

U.S. LLRW Disposal Issues Clive 2017 Disposal Update

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*All you need in radioactive and hazardous waste
management*

Clive Disposal Facility

World's Largest Commercial Radioactive Waste Disposal Facility



Corporate Values

- We always put **Safety** first
- We build **Trust** by
 - always telling the truth
 - making our Customer's success our success
 - being the best in the World at what we do
 - and delivering results
- We care deeply about our **Employees** and want them to be happy and successful
- We listen to our Internal and External Stakeholders and **Partners**

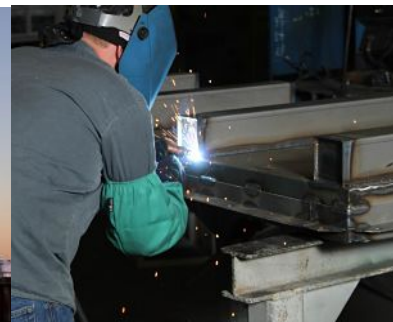
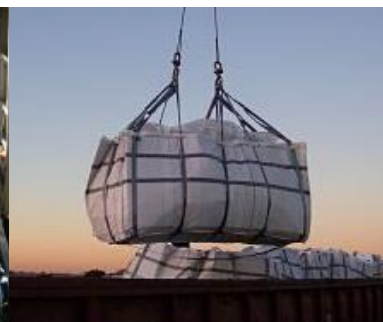
Safety

■ Industrial Safety

- Total Case Incident Rate = 0 since 2013 (*below national average of 4.9*)
- Above 10 days between incidents
- 1,728,636 work hours since last Lost Workday case (*November 2010*)
- 698,546 work hours since last OSHA Recordable Injury (*October 2013*)
- 2010 through 2016 Annual NSC Awards for Safety

■ Radiation Safety

- ALARA - Average radiation worker individual TEDE 30.9 mrem/year
- Highest general public fence-line CEDE 0.03 mrem/year
- Highest general public effluent exposure dose 0.04 mrem/year



Proven Experience

- Over 29 years of proven experience treating and disposing of radioactive waste
- Unique bulk and containerized waste facilities
 - Radioactive Material Licenses (LLRW & 11e(2))
 - RCRA Permit (treatment & disposal of MW)
 - TSCA Permit (PCB waste streams)
 - SNM Exemption (concentration-based limits)
- Over 11 miles of onsite rail for efficient and cost-effective waste handling
- Long-term federal and commercial contracts



Logistics, Processing, & Disposal

■ Logistics

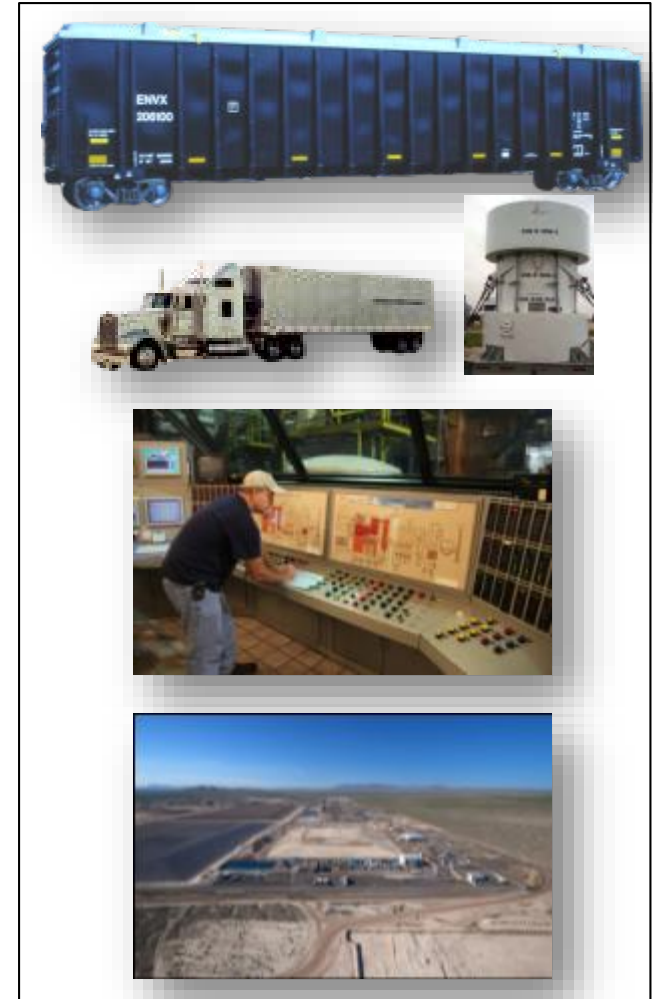
- All aspects of complex planning and transportation
- Dedicated fleet of tractors, trailers, railcars, and containers

■ Processing

- Multiple processing facilities in Canada, South Carolina, Utah, and Tennessee
- Diverse capabilities for handling, treating, and processing radioactive materials

■ Disposal

- Largest commercial radioactive waste disposal facility for Class A LLRW in the U.S.
- Operate the LLRW disposal facility in Barnwell, SC to dispose of Class A, B, and C LLRW from Atlantic Compact states



Licenses and Permit Status

- RML 2300249 Low-Level
 - Under “timely renewal”
 - Renewal application Oct 2012
 - Projected to be renewed July 2017
- RML 2300478 11e.(2)
 - Under “timely renewal”
 - Renewal application March 2003
 - Projected to be renewed Dec 2017
- State-issued Part B Permit
 - Under “timely renewal”
 - Renewal application Oct 2012
 - Projected to be renewed May 2017
- GWQDP
 - Active
 - Renewed 2014



Large Component Disposal



Liquid Verification of Resins

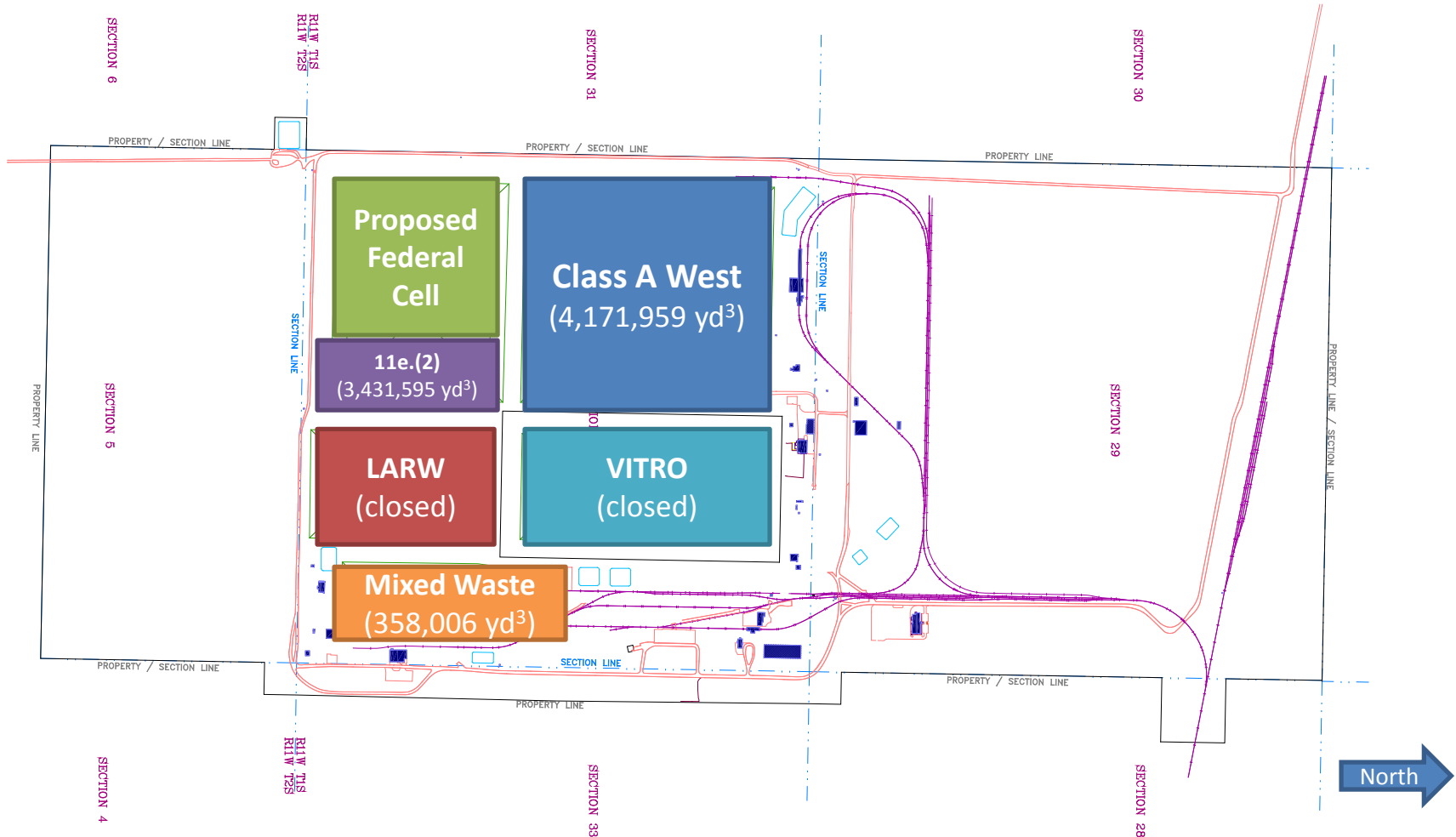
- Resins that may not meet the one percent free standing liquid criteria may now be shipped directly to Clive for liquid verification
 - Resins must be grossly dewatered
 - Contact dose rates must be less than 10 R/hr
 - Liners must have passive vent systems to address potential off-gassing
 - Resin in steel liners require written authorization prior to shipment
 - Any free liquid is drained to ensure compliance with disposal site criteria

Sealed Sources

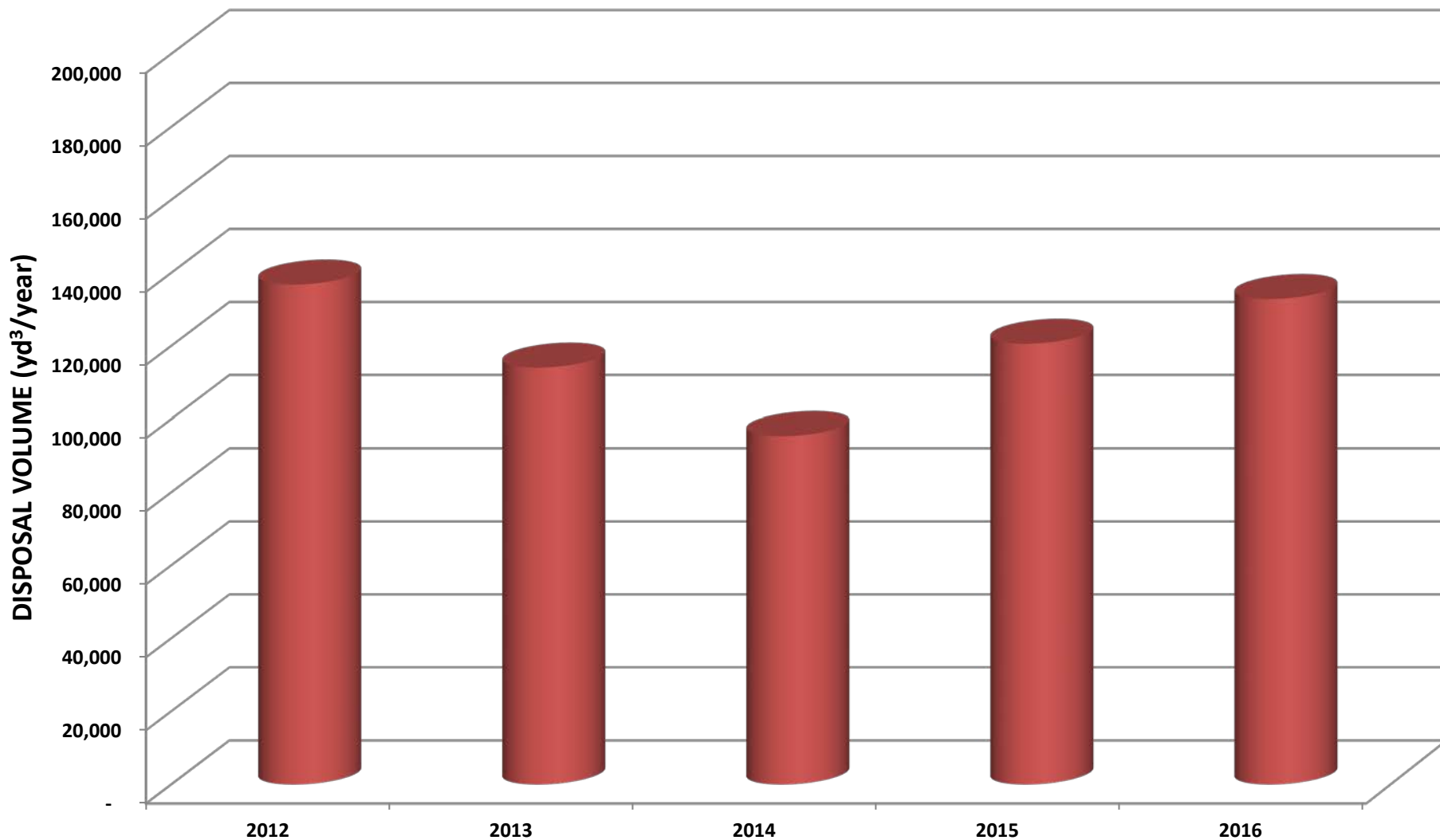
- Challenges
 - historical lack of disposal pathway
 - inherent global threat from misuse
- Conference of Radiation Control Program Director's Source Collection and Threat Reduction Program (SCATR)
- Utah granted license variance for disposal of Class A sealed sources
 - Received and managed 41,192 sealed sources between 2013 and 2016.
- Permanent License amendment has been requested and is part of the renewal



Clive's Disposal Available Capacity



Disposal Volume History

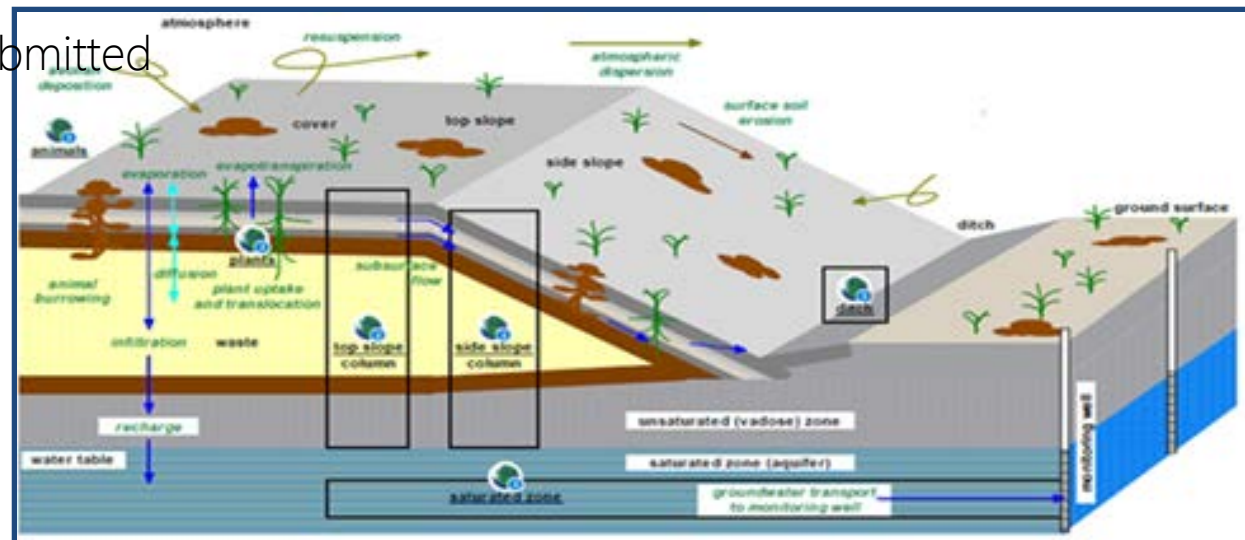


Depleted Uranium Authorization

- Utah Moratorium passed June 1, 2010
 - May not receive or dispose of significant quantities of concentrated DU until PA approved
 - PA, revision 0 submitted June 2011
 - PA, revision 4 submitted November 2015

- Regulatory review underway
- Decision projected for Q2 2017

submitted



Thank You



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