent" (LDE) applies to the external exposure of the lens of the eye and is taken as the dose equivalent at a tissue depth of 0.3 centimeter (300 mg/cm<sup>2</sup>).

"License" means a license issued by the ~~D~~ director in accordance with the rules adopted by the ~~B~~ board.

"Licensee" means a person who is licensed by the ~~D~~ department in accordance with these rules and the Act.

"Licensed or registered material" means radioactive material, received, possessed, used or transferred or disposed of under a general or specific license issued by the ~~D~~ director.

"Licensing state" means a state which, before November 30, 2007, was provisionally or finally designated as ~~such~~ a licensing state by the Conference of Radiation Control Program Directors, Inc., which reviewed state regulations to establish equivalency with the Suggested State Regulations and ascertained whether a ~~S~~ state has an effective program for control of natural occurring or accelerator produced radioactive material.

"Limits". See "Dose limits".

"Lost or missing source of radiation" means licensed or registered sources of radiation whose location is unknown. This definition includes radioactive material that has been shipped but has not reached its planned destination and whose location cannot be readily traced in the transportation system.

"Major processor" means a user processing, handling, or manufacturing radioactive material exceeding Type A quantities as unsealed sources or material, or exceeding four times Type B quantities as sealed sources, but does not include nuclear medicine programs, universities, industrial radiographers, or small industrial programs. Type A and B quantities are defined in 10 CFR 71.4.

"Member of the public" means an individual except when that individual is receiving an occupational dose.

"Minor" means an individual less than 18 years of age.

"Monitoring" means the measurement of radiation, radioactive material concentrations, surface area activities or quantities of radioactive material, and the use of the results of these measurements to evaluate potential exposures and doses. For purposes of these rules, radiation monitoring and radiation protection monitoring are equivalent terms.

"Natural radioactivity" means radioactivity of naturally occurring nuclides.

"Nuclear Regulatory Commission" (NRC) means the U.S. Nuclear Regulatory Commission or its duly authorized representatives.

"Occupational dose" means the dose received by an individual in the course of employment in which the individual's assigned duties for the licensee or registrant involve exposure to sources of radiation, whether or not the sources of radiation are in the possession of the licensee, registrant, or other person. Occupational dose does not include doses received from background radiation,

from any medical administration the individual has received, from exposure to individuals administered radioactive material and released in accordance with Rule R313-32, from voluntary participation in medical research programs, or as a member of the public.

"Package" means the packaging together with its radioactive contents as presented for transport.

"Particle accelerator" means a machine capable of accelerating electrons, protons, deuterons, or other charged particles in a vacuum and of discharging the resultant particulate or other radiation into a medium at energies usually in excess of one megaelectron volt. For purposes of these rules, "accelerator" is an equivalent term.

"Permit" means a permit issued by the [D]director in accordance with the rules adopted by the [B]board.

"Permitee" means a person who is permitted by the [D]director in accordance with these rules and the Act.

"Person" means an individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, political subdivision of this state, or another state or political subdivision or agency thereof, and a legal successor, representative, agent or agency of the foregoing.

"Personnel monitoring equipment," see individual monitoring devices.

"Pharmacist" means an individual licensed by this state to engage in the practice of pharmacy. See Sections 58-17b-101 through 58-17b-806, Pharmacy Practice Act.

"Physician" means both physicians and surgeons licensed under Section 58-67-301, Utah Medical Practice Act, and osteopathic physicians and surgeons licensed under Section 58-68-301, Utah Osteopathic Medical Practice Act.

"Physician assistant" means an individual licensed by this state to engage in practice as a physician assistant. See Sections 58-70a-101 through 58-70a-504, Physician Assistant Act.

"Podiatrist" means an individual licensed by this state to engage in the practice of podiatry. See Sections 58-5a-101 through 58-5a-501, Podiatric Physician Licensing Act.

"Practitioner" means an individual licensed by this state in the practice of a healing art. For these rules, only the following are considered to be a practitioner: physician, dentist, podiatrist, chiropractor, physician assistant, and advanced practice registered nurse.

"Protective apron" means an apron made of radiation-attenuating materials used to reduce exposure to radiation.

"Public dose" means the dose received by a member of the public from exposure to radiation or to radioactive materials released by a licensee, or to any other source of radiation under the control of a licensee or registrant. Public dose does not include occupational dose or doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released in accordance with Rule R313-32, or from voluntary participation in medical research programs.

"Pyrophoric material" means any liquid that ignites spontaneously in dry or moist air at or below 130 degrees Fahrenheit (54.4 degrees Celsius) or any solid material, other than one classed as an explosive, which under normal conditions is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited and, when ignited, burns so vigorously and persistently as to create a serious transportation, handling, or disposal hazard. Included are spontaneously combustible and water-reactive materials.

"Quality factor" (Q) means the modifying factor, listed in Tables 1 and 2 of Section R313-12-20 that is used to derive dose equivalent from absorbed dose.

"Rad" means the special unit of absorbed dose. One rad is equal to an absorbed dose of 100 erg per gram or 0.01 joule per kilogram

"Radiation" means alpha particles, beta particles, gamma rays, x-rays, neutrons, high speed electrons, high speed protons, and other particles capable of producing ions. For purposes of these rules, ionizing radiation is an equivalent term. Radiation, as used in these rules, does not include non-ionizing radiation, like radiowaves or microwaves, visible, infrared, or ultraviolet light.

"Radiation area" means an area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.05 mSv (0.005 rem), in one hour at 30 centimeters from the source of radiation or from a surface that the radiation penetrates.

"Radiation machine" means a device capable of producing radiation except those devices with radioactive material as the only source of radiation.

"Radiation safety officer" means an individual who has the knowledge and responsibility to apply appropriate radiation protection rules and has been assigned this responsibility by the licensee or registrant. For a licensee authorized to use radioactive materials in accordance with the requirements of Rule R313-32[7];

(1) the individual named as the [2]Radiation Safety Officer[2] shall meet the training requirements for a Radiation Safety Officer as stated in Rule R313-32; or

(2) the individual shall be identified as a [2]Radiation Safety Officer[2] on:

(a) a specific license issued by the [D]director, the U.S. Nuclear Regulatory Commission, or an Agreement State that authorizes the medical use of radioactive materials; or

(b) a medical use permit issued by a U.S. Nuclear Regulatory Commission master material licensee.

"Radiation source". See "Source of radiation."

"Radioactive material" means a solid, liquid, or gas which emits radiation spontaneously.

"Radioactivity" means the transformation of unstable atomic nuclei by the emission of radiation.

"Radiobioassay". See "Bioassay".

"Registrant" means any person who is registered with respect to radioactive materials or radiation machines with the [D]director or is legally obligated to register with the [D]director pursuant to these rules and the Act.

"Registration" means registration with the [D]director in accordance with the rules adopted by the [B]board.

"Regulations of the U.S. Department of Transportation" means 49 CFR 100 through 189 and 49 CFR 390 through 397, as referenced in 49 CFR 177.

"Rem" means the special unit of any of the quantities expressed as dose equivalent. The dose equivalent in rem is equal to the absorbed dose in rad multiplied by the quality factor. One rem equals 0.01 sievert (Sv).

"Research and development" means:

(a) theoretical analysis, exploration, or experimentation; or

(b) the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, devices, equipment, materials, and processes. Research and development does not

NOTICES OF PROPOSED RULES

include the internal or external administration of radiation or radioactive material to human beings.

"Residual radioactivity" means radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the licensee's control. This includes radioactivity from any licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with Rule R313-15.

"Restricted area" means an area, access to which is limited by the licensee or registrant for the purpose of protecting individuals against undue risks from exposure to sources of radiation. A [ ]Restricted area[ ] does not include areas used as residential quarters, but separate rooms in a residential building may be set apart as a restricted area.

"Roentgen" (R) means the special unit of EXPOSURE. One roentgen equals 2.58 x 10 to the -4 power coulombs per kilogram of air. See EXPOSURE.

"Sealed source" means radioactive material that is permanently bonded or fixed in a capsule or matrix designed to prevent release and dispersal of the radioactive material under the most severe conditions which are likely to be encountered in normal use and handling.

"Sealed source and device registry" means the national registry that contains [ ]the registration certificates, generated by both NRC and the Agreement States, that summarize the radiation safety information for the sealed sources and devices and describe the licensing and use conditions approved for the product.

"Shallow dose equivalent" (Hs) which applies to the external exposure of the skin of the whole body or the skin of an extremity, is taken as the dose equivalent at a tissue depth of 0.007 centimeter (seven mg per square centimeter).

"SI" means an abbreviation of the International System of Units.

"Sievert" (Sv) means the SI unit of any of the quantities expressed as dose equivalent. The dose equivalent in sievert is equal to the absorbed dose in gray multiplied by the quality factor. One Sv equals 100 rem.

"Site boundary" means that line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee or registrant.

"Source container" means a device in which sealed sources are transported or stored.

"Source material" means:

(a) uranium or thorium, or any combination thereof, in any physical or chemical form, or

(b) ores that contain by weight one-twentieth of one percent (0.05%), or more of, uranium, thorium, or any combination of uranium and thorium. Source material does not include special nuclear material.

"Source material milling" means any activity that results in the production of byproduct material as defined by (b) of "byproduct material".

"Source of radiation" means any radioactive material, or a device or equipment emitting or capable of producing ionizing radiation.

"Special form radioactive material" means radioactive material which satisfies the following conditions:

(a) it is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the capsule;

(b) the piece or capsule has at least one dimension not less than five millimeters (0.197 inch); and

(c) it satisfies the test requirements specified by the U.S. Nuclear Regulatory Commission in 10 CFR 71.75. A special form encapsulation designed in accordance with the U.S. Nuclear Regulatory Commission requirements of 10 CFR 71.4 in effect on June 30, 1983, and constructed before July 1, 1985, may continue to be used. A special form encapsulation designed in accordance with the requirements of 10 CFR 71.4 in effect on March 31, 1996, see 10 CFR 71 revised January 1, 1996, and constructed before April 1, 1998, and special form material that was successfully tested before September 10, 2015 in accordance with the requirements of 10 CFR 71.75(d) in effect before September 10, 2015 may continue to be used. Any other special form encapsulation shall meet the specifications of this definition.

"Special nuclear material" means:

(a) plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and other material that the U.S. Nuclear Regulatory Commission, pursuant to Section 51 of the Atomic Energy Act of 1954, as amended, determines to be special nuclear material, but does not include source material; or

(b) any material artificially enriched by any of the foregoing but does not include source material.

"Special nuclear material in quantities not sufficient to form a critical mass" means uranium enriched in the isotope U-235 in quantities not exceeding 350 grams of contained U-235; uranium-233 in quantities not exceeding 200 grams; plutonium in quantities not exceeding 200 grams or a combination of them in accordance with the following formula: For each kind of special nuclear material, determine the ratio between the quantity of that special nuclear material and the quantity specified previously in this definition for the same kind of special nuclear material. The sum of the ratios for [ ]the kinds of special nuclear material in combination shall not exceed one. For example, the following quantities in combination would not exceed the limitation and are within the formula [ ]:

—————]((175(Grams contained U-235)/350) + (50(Grams U-233/200) + (50(Grams Pu)/200)) is equal to one.

"Survey" means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of sources of radiation. [ ]If appropriate, this evaluation includes tests, physical examinations and measurements of levels of radiation or concentrations of radioactive material present.

"Test" means the process of verifying compliance with an applicable rule.

"These rules" means [ ]Utah Radiation Control Rules R313-12, R313-14 through R313-19, R313-21, R313-22, R313-24 through R313-26, R313-28, R313-30, R313-32, R313-34 through R313-38 and R313-70[ ].

"Total effective dose equivalent" (TEDE) means the sum of the effective dose equivalent for external exposures and the committed effective dose equivalent for internal exposures.

"Total organ dose equivalent" (TODE) means the sum of the deep dose equivalent and the committed dose equivalent to the organ receiving the highest dose as described in Subsection R313-15-1107(1)(f).

"U.S. Department of Energy" means the Department of Energy established by Public Law 95-91, August 4, 1977, 91 Stat. 565, 42 U.S.C. 7101 et seq., to the extent that the [ ]department exercises functions formerly vested in the U.S. Atomic Energy Commission, its Chairman, members, officers and components and

transferred to the U.S. Energy Research and Development Administration and to the Administrator thereof pursuant to Sections 104(b), (c), and (d) of Public Law 93-438, October 11, 1974, 88 Stat. 1233 at 1237, effective January 19, 1975 known as the Energy Reorganization Act of 1974, and retransferred to the Secretary of Energy pursuant to Section 301(a) of Public Law 95-91, August 14, 1977, 91 Stat. 565 at 577-578, 42 U.S.C. 7151, effective October 1, 1977 known as the Department of Energy Organization Act.

"Unrefined and unprocessed ore" means ore in its natural form prior to processing, like grinding, roasting or beneficiating, or refining. Processing does not include sieving or encapsulation of ore or preparation of samples for laboratory analysis.

"Unrestricted area" means an area, to which access is neither limited nor controlled by the licensee or registrant. For purposes of these rules, "uncontrolled area" is an equivalent term.

"Waste" means those low-level radioactive wastes containing radioactive material that are acceptable for disposal in a land disposal facility. For the purposes of this definition, low-level radioactive waste means radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in paragraphs (b), (c), and (d) of the definition of byproduct material found in Section R313-12-3.

"Week" means seven consecutive days starting on Sunday.

"Whole body" means, for purposes of external exposure, head, trunk including male gonads, arms above the elbow, or legs above the knees.

"Worker" means an individual engaged in work under a license or registration issued by the [D]director and controlled by a licensee or registrant, but does not include the licensee or registrant.

"Working level" (WL), means any combination of short-lived radon daughters in one liter of air that will result in the ultimate emission of  $1.3 \times 10^5$  MeV of potential alpha particle energy. The short-lived radon daughters are, for radon-222: polonium-218, lead-214, bismuth-214, and polonium-214[5], and for radon 220: polonium-216, lead-212, bismuth-212, and polonium-212.

"Working level month" (WLM), means an exposure to one working level for 170 hours. 2,000 working hours per year divided by 12 months per year is approximately equal to 170 hours per month.

"Year" means the period of time beginning in January used to determine compliance with these rules. The licensee or registrant may change the starting date of the year used to determine compliance by the licensee or registrant if the decision to make the change is made before December 31 of the previous year. If a licensee or registrant changes in a year, the licensee or registrant shall assure that no day is omitted or duplicated in consecutive years.

**KEY: definitions, units, inspections, exemptions**

**Date of Last Change: 2023[May 16, 2022]**

**Notice of Continuation: April 8, 2021**

**Authorizing, and Implemented or Interpreted Law: 19-3-104; 19-6-104**

NOTICE OF PROPOSED RULE		
TYPE OF FILING: Amendment		
Rule or Section Number:	R313-32-2	Filing ID: 55532

**Agency Information**

<b>1. Department:</b>	Environmental Quality	
<b>Agency:</b>	Waste Management and Radiation Control, Radiation	
<b>Room number:</b>	2nd Floor	
<b>Building:</b>	MASOB	
<b>Street address:</b>	195 N 1950 W	
<b>City, state and zip:</b>	Salt Lake City, UT 84116	
<b>Mailing address:</b>	PO Box 144880	
<b>City, state and zip:</b>	Salt Lake City, UT 84114-4880	
<b>Contact persons:</b>		
<b>Name:</b>	<b>Phone:</b>	<b>Email:</b>
Tom Ball	385-454-5574	tball@utah.gov
Spencer Wickham	385-499-4895	swickham@utah.gov
<b>Please address questions regarding information on this notice to the persons listed above.</b>		

**General Information**

<b>2. Rule or section catchline:</b>
R313-32-2. Clarifications for Exceptions
<b>3. Purpose of the new rule or reason for the change:</b>
The NRC is amending its regulations to implement the Social Security Number Fraud Prevention Act of 2017 and to make miscellaneous corrections. These changes include amending regulations to prohibit the inclusion of an individual's Social Security number on any document sent through the mail, redesignating footnotes, correcting references, typographical errors, nomenclature, titles, e-mail addresses, and contact information.
As an Agreement State, Utah must adopt these changes into the Radiation Control Rules to maintain compatibility with the federal program.
<b>4. Summary of the new rule or change:</b>
This amendment changes the year 2019 to 2020 for the incorporation by reference found in the opening subsection of Section R313-32-2.
Additionally, the Division of Waste Management and Radiation Control, Radiation is correcting typographical and formatting errors that have been discovered in this rule.

**Fiscal Information**

**5. Provide an estimate and written explanation of the aggregate anticipated cost or savings to:**

**A) State budget:**

It is not anticipated that there will be any additional costs or savings to the state budget due to this amendment because it does not add or remove any requirements or duties to the agency.

**B) Local governments:**

It is not anticipated that there will be any additional costs or savings to local governments due to this amendment because it does not add or remove any requirements that a local government would be required to follow.

**C) Small businesses** ("small business" means a business employing 1-49 persons):

It is not anticipated that there will be any additional costs or savings to any small businesses due to this amendment because it does not add or remove any requirements that a small business would be required to follow.

**D) Non-small businesses** ("non-small business" means a business employing 50 or more persons):

It is not anticipated that there will be any additional costs or savings to any non-small businesses due to this amendment because it does not add or remove any requirements that a non-small business would be required to follow.

**E) Persons other than small businesses, non-small businesses, state, or local government entities** ("person" means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an **agency**):

It is not anticipated that there will be any additional costs or savings to any persons other than small businesses, non-small businesses or state or local governments due to this amendment because it does not add or remove any requirements that any such persons would be required to follow.

**F) Compliance costs for affected persons** (How much will it cost an impacted entity to adhere to this rule or its changes?):

There will be no additional compliance costs for affected persons due to this amendment beyond any costs that they already incur to comply with this rule prior to this amendment.

**G) Regulatory Impact Summary Table** (This table only includes fiscal impacts that could be measured. If there are inestimable fiscal impacts, they will not be included in this table. Inestimable impacts will be included in narratives above.)

Regulatory Impact Table			
Fiscal Cost	FY2024	FY2025	FY2026
State Government	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0
<b>Total Fiscal Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Fiscal Benefits	FY2024	FY2025	FY2026
State Government	\$0	\$0	\$0
Local Governments	\$0	\$0	\$0
Small Businesses	\$0	\$0	\$0
Non-Small Businesses	\$0	\$0	\$0
Other Persons	\$0	\$0	\$0
<b>Total Fiscal Benefits</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Net Fiscal Benefits</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>H) Department head comments on fiscal impact and approval of regulatory impact analysis:</b>			
The Executive Director of the Department of Environmental Quality, Kimberly D Shelley, has reviewed and approved this regulatory impact analysis.			

**Citation Information**

**6. Provide citations to the statutory authority for the rule. If there is also a federal requirement for the rule, provide a citation to that requirement:**

Section 19-3-104	Section 19-6-107	
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**Incorporations by Reference Information**

**7. Incorporations by Reference:**

**A) This rule adds, updates, or removes the following title of materials incorporated by references:**

<b>Official Title of Materials Incorporated (from title page)</b>	Title 10 - Energy, Chapter I – Nuclear Regulatory Commission, Part 35 – Medical Use of Byproduct Material, Subpart M – Reports 35.3045 Report notification of a medical event
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<b>Publisher</b>	United States Government, Nuclear Regulatory Commission
<b>Issue Date</b>	09/01/2020

**Public Notice Information**

**8. The public may submit written or oral comments to the agency identified in box 1.** (The public may also request a hearing by submitting a written request to the agency. See Section 63G-3-302 and Rule R15-1 for more information.)

<b>A) Comments will be accepted until:</b>	08/31/2023
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<b>9. This rule change MAY become effective on:</b>	09/18/2023
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NOTE: The date above is the date the agency anticipates making the rule or its changes effective. It is NOT the effective date.

**Agency Authorization Information**

<b>Agency head or designee and title:</b>	Douglas J Hansen, Division Director	<b>Date:</b>	07/13/2023
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**R313. Environmental Quality, Waste Management and Radiation Control, Radiation.**

**R313-32. Medical Use of Radioactive Material.**

**R313-32-2. Clarifications or Exceptions.**

For the purposes of Rule R313-32, 10 CFR 35.2 through 35.7; 35.10(d) through 35.10(f); 35.11(a) through 35.11(b); 35.12; and 35.13(b) through 35.3204 [~~(2019)~~](2020) are incorporated by reference with the following clarifications or exceptions:

- (1) The exclusion of the following:
  - (a) In 10 CFR 35.2, exclude definitions for "Address of Use," "Agreement State," "Area of Use," "Dentist," "Pharmacist," "Physician," "Podiatrist," and "Sealed Source";
  - (b) In 10 CFR 35.19, exclude "or the common defense and security";
  - (c) In 10 CFR 35.3067, exclude ", with a copy to the Director, Office of Nuclear Material Safety and Safeguards"; and
  - (d) In 10 CFR 35.3045(d), 10 CFR 3047(d), 10 CFR 35.3067, and 10 CFR 35.3204(b), exclude "By an appropriate method listed in Sec. 30.6(a) of this chapter,".
- (2) The substitution of the following date references:
  - (a) "May 13, 2005" for "October 24, 2002"; and
  - (b) "December 31, 2019" for "January 14, 2019" [s].
- (3) The substitution of the following rule references:
  - (a) "Rules R313-32 and R313-15" for reference to "this part and 10 CFR Part 20" in 10 CFR 35.61(a);
  - (b) "Rule R313-15 for reference to "Part 20 of this chapter" in 10 CFR 35.70(a) and 10 CFR 35.80(a)(4);
  - (c) "Rules R313-19 and R313-22" for reference to "Part 30 of this chapter" in 10 CFR 35.18(a)(4);
  - (d) "Rules R313-19 and R313-22 or equivalent Nuclear Regulatory Commission or Agreement State requirements for reference to "10 CFR Part 30 or the equivalent requirements of an Agreement State" in 10 CFR 35.49(c);

- (e) "10 CFR Part 30" for reference to "Part 30 of this chapter" as found in 10 CFR 35.65(a)(4);
- (f) "Rules R313-15, R313-19, and R313-22" for reference to "parts 20 and 30 of this chapter" as found in 10 CFR 35.63(e)(1);
- (g) "Section R313-12-110" for reference to "Sec. 30.6 of this chapter" as found in 10 CFR 35.14(c)[-];
- (h) "Section R313-15-101" for reference to "Sec. 20.1101 of this chapter" as found in 10 CFR 35.24(a);
- (i) "Subsection R313-15-301(1)(a)" for reference to "Sec. 20.1301(a)(1) of this chapter" as found in 10 CFR 35.310(a)(2)(i) and 10 CFR 35.410(a)(4)(i);
- (j) "Subsection R313-15-301(1)(c)" for reference to "Sec. 20.1301(c) of this chapter" as found in 10 CFR 35.310(a)(2)(ii) and 10 CFR 35.410(a)(4)(ii);
- (k) "Section R313-15-501" for reference to "Sec. 20.1501 of this chapter" as found in 10 CFR 35.652(a);
- (l) "Section R313-18-12" for reference to "Sec. 19.12 of this chapter" as found in 10 CFR 35.27(a)(1), 10 CFR 35.27(b)(1), 10 CFR 35.310, and 10 CFR 35.410;
- (m) "Rules R313-19, R313-22 and Subsection R313-22-75(10) or equivalent U.S. Nuclear Regulatory Commission or Agreement State requirements" for reference to "10 CFR Part 30 and Sec. 32.74 of this chapter or equivalent requirements of an Agreement State" as found in 10 CFR 35.49(a);
- (n) "Subsection R313-22-75(10) or equivalent Nuclear Regulatory Commission or Agreement State requirements" for references to "Sec. 32.74 of this chapter or equivalent Agreement State regulations" found in 10 CFR 35.65(a)(1) and 10 CFR 35.65(a)(2);
- (o) "Rule R313-70" for reference to "Part 170 of this chapter";
- (p) "Subsection R313-19-34(2)" for reference to "Sec. 30.34(b) of this chapter" as found in 10 CFR 35.14(b)(4);
- (q) "Section R313-22-50" for reference to "Part 33 of this chapter" in 10 CFR 35.15;
- (r) "Subsection R313-22-50(2)" for reference to "Sec. 33.13 of this chapter" in 10 CFR 35.12(e);
- (s) "Subsection R313-22-75(9)(b)(iv)" for reference to "Sec. 32.72(b)(4)" in 10 CFR 35.2 for the definition of Authorized Nuclear Pharmacist;
- (t) "Subsection R313-22-75(9) or equivalent Nuclear Regulatory Commission or Agreement State requirements" for reference to "Sec. 32.72 of this chapter or equivalent Agreement State requirements" as found in 10 CFR 35.63(b)(2)(i), 10 CFR 35.63(c)(3)(i), 10 CFR 35.100(a)(1), 10 CFR 35.200(a)(1), and 10 CFR 35.300(a)(1); and
- (u) "Subsection R313-22-32(9) or equivalent Nuclear Regulatory Commission or Agreement State requirements" for reference to "Sec. 30.32(j) of this chapter or equivalent Agreement State requirements" as found in 10 CFR 35.63(b)(2)(iii), 10 CFR 35.63(c)(3)(ii), 10 CFR 35.100(a)(2), 10 CFR 35.200(a)(2), or 10 CFR 35.300(a)(2).
- (4) The substitution of the following terms:
  - (a) "radioactive material" for reference to "byproduct material";
  - (b) "a [D]director, a Nuclear Regulatory Commission, or Agreement State" for reference to "an NRC or Agreement State" in 10 CFR 35.63(b)(2)(ii), 10 CFR 35.100(c), 10 CFR 35.200(c), or 10 CFR 35.300(c);



NOTICES OF PROPOSED RULES

(c) "[D]irector is (801) 536-0200 or after hours, (801) 536-4123" for "NRC Operations Center is (301) 816-5100" as found in the footnote included for 10 CFR 35.3045(c);

(d) "Form DWMRC-01, 'Application for Radioactive Material License'" for reference to "NRC Form 313, 'Application for Material License'" as found in 10 CFR 35.12(b)(1), 10 CFR 35.12(c)(1)(i) and 10 CFR 35.18(a)(1);

(e) "Form DWMRC-01" for reference to "NRC Form 313" as found in 10 CFR 35.12(c)(1)(ii);

(f) "medical use license issued by the [D]irector" for reference to "NRC medical use license" in 10 CFR 35.6(c);

(g) "[D]irector, the U.S. Nuclear Regulatory Commission, or an Agreement State" for reference to "Commission or Agreement State" in 10 CFR 35.2 for the definitions of Authorized Medical Physicist (2)(i), Authorized Nuclear Pharmacist (2)(iii) and Radiation Safety Officer (2)(i), in 10 CFR 35.57(b)(1) (first instance), 10 CFR 35.57(b)(2) (first instance), 10 CFR 35.433(a)(2)(i); or for references to "Commission or an Agreement State" in 10 CFR 35.2 for the definitions of Associate Radiation Safety Officer (2)(i) and Ophthalmic Physicist (2)(i), 10 CFR 35.11(a), in 10 CFR 35.50(a), 10 CFR 35.50(a)(2)(ii)(A), 10 CFR 35.50(c)(1), 10 CFR 35.51(a), 10 CFR 35.51(a)(2)(i), 10 CFR 35.55(a), 10 CFR 35.190(a), 10 CFR 35.290(a), 10 CFR 35.390(a), 10 CFR 35.392(a), 10 CFR 35.394(a), 10 CFR 35.396(a)(3), 10 CFR 35.433(a)(2)(i), 10 CFR 35.490(a), 10 CFR 35.590(a), 10 CFR 35.605(a), 110 CFR 35.605(b), 10 CFR 35.605(c), 10 CFR 35.655(b) and 10 CFR 35.690(a);

(h) "[D]irector, a U.S. Nuclear Regulatory Commission, or an Agreement State" for references to "Commission or Agreement State" in 10 CFR 35.2 for the definitions of Authorized Medical Physicist (2)(iii), Authorized Nuclear Pharmacist (2)(i), Authorized User (2)(i), Authorized User (2)(iii) and Ophthalmic Physicist (2)(ii), in 10 CFR 13(b)(4)(ii), 10 CFR 35.14(a)(2)(second instance), 10 CFR 35.57(a)(1)(second instance), 10 CFR 35.57(b)(1)(second instance), 10 CFR 35.57(b)(2)(second instance), 10 CFR 35.433(a)(2)(ii)(second instance); or for references to "Commission or an Agreement State" in 10 CFR 35.50(c)(2)(second instance);

(i) "license issued by the [D]irector, the Nuclear Regulatory Commission, or the Agreement State" for reference to "Commission or Agreement State license" in 10 CFR 35.14(a)(2)(first instance);

(j) "[D]irector" for reference to "NRC Operations Center" in 10 CFR 35.3045(c), 10 CFR 35.3047(c), and 10 CFR 35.3204(a);

(k) "license issued by the [D]irector, the Nuclear Regulatory Commission or an Agreement State" for reference to "Commission or Agreement State license" in 10 CFR 35.13(b)(4)(i), 10 CFR 35.14(a)(2)(first instance), 10 CFR 35.50(b)(1)(ii) or for reference to "Commission or an Agreement State license" in 10 CFR 35.50(b)(1)(ii), 10 CFR 35.50(c)(2), and 10 CFR 35.57(a)(2);

(l) "[D]irector at the address specified in Section R313-12-110" for reference to "appropriate NRC Regional Office listed in Sec. 30.6 of this chapter" in 10 CFR 35.3045(d), 10 CFR 35.3047(d), 10 CFR 35.3067, and 10 CFR 35.3204(b);

(m) "[B]oard" for reference to "Commission" in 10 CFR 35.18(a)(3)(second instance) and 10 CFR 35.19;

(n) "[D]irector" for reference to "Commission" in 10 CFR 35.12(d)(4), 10 CFR 35.14(a), 10 CFR 35.14(b), 10 CFR 35.18(a), 10 CFR 35.18(a)(3)(first instance), 10 CFR 35.18(b), 10 CFR 35.24(a)(1), 10 CFR 35.24(c), 10 CFR 35.26(a), and 10 CFR 35.1000(b);

(o) "[D]irector" for reference to "NRC" in 10 CFR 35.3045(g)(1), 10 CFR 35.3047(f)(1), and 10 CFR 35.3204(a)(second instance);

(p) "Nuclear Regulatory Commission" for reference to "Commission" in 10 CFR 35.67(b)(2);

(q) "[D]irector" for reference to "NRC" in 10 CFR 35.3045(g)(1), 10 CFR 35.3047(f)(1), and 10 CFR 35.35.3204(a)(second instance); ~~and~~

(r) "the [D]irector" for reference to "NRC" in 10 CFR 35.13(b)(4)(i);

(s) "licenses issued by the [D]irector" for reference to "NRC licenses" in 10 CFR 35.57(c);

(t) "[D]irector, the Nuclear Regulatory Commission, or an Agreement State" for reference to "NRC" in 10 CFR 35.13(b)(5), 10 CFR 35.14(a)(2), 10 CFR 35.57(b)(3), and 10 CFR 35.57(a)(4); and

(u) "(c)" for reference to "(b)" in 10 CFR 35.92.

(5) The addition of the following to 10 CFR 35.92:

(b) The [D]irector may approve a radioactive material with a physical half-life of greater than 120 days but less than 175 days for decay-in-storage before disposal without regard to its radioactivity on a case by case basis if the licensee:

(1) [R]equests an amendment to the licensee's radioactive materials license for the approval;

(2) [C]an demonstrate that the radioactive waste will be safely stored, and accounted for during the decay-in-storage period and that the additional radioactive waste will not exceed the licensee's radioactive waste storage capacity; and

(3) [C]ommits to monitor the waste before disposal as stated in paragraphs (a)(1) and (a)(2) of this section before the waste is disposed."

**KEY: radioactive materials, radiopharmaceutical, brachytherapy, nuclear medicine**

**Date of Last Change: 2023[August 9, 2019]**

**Notice of Continuation: April 8, 2021**

**Authorizing, and Implemented or Interpreted Law: 19-3-104; 19-6-107**

NOTICE OF PROPOSED RULE		
TYPE OF FILING: Amendment		
Rule or Section Number:	R414-1-31	Filing ID: 55528

**Agency Information**

<b>1. Department:</b>	Health and Human Services
<b>Agency:</b>	Health Care Financing, Coverage and Reimbursement Policy
<b>Building:</b>	Cannon Health Building
<b>Street address:</b>	288 N 1460 W
<b>City, state and zip:</b>	Salt Lake City, UT 84116
<b>Mailing address:</b>	PO Box 143102
<b>City, state and zip:</b>	Salt Lake City, UT 84114-3102

**WASTE MANAGEMENT AND RADIATION CONTROL BOARD**  
**Executive Summary**  
**REQUEST FOR A SITE-SPECIFIC TREATMENT VARIANCE**  
**EnergySolutions, LLC**  
**September 14, 2023**

<p><b>What is the issue before the Board?</b></p>	<p>On June 20, 2023, EnergySolutions, 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 Utah Hazardous Waste Management Rule, Utah Administrative Code R315-268-40(a)(3) seeking approval to dispose, in EnergySolutions' Mixed Waste Landfill Cell, waste containing the D009 or U151 High Mercury-Organic Subcategory and High Mercury-Inorganic Subcategory hazardous waste codes that have been treated using stabilization/amalgamation technologies to either the 0.2 mg/L TCLP standard for hazardous waste or the 0.25 mg/L TCLP standard for contaminated soil.</p>
<p><b>What is the historical background or context for this issue?</b></p>	<p>EnergySolutions requests approval to receive and dispose, in EnergySolutions' Mixed Waste Landfill Cell, waste containing the D009 or U151 High Mercury-Organic Subcategory and High Mercury-Inorganic Subcategory hazardous waste codes that has been treated using stabilization/amalgamation technologies. Furthermore, EnergySolutions will perform the stabilization/amalgamation treatment on D009 and U151 High Mercury Subcategory waste streams that have not been treated prior to arrival at the EnergySolutions Clive facility. All actions will be performed in accordance with EnergySolutions' State-issued Part B Permit.</p> <p>The listed treatment technology in 40 CFR 268.40 for the D009 High Mercury-Organic Subcategory is either incineration (IMERC) or retorting/roasting for mercury recovery (RMERC). The listed treatment technology for the D009 High Mercury-Inorganic Subcategory and for U151 is RMERC.</p> <p>The need and justification for this action are as follows:</p> <p>The intent of the RMERC treatment process is to recover elemental mercury for recycling. However, radioactive mercury cannot be recycled and the RMERC process generates secondary waste (radioactive elemental mercury) which requires additional treatment by amalgamation (a stabilization technology) prior to disposal.</p> <p>The IMERC technology is also intended to be a mercury recovery technology where the waste is incinerated, and the mercury recovered in the ash or in a specific off-gas control system. For radioactive mercury, both the ash and the control equipment/media will require further treatment. Furthermore, IMERC involves an extra handling step for the radioactive residue.</p> <p>Successful chemical stabilization of High Mercury-Inorganic Subcategory wastes has been demonstrated to achieve a measure of performance equivalent to the required methods which require two</p>

treatment methods (RMERC and stabilization) with no detrimental effect to human health or the environment. The U.S. Environmental Protection Agency (US EPA) has issued a Determination of Equivalent Treatment (DET) for these High Mercury Subcategory wastes that were chemically stabilized. In the EPA's determination, they concluded that for waste streams that are radioactive and contain mercury, the recovery portion of RMERC may not be appropriate and that alternative treatment processes should be pursued.

The US EPA has reviewed the treatment of mercury-bearing waste in a Federal Register Notice (68 FR 4481). In this notice, the US EPA concluded that treatment of mercury waste is possible, and it is suggested that stakeholders should use the site-specific treatment variance process to achieve approval for the treatment of high subcategory mercury wastes. The notice specifically designates an example of when this would be appropriate as the case of a high mercury subcategory waste that is also radioactive.

This variance request consists of waste that may be shipped to EnergySolutions over the next year. To date, EnergySolutions has disposed of approximately 16,800 cubic feet of treated High Mercury Subcategory waste. From knowledge of the current market of High Mercury Subcategory Waste requiring treatment or disposal, and from past experience receiving this type of waste, EnergySolutions anticipates less than 2,000 cubic feet of additional High Mercury Subcategory waste for disposal in the next year under this treatment variance.

EnergySolutions has requested similar site-specific treatment variances for High Mercury-Organic Subcategory and High Mercury-Inorganic Subcategory hazardous waste codes in letters dated November 21, 2001; October 21, 2003; April 28, 2004; November 8, 2004; November 29, 2005; December 20, 2006; January 25, 2008; January 20, 2009; January 27, 2010; February 15, 2011; March 21, 2012; March 7, 2013; March 4, 2014; April 21, 2016; September 27, 2017, March 25, 2019; August 25, 2020; and January 21, 2022.

These variance requests were approved on January 8, 2002; December 11, 2003; June 10, 2004; January 13, 2005; January 12, 2006; February 8, 2007; March 13, 2008; March 12, 2009; April 8, 2010; May 12, 2011; May 10, 2012; April 11, 2013; April 10, 2014; June 9, 2016; September 27, 2017; May 9, 2019; November 19, 2020; and March 10th, 2022, respectively.

Over the years that this variance has been granted, EnergySolutions and generators have consistently been successful at treating high subcategory mercury to LDR compliant levels.

A notice for public comment was published in the *Salt Lake Tribune*, the *Deseret News* and the *Tooele Transcript-Bulletin* on July 5, 2023. The comment period began July 6, 2023 and ended August 4, 2023. No comments were received.

<p><b>What is the governing statutory or regulatory citation?</b></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 R315-268.44 of the Utah Administrative Code.</p>
<p><b>Is Board action required?</b></p>	<p>Yes, this is an action item before the Board. The Variance Request was presented to the Board on July 13, 2023 as an information item.</p>
<p><b>What is the Division/Director's recommendation?</b></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><b>Where can more information be obtained?</b></p>	<p>For technical questions, please contact Tyler Hegburg (385) 622-1875. For legal questions, please contact Bret Randall at (801) 536-0284.</p> <p><b>EnergySolutions request for a site-specific treatment variance to receive and dispose waste containing the D009 or U151 High Mercury-Organic Subcategory and High Mercury-Inorganic Subcategory hazardous waste codes was provided in the July 13, 2023 Board's packet (DSHW-2023-206182).</b></p>

**WASTE MANAGEMENT AND RADIATION CONTROL BOARD**

**Executive Summary**

**REQUEST FOR A SITE-SPECIFIC TREATMENT VARIANCE**

**EnergySolutions, LLC**

**September 14, 2023**

<p><b>What is the issue before the Board?</b></p>	<p>On August 9, 2023, EnergySolutions, 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 Utah Hazardous Waste Management Rule R315-268-40(a)(3). EnergySolutions seeks approval to macroencapsulate and dispose, in EnergySolutions' Mixed Waste Landfill Cell, waste containing high concentrations of arsenic in quantities greater than 1,000mg/L that cannot be treated to the specified treatment standard.</p>
<p><b>What is the historical background or context for this issue?</b></p>	<p>EnergySolutions requests approval to stabilize, macroencapsulate and dispose of approximately 250 cubic feet of Natural Gas Sweetener Filter Media (clay pellets) and rinse water that will be characteristically hazardous for arsenic (D004), cadmium (D006), and benzene (D018). Analysis of a sample of waste received in June 2023, detected arsenic at 14,400 mg/L in the aqueous liquid phase (approx. 20 cubic feet) and 4,600 mg/L in the solid phase. The stabilization treatment process will meet Universal Treatment Standards (described in R315-268) for all contaminants except arsenic. All actions requested in this variance will be performed in accordance with EnergySolutions' state-issued Part B Permit.</p> <p>Similar waste from the same generator was received at the Clive Facility in 2015 and 2019. In 2015, analysis of a sample of that waste detected arsenic at 69,700 mg/L in the aqueous liquid phase and 1,800 mg/L in the solid. Over the course of two months, eight separate treatability studies of increasing intensity were conducted on that waste. Both single phase and multiple phase formulas were attempted with all contaminants meeting treatment standards except arsenic. Arsenic was reduced from the baseline concentration and plateaued at around 130 mg/L (a reduction factor of approximately 16) with a formula dilution up to 5:1 reagent to waste. This concentration is greatly reduced from the baseline concentration, but remained greater than 25 times the treatment standard of 5.0 mg/L.</p> <p>Utah Administrative Code R315-268-44(h)(1) allows a variance if it can be demonstrated that "because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated to the specified level or by the specified method." The treatment standard was developed using a fine-grained soil-like material; the filter media of this waste stream is physically different in that it is coarse clay pellets. In this media, it is much more difficult for intimate reagent-waste contact to treat the high concentration arsenic down to the treatment standard. Furthermore, the results described above demonstrate that large amounts of absorbent would be needed to meet the treatment standard, if it could be met.</p>

	<p>This would bring into question whether actual treatment was occurring or whether dilution was causing the reduction in arsenic concentration.</p> <p>As an alternative to chemical treatment of arsenic to its treatment standard, EnergySolutions proposes to first treat the waste such that all contaminants other than arsenic meet their respective treatment standards, then macroencapsulate the treatment residual in accordance with requirements in Attachment II-1-5, Macroencapsulation Plan, of the state-issued Part B Permit. Macroencapsulation is a permitted process that significantly reduces the potential for migration (leaching) of waste. This process would ensure protection of public health and the environment.</p> <p>Similar variance requests were made for this waste stream in letters dated January 22, 2016 (DSHW-2016-00221) and December 9, 2019 (DSHW-2019-01741). These previous requests were approved by the Waste Management and Radiation Control Board at meetings held on March 10, 2016, and March 12, 2020, respectively.</p> <p>EnergySolutions requests that a variance be granted to allow macroencapsulation and land disposal of waste that will meet all treatment standards except the treatment standard for arsenic.</p> <p>A notice for public comment was published in the <i>Salt Lake Tribune</i>, the <i>Deseret News</i>, and the <i>Tooele Transcript-Bulletin</i> on August 30, 2023. The 30-day public comment period began August 31, 2023 and will end on September 29, 2023.</p>
<p><b>What is the governing statutory or regulatory citation?</b></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 R315-268.44 of the Utah Administrative Code.</p>
<p><b>Is Board action required?</b></p>	<p>No. This is an informational item before the Board.</p>
<p><b>What is the Division/Director's recommendation?</b></p>	<p>The Director will provide a recommendation following the 30-day public comment period at the next Board meeting.</p>
<p><b>Where can more information be obtained?</b></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-2023-207710**

August 9, 2023

CD-2023-158

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  
High Concentration Arsenic Waste

Dear Mr. Hansen,

EnergySolutions herein requests an exemption from Utah Administrative Code (UAC) R315-268-40(a)(3) for waste that contains high concentrations of arsenic (greater than 1,000 mg/L) that cannot be treated to the specified treatment standard. 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 that the following condition is met:

*UAC R315-268-44(h)(1) It is not physically possible to treat the waste to the level specified in the treatment standard.*

EnergySolutions requests approval to stabilize, macroencapsulate and dispose of approximately 250 cubic feet of Natural Gas Sweetener Filter Media (clay pellets) and rinse water that will be characteristically hazardous for arsenic (D004), cadmium (D006), and benzene (D018). Analysis of a sample of waste received in June 2023, detected arsenic at 14,400 mg/L in the aqueous liquid phase (approx. 20 cubic feet) and 4,600 mg/L in the solid phase. The stabilization treatment process will meet Universal Treatment Standards (described in R315-268) for all contaminants except arsenic. All actions requested in this variance will be performed in accordance with EnergySolutions' state-issued Part B Permit.

Similar waste from the same generator was received at the Clive Facility in 2015 and 2019. In 2015, analysis of a sample of that waste detected arsenic at 69,700 mg/L in the aqueous liquid phase and 1,800 mg/L in the solid. Over the course of two months, eight separate treatability studies of increasing intensity were conducted on that waste. Both single phase and multiple

phase formulas were attempted with all contaminants meeting treatment standards except arsenic. Arsenic was reduced from the baseline concentration and plateaued at around 130 mg/L (a reduction factor of approximately 16) with a formula dilution up to 5:1 reagents to waste. This concentration is greatly reduced from the baseline concentration, but remained greater than 25 times the treatment standard of 5.0 mg/L.

R315-268-44(h)(1) allows a variance if it can be demonstrated that “because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated to the specified level or by the specified method.” The treatment standard was developed using a fine-grained soil-like material; the filter media of this waste stream is physically different in that it is coarse clay pellets. In this media, it is much more difficult for intimate reagent-waste contact to treat the high concentration arsenic down to the treatment standard. Furthermore, the results described above demonstrate that large amounts of absorbent would be needed to meet the treatment standard, if it could be met. This would bring into question whether actual treatment was occurring or whether dilution was causing the reduction in arsenic concentration.

As an alternative to chemical treatment of arsenic to its treatment standard, *EnergySolutions* proposes to first treat the waste such that all contaminants other than arsenic meet their respective treatment standards, then macroencapsulate the treatment residual in accordance with requirements in Attachment II-1-5, *Macroencapsulation Plan*, of the state-issued Part B Permit. Macroencapsulation is a permitted process that significantly reduces the potential for migration (leaching) of waste. This process would ensure protection of public health and the environment.

Similar variance requests were made for this waste stream in letters dated January 22, 2016 (CD16-0019) and December 9, 2019 (CD19-0239). These previous requests were approved by the Waste Management and Radiation Control Board at meetings held on March 10, 2016, and March 12, 2020, respectively.

*EnergySolutions* requests that a variance be granted to allow macroencapsulation and land disposal of waste that will meet all treatment standards except the treatment standard for arsenic.

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





Mr. Doug Hansen  
August 9, 2023  
CD-2023-158  
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Salt Lake City, UT 84111  
(801) 649-2000

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

Sincerely,

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

Digitally signed by Steve D. Gurr  
Date: 2023.08.09 14:54:11  
-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.

**WASTE MANAGEMENT AND RADIATION CONTROL BOARD**  
**Executive Summary**  
**REQUEST FOR A SITE-SPECIFIC TREATMENT VARIANCE**  
**EnergySolutions, LLC**  
**September 14, 2023**

<p><b>What is the issue before the Board?</b></p>	<p>On August 16, 2023, EnergySolutions, 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 Rule UAC R315-268-40(a)(3) to receive incinerator ash containing dioxan/furan contaminants above Universal Treatment Standards.</p>
<p><b>What is the historical background or context for this issue?</b></p>	<p>Requiring the waste to meet the dioxin and furan treatment standards is inappropriate based on the processes that generate the waste. Because of the waste generation processes, all the ash waste contains dioxins and furans; however, in accordance with regulations, only a portion of the waste needs to be treated for those contaminants. The generator has previously analyzed each container of ash for metals contamination. If metals were below the toxicity characteristic concentrations described in 40 CFR 261.24 (R315-261-24), the waste would be shipped to the Clive facility as Low-Level Radioactive Waste (LLRW) and disposed in the Class A Embankment. If metals were above the Toxicity Characteristic concentrations, then the waste would need treated for those metals as well as all underlying hazardous constituents (UHCs), including dioxins and furans. It is inappropriate to require treatment of dioxin and furan contaminants in instances where characteristic metals are found in the waste when treatment is not required if metals are below characteristic concentrations in the waste.</p> <p>Furthermore, the stabilized ash was re-incinerated as an attempt to reduce the concentration of dioxins and furans in the ash. Re-incineration resulted in very little reduction in the concentrations of dioxan and furan contaminants. It is inappropriate to require this additional incineration step in order to attempt to meet the treatment standards.</p> <p>EnergySolutions proposes to confirm the waste meets all required treatment standards with the exception of the dioxin and furan UHCs and then to macroencapsulate the residue in MACRO Vaults using requirements approved in the state-issued Part B Permit. Final disposal of the waste will occur in the Mixed Waste Disposal Cell at the EnergySolutions Mixed Waste Facility.</p> <p>EnergySolutions requested this same variance for this generator in letters dated June 27, 2018 (DSHW-2018-005927), August 23, 2019 (DSHW-2019-010041), June 16, 2021 (DSHW-2021-009081), and July 20, 2022 (DSHW-2022-021742). The previous requests were approved by the Waste Management and Radiation Control Board on September 13, 2018, November 14, 2019, September 9, 2021, and October 13, 2022, respectively.</p>

	<p>Over the previous year this variance was in effect, the EnergySolutions Clive facility received approximately 30 tons (eight shipments) of this ash for treatment. EnergySolutions forecasts similar amounts of this waste over the next year.</p> <p>A notice for public comment was published in the <i>Salt Lake Tribune</i>, the <i>Deseret News</i> and the <i>Tooele Transcript-Bulletin</i> on August 31, 2023. The comment period began August 31, 2023 and will end September 29, 2023.</p>
<p><b>What is the governing statutory or regulatory citation?</b></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 R315-268.44 of the Utah Administrative Code.</p>
<p><b>Is Board action required?</b></p>	<p>No. This is an informational item before the Board.</p>
<p><b>What is the Division/Director's recommendation?</b></p>	<p>The Director will provide a recommendation following the public comment period at the next Board meeting.</p>
<p><b>Where can more information be obtained?</b></p>	<p>For technical questions, please contact Tyler Hegburg (385) 622-1875. For legal questions, please contact Bret Randall at (801) 536-0284.</p>

August 16, 2023

CD-2023-163

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 Ash with Dioxin/Furan Contamination

Dear Mr. Hansen,

EnergySolutions hereby requests a variance from Utah Administrative Code (UAC) R315-268-40(a)(3) for an incinerator ash waste that meets all treatment standards except those for dioxins and furans as Underlying Hazardous Constituents (UHCs). 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 that the following condition is met:

*UAC R315-268-44268.44(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.*

EnergySolutions requests approval to receive ash from incinerator and metal recycling processes that contains dibenzo-p-dioxin and dibenzofuran UHCs above their respective treatment standards denoted with the Universal Treatment Standards (UTS) in R315-268-48. All other required treatment standards associated with the waste will be met prior to disposal.

Requiring the waste to meet the dioxin and furan treatment standards is inappropriate based on the processes that generate the waste. Because of the waste generation processes, all of the ash waste contains dioxins and furans; however, in accordance with regulations, only a portion of the waste needs to be treated for those contaminants. The generator has previously analyzed each container of ash for metals contamination. If metals were below the toxicity characteristic concentrations described in 40 CFR 261.24 (R315-261-24), the waste would be shipped to the Clive facility as Low-Level Radioactive Waste (LLRW) and disposed in the Class A Embankment. If metals were above the Toxicity Characteristic concentrations, then the waste would need treated for those metals as well as all UHCs, including dioxins and furans. It is inappropriate to require treatment of dioxin and furan contaminants in instances where characteristic metals are found in the waste when treatment is not required if metals are below characteristic concentrations in the waste.

Furthermore, prior to receiving this variance, the stabilized ash was re-incinerated in an attempt to reduce the concentration of dioxins and furans in the ash. Re-incineration results in very little



Mr. Doug Hansen  
CD-2023-163  
August 16, 2023  
Page 2 of 2

intrinsic value. It is inappropriate to require this additional incineration in order to attempt to meet the standards.

EnergySolutions proposes to confirm the waste meets all required treatment standards with the exception of the dioxin and furan UHC standards and then to macroencapsulate the residue in MACRO Vaults using requirements approved in the state-issued Part B Permit. This will provide additional isolation of the waste from the environment (relative to direct disposal in the Class A Embankment) and will avoid unnecessary additional incineration of the waste.

EnergySolutions requested this same variance for this generator in letters dated June 27, 2018 (CD18-0120), August 23, 2019 (CD19-0179), June 16, 2021 (CD-2021-072), and July 20, 2022 (CD-2022-131). The previous requests were approved by the Waste Management and Radiation Control Board on September 13, 2018, November 14, 2019, September 9, 2021, and October 13, 2022, respectively. Over the previous year this variance was in effect, the EnergySolutions Clive facility received approximately 30 tons (eight shipments) of this ash for treatment. EnergySolutions forecasts similar amounts of this waste over the next year.

This variance is being requested for approximately 30 tons of ash that will contain elevated concentrations of dioxins and furans.

EnergySolutions requests that a variance be granted to macroencapsulate ash waste that meets all required treatment standards except those for dioxin and furan UHCs.

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,

Digitally signed by Steve D. Gurr  
Date: 2023.08.16 12:45:23  
-06'00'

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.