



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

April 6, 2022

The Deseret News
Legal Advertising Department

EMAIL: legals@deseretnews.com

RE: Account #35606

To Whom It May Concern:

This email constitutes authorization to publish the attached NOTICE in The Deseret News on Friday, April 8, 2022.

Please send invoice and affidavit of publication to:

Douglas J. Hansen, Director
Division of Waste Management and Radiation Control
P.O. Box 144880
Salt Lake City, UT 84114-4880

Enclosure: Public Notice

c: Jeff Coombs, EHS, Health Officer, Tooele County Health Department
Bryan Slade, Environmental Health Director, Tooele County Health Department
EnergySolutions General Correspondence Email
LLRW General Correspondence Email
Ashley Sumner (Email), Kaci McNeill (Email), Tom Ball (Email), Larene Wyss (Email)
Facility File, Public Participation File, Alisa Westenskow



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The Salt Lake Tribune
Legal Advertising Department

EMAIL: legals@sltrib.com

RE: Account #SLT0010250

To Whom It May Concern:

This email constitutes authorization to publish the attached NOTICE in the Salt Lake Tribune on Sunday, April 10, 2022.

Please send invoice and affidavit of publication to:

Douglas J. Hansen, Director
Division of Waste Management and Radiation Control
P.O. Box 144880
Salt Lake City, UT 84114-4880

Enclosure: Public Notice

c: Jeff Coombs, EHS, Health Officer, Tooele County Health Department
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April 6, 2022

Tooele Transcript Bulletin
Legal Advertising Department

EMAIL: tbp@tooeletranscript.com

RE: Account #02100050

To Whom It May Concern:

This email constitutes authorization to publish the attached NOTICE in the Tooele Transcript Bulletin on Wednesday, April 13, 2022.

Please send invoice and affidavit of publication to:

Douglas J. Hansen, Director
Division of Waste Management and Radiation Control
P.O. Box 144880
Salt Lake City, UT 84114-4880

Enclosure: Public Notice

c: Jeff Coombs, EHS, Health Officer, Tooele County Health Department
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Utah Department of Environmental Quality
Division of Waste Management and Radiation Control
NOTICE OF PUBLIC COMMENT ON
EnergySolutions LLC
Mixed Waste Facility

**Treatment Variance Request for a Site-Specific Treatment Variance for Cemented Uranium
Extraction Process Residues**

EnergySolutions requests approval to receive an exemption from the treatment standards described in Utah Administrative Code (UAC) R315-40(a)(2) for uranium extraction process residuals encased in cement that retain hazardous waste codes D004 (arsenic); D005 (barium); D006 (cadmium); D007 (chromium) D008 (Lead); D010 (Selenium); D011 (Silver); D030 (2,4-dinitrotolunene); D032 (hexachlorobenzene); D033 (hexachlorobutadiene) and F001, F002, and F005 (spent solvents) for macroencapsulation. All other required treatment standards associated with the waste will be met prior to disposal.

This variance is being requested for approximately 1,500 cubic feet of cemented uranium extraction process residuals as part of uranium recovery processes at the generator's facility. The residual waste from each of these processes is collected in small cans (~ 2 ½ gallons each) and stored at the generator's facility. The process residuals within the cans have been characterized through a random sampling and analysis process. At the beginning of this campaign, approximately 2,000 cans of process residues were collected and stored by the generator. The process is ongoing and additional cans are being generated every year. Further, due to safety concerns, some of the cans are being split prior to the repackaging process described below; thereby generating more total material for disposal.

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

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

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

EnergySolutions proposes to macroencapsulate the waste, thereby isolating the waste from potential leaching media. Macroencapsulation is a permitted process utilized at the Clive facility that significantly reduces the potential for migration (leaching) of waste. Macroencapsulation requires less handling of the waste and creates a waste form for disposal that is protective of human health and the environment. Macroencapsulation also adds a further level of security restricting access to the enriched uranium.

Final disposal of the waste will occur in the Mixed Waste Disposal Cell at the EnergySolutions Mixed Waste Facility.

The public comment period to receive comments on the proposed action will commence on April 14, 2022, and end on May 13, 2022. A public hearing on these issues will be held upon request.

Documents related to this application can be reviewed on the Internet at:

<https://deq.utah.gov/waste-management-and-radiation-control/waste-management-radiation-control-public-notice>

Written comments will be accepted if received by 5:00 p.m. on May 13, 2022. Comments should be submitted to the address below or by electronic mail as detailed below.

Douglas J. Hansen, Director
Division of Waste Management and Radiation Control
Utah Department of Environmental Quality
P.O. Box 144880
Salt Lake City, UT 84114-4880

Comments can also be sent by electronic mail to: dwmrcpublic@utah.gov. Comments sent in electronic format should be identified by putting the following in the subject line: public comment on EnergySolutions' Treatment Variance Request for Cemented Uranium Extraction Process Residues. All documents included in comments should be submitted as ASCII (text) files or in pdf format.

Under Utah Code Section 19-1-301.5 a person who wishes to challenge a Permit Order may only raise an issue or argument during an adjudicatory proceeding that was raised during the public comment period and was supported with sufficient information or documentation to enable the Director to fully consider the substance and significance of the issue.

For further information contact Tyler Hegburg of the Division of Waste Management and Radiation Control at (801) 536-4271. 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".