



Innovative Approaches to Information Availability and Low-Level Radioactive Waste Disposal A Utah Perspective

March 18, 2015



Rusty Lundberg, Director
Utah Division of Radiation Control



Overall Agency Priorities

- **Assure that low-level radioactive waste (LLRW) management within Utah is protective of public health and safety and the environment**
- **Foster and work within a regulatory framework that is transparent and predictable**
- **Institute agency/program efficiencies**
- **Build public and regulated community confidence**
- **Enhance information sharing**
- **Assure that adequate planning and resources are in place for long-term stewardship of the Clive site**



Program Approaches / Innovations

- **Process that includes early stakeholder involvement to vet critical issues**
- **Commitment between licensee and Utah Division of Radiation Control (UDRC) to schedules and work completion**
- **UDRC website and *EnergySolutions* list-serve**
- **Utah Dept. of Environmental Quality (DEQ) commitment to put documents and information on-line real time for the public**



Program Approaches / Innovations

- Agency budget /fees creates more accountability
- Greater emphasis on research and documentation of information underlying license and permit actions (S.B 11, 2012 Gen. Session)
- Low-level radioactive waste (LLRW) licensing and permitting procedures

Program Approaches / Innovations

- **Utah Radiation Control Board**
 - **Rulemaking actions**
 - Civil penalty revision (\$10,000 per violation)
 - Categorize and set time frames for LLRW licensing and permitting actions
 - Implementation of Atomic Energy Act requirements for public participation in 11e.(2) byproduct material licensing actions
 - Part 37 requirements for Category 1 and Category 2 radioactive materials
- **Administrative procedures changes**
 - **Shift from trial-type process to administrative record process**



Additional Services/Activities

- Increased transparency, accessibility, and availability of information
- **DEQ rebranding**



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| DEQ Home | A-Z Index | Calendar | Contacts | Divisions | EZ Records Search | Interactive Map | Search DEQ | Site Map |

DEQ Home > RC
Utah Division of Radiation Control
| Radon | Energy Solutions | Radioactive Materials | Uranium Mills | X-Ray |

News and Announcements

DEQ is in the process of reorganizing its Web site. This work has been completed for DRC. Though we have done our best to prevent broken links, there may be some we have missed. Also, any bookmarks, favorites, or links from outside Web sites will no longer work. If you discover a broken link within this site, or need assistance finding, please contact a DRC employee or the [DEQ Web Manager](#).

- Energy Solutions Sealed Source Variance Request Expires** (10/01/14)—In a September 29, 2014 letter, the Director extended the expiration date for the variance to license of 16A and will expire on December 31, 2014.
- Uranium One, Shooting Canyon Uranium Mill** (09/18/14)—On August 15, 2014 the Director of the Utah of Radiation Control (DRC) received a [Notice of Change](#)

Rusty Lundberg, Director
D. O. Box 144620

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| [Boards](#) | [Businesses](#) | [Certification/Training](#) | [Compliance/Monitoring](#) | [Fees/Grants/Funds](#) | [Forms](#) | [Laws/Rules](#) | [Locations](#) | [News/Notices](#) | [Permits](#) | [Pollutants](#) | [Programs/Services](#) | [Topics](#) | [Workgroups](#) |

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| DEQ Home | A-Z Index | Calendar | Contacts | Divisions | EZ Records Search | Interactive Map | Search DEQ | Site Map |

DEQ Home > Programs > X-Ray
X-Ray Program
Administered by the Division of Radiation Control

- Equipment Evaluation Guidance
- Guidance
- Inspections, Registrations & Fees
- Mammography Physicians
- Qualified Experts
- Utah Data
- X-Ray Forms
- X-Ray Resources

Boards

Businesses

Certification/Training

Compliance/Monitoring

Fees/Grants/Funds

Forms

Laws/Rules

Locations

News/Notices

Permits

Medical x-rays account for the majority of the average citizen's exposure to man made radiation. Although most scientists believe there is a health risk from low levels of exposure to x-rays, the risk is generally considered to be small when compared with the benefits. Even though the risk is small, exposures should still be maintained **As Low As Reasonably Achievable (ALARA)**. According to ALARA principle, it is important to avoid conditions where the amount of radiation used is more than that needed for the procedure, because there is no benefit from unnecessary radiation. The goal of radiation protection is to prevent or minimize exposures that have no benefit.

The use of radiation in medicine may be one of the most difficult areas for ensuring a balance between risk and benefit. Often there is not enough thought given to unnecessary patient exposure because the benefit of the x-ray is believed to be unlimited. As a result, analysis of risk and benefit is an infrequent consideration. Medical professionals are responsible for evaluating the risk versus the benefit to determine if an x-ray procedure is warranted.

Additional Services

- The DRC assists customers in complying with the rules.
- Two electronic mail servers are available to the public:
 - Provide meeting notices and updates about the environmental licenses, permits, and related actions for *EnergySolutions*;
 - Distribute timely notifications to the public about opportunities to comment on radiation control issues.



Availability of Information



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| [DEQ Home](#) | [A-Z Index](#) | [Calendar](#) | [Contacts](#) | [Divisions](#) | [EZ Records Search](#) | [Interactive Map](#) | [Search DEQ](#) | [Site Map](#) |

| [Boards](#) | [Businesses](#) | [Certification/Training](#) | [Compliance/Monitoring](#) | [Fees/Grants/Funds](#) | [Forms](#) | [Laws/Rules](#) | [Locations](#) |
| [News/Notices](#) | [Permits](#) | [Pollutants](#) | [Programs/Services](#) | [Topics](#) | [Workgroups](#) |

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[Air Quality](#)
[Today's Air Quality](#)
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[Environmental Response and Remediation](#)
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Availability of Information

DEQ Document Search

E-Z Search

Division: [\(Acronym Definitions\)](#)

All Divisions
DDW
DERR
DSHW

Clear	Map Search	Disclaimer
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Search Phrase:

(Optional slows down searches)

Search Now	Wildcard Search Help
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DRC

- Low-level waste
- Uranium recovery

Click on the column headers below to sort results.

Accessibility of Information



<http://permitwizard.deq.utah.gov/>



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| [DEQ Home](#) | [A-Z Index](#) | [Calendar](#) | [Contacts](#) | [Divisions](#) | [EZ Records Search](#) | [Interactive Map](#) | [Search DEQ](#) | [Site Map](#) |

[DEQ Home](#) > [Permits](#) > [Permit Wizard](#)

Utah DEQ Permit Wizard

Page URL: permitwizard.utah.gov

Welcome to the Utah Department of Environmental Quality's (DEQ) Permit Wizard. The Permit Wizard is a tool designed to assist individuals and companies involved in activities regulated by DEQ to identify the permits, licenses, registrations, and certifications required for those activities. We encourage all who are new to DEQ's regulatory process, as well as those currently regulated by DEQ, to use this tool to learn about the permits, licenses, registrations, and certifications applicable to businesses operating in Utah.

If you are unsure as to what types of permits, certifications, or licenses that you might need from DEQ, the Step-by-Step Permitting Process will help you determine your legal obligations. The Step-by-Step Permitting Process takes you through each specific area of interest one question at a time. In this way you will become exposed to all of the possible requirements. However, this can be a long process, so set aside time or bookmark your stopping page so that you can come back and continue from where you left off.

[Begin Step-by-Step Process](#)

Are you familiar with the DEQ Permit Process and know which permits you or your company require?

- YES: Choose an appropriate section. You may return to this page to go to another section if you find that you need additional permits, or you can follow the Step-by-Step Process.



Accessibility of Information



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- **YES:** Choose an appropriate section. You may return to this page to go to another section if you find that you need additional permits, or you can follow the [Step-by-Step Process](#).
- **NO:** Begin the [Step-by-Step Process](#), or contact [Paul Harding](#) (801-536-4108) for assistance.

- [Introduction](#)
- [Section 1: Radiation Programs](#)
 - [Part 1: Radioactive Material Licenses](#)
 - [Part 2: Radiation-Emitting Equipment Registration](#)
 - [Part 3: Generator Site Access Permits](#)
 - [Part 4: Radiation Worker Certifications](#)
 - [Related Topics](#)
- [Section 2: Air Programs](#)
 - [Part 1: Cleanup Certification, Dust Control, and Open Burning](#)
 - [Part 2: New Source Review Permits](#)
 - [Part 3: Operating Permits](#)
 - [Related Topics](#)
- [Section 3: Water Programs](#)
 - [Part 1: Public Drinking Water Systems](#)
 - [Part 2: Drinking Water Certification](#)
 - [Part 3: Wastewater Discharge Permits](#)
 - [Part 4: Wastewater Certification](#)
 - [Part 5: Indirect Discharges to Municipal Sanitary Sewers](#)
 - [Part 6: Storm Water Permits](#)
 - [Part 7: Groundwater Permits](#)
 - [Part 8: Underground Injection Control Permits](#)



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| [DEQ Home](#) | [A-Z Index](#) | [Calendar](#) | [Contacts](#) | [Divisions](#) | [EZ Records Search](#) | [Interactive Map](#) | [Search DEQ](#) | [Site Map](#) |

[DEQ Home](#) > [Permits](#) > [Permit Wizard](#) > [Radiation Programs](#) > [Generator Site](#)

Utah DEQ Permit Wizard



Section 1: Radiation Programs Part 3: Generator Site Access Permits

If your facility intends to dispose of low-level radioactive waste at the EnergySolutions' facility in Clive, Utah, then you need a Generator Site Access Permit. See [R313-26](#) "Generator Site Access Permit Requirements for Accessing Utah Radioactive Waste Disposal Facilities." If this does not apply to you, then go to [Part 4: Radiation Worker Certifications](#).

1 Does your facility wish to obtain a new Generator Site Access Permit for the disposal of low-level radioactive waste at the EnergySolutions' facility in Clive, Utah?

- **YES:** Get the [Application for Generator Site Access Permit form \(DRC-26\)](#) document; then go to [Part 4: Radiation Worker Certifications](#).
- **NO:** Go to the next question.

2 Does your facility wish to renew an existing Generator Site Access Permit for the disposal of low-level radioactive waste at the EnergySolutions' facility in Clive, Utah?

- **YES:** Go to the [Generator Site Access Permit System](#); then go to [Part 4: Radiation Worker Certifications](#).
- **NO:** Go to [Part 4: Radiation Worker Certifications](#).

For related information on radiation, visit our [Related Topics](#) page.

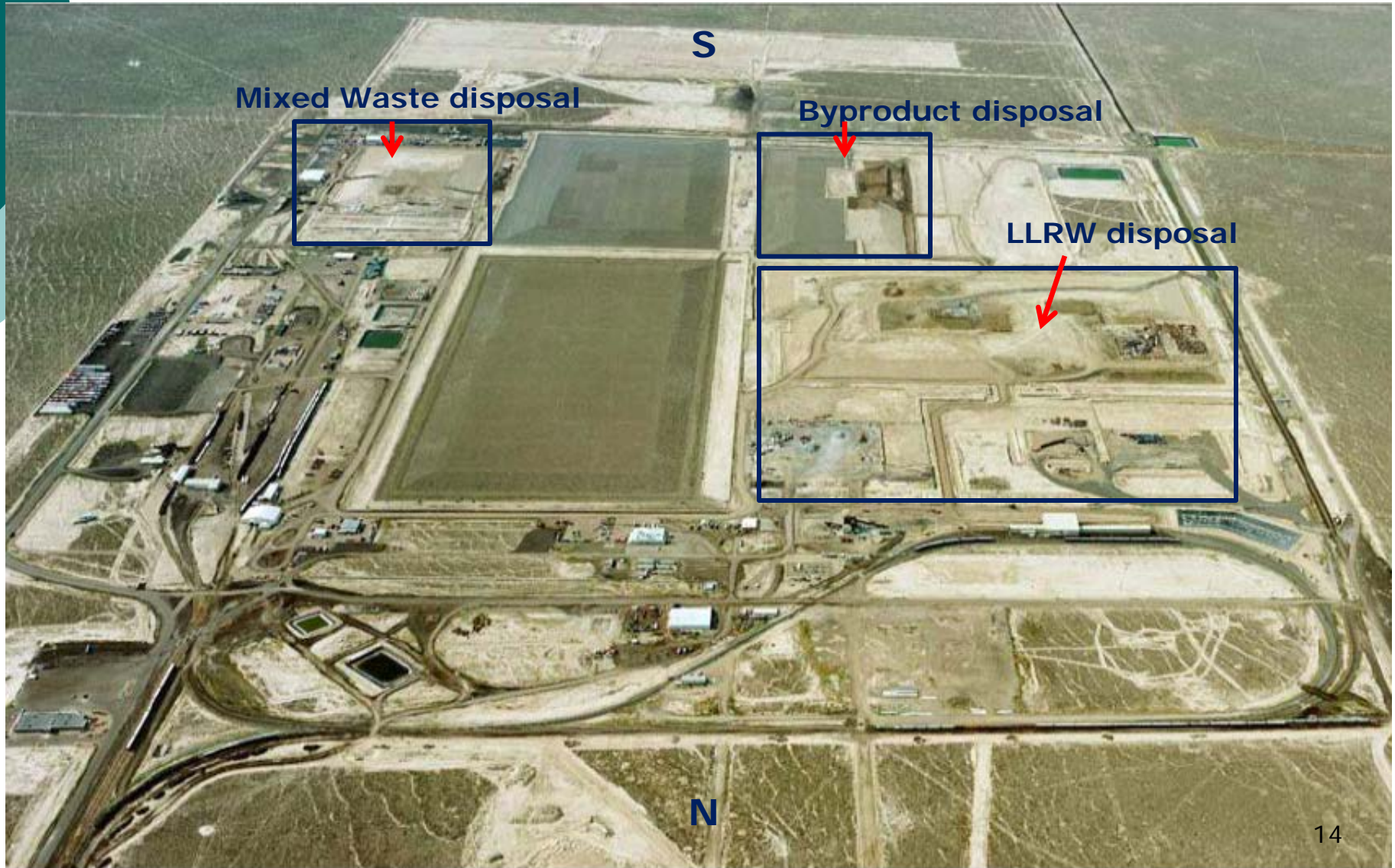
| [Wizard Intro](#) | [Section Intro](#) | [Previous Step](#) | [Next Step](#) |



Energy *Solutions* – Clive Facility Tooele County



Energy *Solutions* – Clive Facility



Energy *Solutions* – Clive Facility



Priorities: Low-Level Radioactive Waste

Energy Solutions

- Radioactive Materials License renewal
- Ground Water Permit renewal
 - Approved – October 2014
- Revised final cover design
- Evaluation of Performance Assessments
 - Depleted Uranium
 - Erwin Resin Solutions waste processing/blending
- Sealed Source Variance
 - Completed – Dec. 31, 2014



Aerial – EnergySolutions, Clive Facility



Priorities: Low-Level Radioactive Waste

Energy Solutions

- **Environmental Monitoring Plan Revision**
 - **Approved – October 2014**
- **Annual Financial Surety Update**



Aerial – EnergySolutions, Clive Facility



Assure Planning and Resources for Long-Term Stewardship

- **Unique – private ownership of Clive facility**
- **Long-term stewardship fund for perpetual care**
- **Long-term role of state**
- **Periodic report from Utah Radiation Control Board**
 - **Includes recommendation regarding long-term stewardship**

Utah Code Annotated 19-1-307

FINAL REPORT
September 2011

EVALUATION OF CLOSURE, POST-CLOSURE, AND PERPETUAL CARE AND MAINTENANCE FOR COMMERCIAL HAZARDOUS WASTE AND COMMERCIAL RADIOACTIVE WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

September 2011

Prepared for
Utah Solid and Hazardous Waste Control Board
and
Utah Radiation Control Board

by
R. D. Baird, PE
C. Seiger-Webster

CRS Corporation
756 East Winchester Street, Suite 400
Salt Lake City, Utah 84107



Utah Perspective – Regulatory Framework

- Depleted uranium
- Site-specific performance assessments



EnergySolutions – Clive Facility



Humid vs.



Arid



Utah – Depleted Uranium (DU) Rule

- **December, 2009:**

- Utah Radiation Control Board Action:**

- **Approves changes requiring DU Performance Assessment and approval by the Director before disposal**

- **January, 2010:**

- **Public participation / comment**



Utah – Depleted Uranium (DU) Rule



○ April, 2010:

Utah Radiation Control Board action:

- Approves changes to the proposed rule based on comments received
- Change in Proposed Rule filed with the Utah Division of Administrative Rules

○ May, 2010:

- R313-25-8 (now R313-25-9) Final Rule published in the *Utah State Bulletin*

○ June 2, 2010:

- Effective Date of Final Rule
-
-



Utah

Depleted Uranium (DU) – Final Rule

- "Concentrated DU" means waste with DU concentrations greater than 5% by weight
- Land disposal of significant quantities of concentrated DU (> 1 metric ton in total accumulation) after June 1, 2010, shall submit a performance assessment (PA)
- PA revised as needed to reflect ongoing guidance and rulemaking from the NRC

Utah

Depleted Uranium (DU) – Final Rule

- **Demonstrates that the performance standards specified in 10 CFR Part 61 (corresponding Utah rules) will be met for the total quantities of concentrated DU and other wastes, including wastes already disposed of and the quantities of concentrated DU the facility now proposes to dispose**

Utah

Depleted Uranium (DU) – Final Rule

- PA compliance period a minimum of 10,000 years. Additional simulations performed for the period where peak dose occurs and the results shall be analyzed qualitatively
- No facility may dispose of significant quantities of concentrated DU prior to the approval by the Division Director of the performance assessment



Contact Information

Rusty Lundberg

Utah Division of Radiation Control

Utah Department of Environmental Quality

(801) 536-4257

rlundberg@utah.gov

