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Protecting People and the Environment

Impacts of Limitations on LLRW Disposal Access on Medical and Academic Research

Public Meeting and Webinar

October 7, 2009

Rockville, MD

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Meeting Facilitator

- Michael Fuller, Project Manager, Environmental Protection and Performance Assessment Directorate
- Conduct of the Meeting
- Interactions among participants via various media
  - In Person
  - Webinar
  - Telecon

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Welcome and Introduction

- Patrice Bubar, P.E.,Deputy Director
  Environmental Protection and Performance Assessment Directorate
  Division of Waste Management and Environmental Protection
  Office of Federal and State Materials and Environmental programs

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Meeting Context

- Background
  - Concerns re: research impact raised before
  - Raised specifically at Commission briefing on LLW last April
  - Commission SRM to “unpack” issue with stakeholders
  - Meeting part of a broader information gathering effort

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Current Status of Commercial LLRW Disposal

- Barnwell, SC - Class A, B, and C from Atlantic Compact
- Richland, WA - Class A, B and C from Northwest and Rock Mountain Compacts
- Clive, UT - Class A from rest of U.S.
- Andrews, TX – Ready in late 2010 Class A, B, and C from Texas Compact

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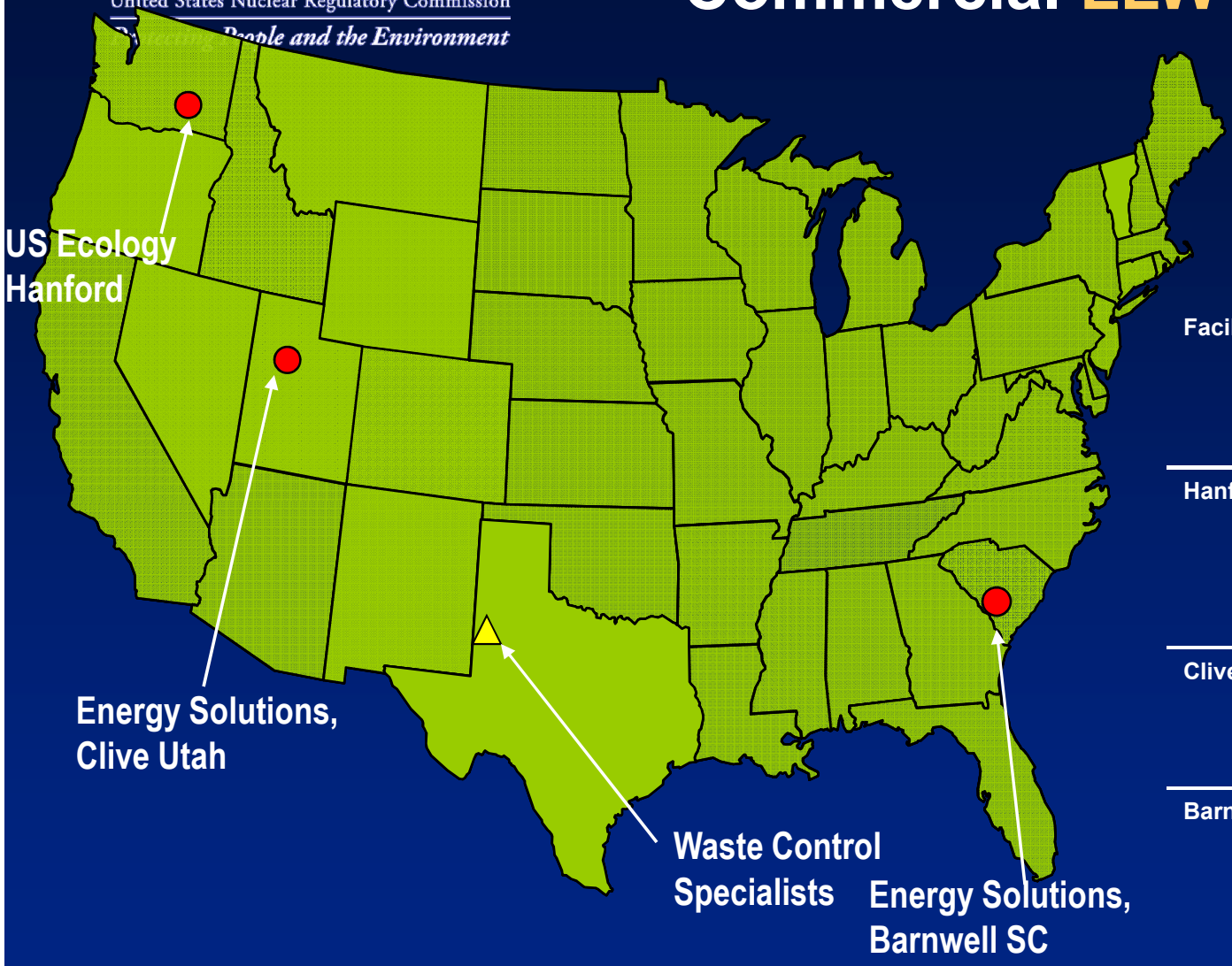
Commercial LLW Sites in U.S.



Facility	Waste	Compact Restrictions
Hanford, WA	Class A, B, C	11 western states in 2 LLW Compacts only
Clive, UT	A only	None, all US generators OK
Barnwell, SC	A, B, C	SC, NJ, CT only beginning mid-2008 (Atlantic Compact)
Andrews Cty, Texas	A, B, C	Texas and VT only (Texas Compact)

Operating facility

Proposed facility

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Meeting Context (cont.)

- Purpose
  - Opportunity for stakeholder dialogue
  - Feedback to NRC re: specific impact traced back to LLW issues

- Future Actions
  - Continue data collection thru Oct. 20
  - Compilation and assessment of results
  - Prepare and disseminate report to Commission

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The Challenge Today

- Specific Direction- The staff should work with CRSO, CORAR, and other stakeholders to develop a list or catalog of important research that has been impacted and/or stopped because of lack of disposal options for sources.
- Impacted because of lack of disposal options for other radioactive material
- Impact on other beneficial uses of radioactive material

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Examples

- Cessation of heart research using large animals (HPS Position Paper 2005)
- Grants disapproved because disposal cost too high or indeterminate (HPS Position Paper 2005)
- Abandoning some metabolic research using C-14, H-3 (Physician)
- Challenge for more specific examples

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Stakeholder Statements

- **American Association of Physicists in Medicine-** Lynne A. Fairobent, Legislative and Regulatory Affairs Manager
- **Nuclear Information and Resource Service**- Dianne D'Arrigo, Radioactive Waste Project Director
- **University of Missouri Research Reactor-** John Ernst, Associate Director
- **Council on Radionuclides and Radiopharmaceuticals**- Leonard R. Smith, CHP, Director of Regulatory Compliance, PerkinElmer Life Sciences

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Stakeholder Statements (cont.)

- **Physicians for Social Responsibility-** Dr. Robert Gould, President, San Francisco Chapter
- **Oregon State University -** Michael J. Zittle, Assistant Radiation Safety Officer
- **Harvard University –** Joseph Ring, Radiation Safety Officer

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Specific Inquiries in FRN

1. Are you involved in research involving the use of radioactive sources or materials, and if so, in what specific area (medical, academic, medical administration, *etc.*)

2. If you answered yes to question no.1, please describe the research procedure(s) that is performed, or was performed prior to disposal access limitations.

3. Have alternative technologies taken the place of radioactive materials because of LLW disposal access, and if so, what have been the impacts, both positive and negative?

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Specific Inquiries in FRN

4. In what State and LLW Compact is the research facility that you're addressing located?

5. What kind of licensee uses the radioactive sources or Materials that are being addressed (university, hospital, private research, other)?

6. How do you or did you disposition the spent sources or radioactive materials?
a. LLW disposal facility
b. Store onsite
c. Return to manufacturer
d. Other, explain

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Specific Inquiries

7. Have you historically disposed of spent sources or radioactive materials at a low-level waste disposal facility?

8. If your answer to question no. 7 was yes, has your research been affected by the lack of access to a low-level waste disposal facility for either spent radioactive sources or radioactive materials? If so, please explain.

9. Are you currently storing onsite radioactive sources or materials that would have been disposed of offsite had disposal access been available?

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Specific Inquiries

10. Has the lack of disposal access for either radioactive sources or materials caused you to re-evaluate research needs and techniques?

11. What adaptations have you made to reduce waste volume and improve the management of low-level radioactive waste disposal?
    a. Increased onsite storage capacity
    b. Increased use of nonradioactive sources
    c. Limit number of authorized users
    d. Reduce volume of waste shipped

12. Has the cost of low-level radioactive waste disposal affected your research? If so, describe how.

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Opportunity for Discussion

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Summary and Wrap Up