

**NRC WORKSHOP ON THE STATUS OF
LOW-LEVEL RADIOACTIVE WASTE DISPOSAL
RULEMAKING AND STRATEGIC ASSESSMENT OF
LOW-LEVEL RADIOACTIVE WASTE REGULATORY
PROGRAM**

Chip Cameron, Facilitator

**March 7, 2014
NRC Public Meeting
Phoenix, AZ**

Agenda



| | | |
|--------------------------|---|----------------------------------|
| 7:30 - 8:00 am | Registration | |
| 8:00 - 8:15 | Facilitator Opening Comments | C. Cameron, Facilitator |
| 8:15 - 8:30 | NRC Welcome | L. Camper, NRC/FSME ¹ |
| 8:30 - 9:30 ² | Status of Low-Level Radioactive Waste Disposal Rulemaking and Discussions Break | D. Esh, NRC/FSME |
| 9:30 - 9:45 | Strategic Assessment of Low-Level Radioactive Waste Regulatory Program | M. Wong, NRC/FSME |
| 10:00 - 11:30 | Panel Discussions | |
| 11:30 - 12:45 pm | Facilitated Public Discussions | |
| 12:45 - 1:00 | Closing Remarks | A. Mohseni, NRC/FSME |

¹Office of Federal and State Materials and Environmental Management Programs (FSME)

²The timing is subject to change based on the status of the proposed rulemaking on 10 CFR Part 61.

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Larry W. Camper, CEP, CIPM, Director

Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental
Management Programs

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Objective

To discuss the status of the proposed revisions to the Commission's LLRW disposal regulations and gather information on an update to the NRC 2007 Strategic Assessment of the LLRW regulatory program from stakeholders and other interested members of the public.

QUESTIONS?



STATUS OF LOW-LEVEL RADIOACTIVE WASTE DISPOSAL RULEMAKING AND DISCUSSIONS

David Esh

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Phoenix, AZ

Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental
Management Programs

2009 Commission Direction

SRM-SECY-08-0147



United States Nuclear Regulatory Commission
Protecting People and the Environment

- Two tasks:
 - Specify a requirement for a site-specific analysis, technical parameters (i.e., new definitions and performance period) to support such analysis, and develop a guidance document.
 - “ ... in a future budget request, the staff should propose the necessary resources for a comprehensive revision to risk-inform the Part 61 waste classification framework, with conforming changes to the regulations as needed, using updated assumptions and referencing the latest ICRP methodology ... ” “ ... This effort should explicitly address the waste classification of depleted uranium ... ”

2012 Commission Direction



United States Nuclear Regulatory Commission
Protecting People and the Environment

SRM-COMWDM-11-0002/COMGEA-11-0002

- Flexibility to use current International Commission on Radiological Protection (ICRP) dose methodologies
- Two-tiered period of performance:
 - *Tier 1*: Compliance period covering reasonably foreseeable future
 - *Tier 2*: Longer period based on site characteristics and peak dose to a designated receptor, that is not *a priori*
- Flexibility to establish site-specific waste acceptance criteria based on the results of the site’s performance assessment and intruder assessment
- Balance Federal-State alignment and flexibility

2014 Commission Direction

SRM SECY-13-0075



United States Nuclear Regulatory Commission
Protecting People and the Environment

- Three-tiered period of analysis:
 - *Tier 1*: Compliance period of 1,000 years, 25 mrem dose limit for 61.41 and 500 mrem dose limit for 61.42
 - *Tier 2*: Protective Assurance Period from 1,000 to 10,000 years, 500 mrem analytical threshold (goal) for 61.41 and 61.42
 - *Tier 3*: Performance period > 10,000 years, qualitative analysis
- Constancy of features, events, and processes of the natural environment for Tier 2 unless compelling scientific evidence
- Realistic intruder scenarios based on expected activities on and around the disposal site at the time of closure.

2014 Commission Direction

SRM SECY-13-0075



United States Nuclear Regulatory Commission
Protecting People and the Environment

- The proposed rule should be published with a compatibility category “B” applied to the most significant provisions of the revised rule, including the Period of Compliance, the Protective Assurance Analysis Period and its analytical threshold, and the Waste Acceptance Criteria.
- The Protective Assurance Analysis Period (Tier 2) requires the applicant to propose remedial changes to the disposal site design, or impose inventory limits, or propose alternative methods of disposal as it is approached.
- Stress defense-in-depth and safety case.
- Thorough review of guidance by LLW community.

Path Forward

- Staff will revise the rule, statement of considerations, and guidance document over the next year.
- Proposed rule issued for public comment in 2015.
- Extensive stakeholders outreach
 - 120 days comment period
 - 1 or more public meeting to engage stakeholders

STRATEGIC ASSESSMENT OF LOW-LEVEL RADIOACTIVE WASTE REGULATORY PROGRAM

Melanie Wong

March 7, 2014
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Phoenix, AZ

Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental
Management Programs

Topics

- Background
- Status of the 2007 Strategic Assessment
- Proposed updates to the Strategic Assessment
- Next steps

Background

Challenges and issues included:

- the desire of industry for greater flexibility and reliability in LLRW disposal options;
- increased storage of Class B and Class C LLRW;
- the potential need to dispose of large quantities of power plant decommissioning waste and depleted uranium;
- increased safety concerns;
- the LLRW program required greater resources than were available;
- increased security concerns; and
- new waste streams that may be generated.

Background (continued)



2007 Strategic Assessment of the NRC's regulatory program for LLRW

Goal:

- identify and prioritize staff activities.

Objectives:

- ensure safe and secure LLRW disposal;
- improve the effectiveness, efficiency, and adaptability of the NRC's LLRW regulatory program; and
- ensure regulatory stability and predictability.

Background (continued)

- Variety of activities proposed
- List of 20 activities developed
- Priorities of high (7 tasks), medium (6 tasks), or low (7 tasks) assigned

Background (continued)

High Priority Activities



| Task # | Task Description |
|--------|---|
| 1 | Review and update guidance on extended storage of LLRW. |
| 2 | Develop guidance on 10 CFR 20.2002 Alternate Disposal Requests. |
| 3 | Determine if disposal of large quantities of depleted uranium would change the waste classification tables. |
| 4 | Update Branch Technical Position on Concentration Averaging and Encapsulation. |
| 5 | Develop procedures for Import/Export Review. |
| 6 | Develop guidance on alternate waste classification (10 CFR 61.58). |
| 7 | Perform scoping study of the need to revise/expand byproduct material financial assurance to account for life-cycle cost. |

Background (continued)

Medium Priority Activities



| Task # | Task Description |
|--------|--|
| 1 | Develop licensing criteria for greater than Class C (GTCC) disposal facility. |
| 2 | Consolidate LLRW guidance. |
| 3 | Develop guidance that summarizes disposition options for low-end materials and waste. |
| 4 | Coordinate with other agencies on consistency in regulating low activity waste disposal. |
| 5 | Identify new waste streams. |
| 6 | Develop information notice on waste minimization. |

Background (continued)

Low Priority Activities

| Task # | Task Description |
|--------|---|
| 1 | Evaluate potential changes to LLRW regulatory program as a result of severe curtailment of disposal capacity. |
| 2 | Promulgate rule for disposal of low-activity waste. |
| 3 | Identify and evaluate potential legislative changes. |
| 4 | Implement major revisions to 10 CFR Part 61. |
| 5 | Develop waste acceptance criteria for LLRW disposal in uranium mill tailings impoundments. |
| 6 | Examine need for guidance on defining when radioactive material becomes LLRW. |
| 7 | Develop and implement national waste tracking system. |

Status of the Strategic

Assessment

- Strategic Assessment 7 high prioritized activities
 - ✓ Review and update guidance on Extended Storage
 - ✓ Develop guidance on 10 CFR 20.2002 Alternate Disposal Requests
 - ✓ * Determine if disposal of large quantities of Depleted Uranium would change waste classification tables
 - Update Branch Technical Position on Concentration Averaging and Encapsulation
 - Develop guidance on alternate waste classification (10 CFR 61.58)
 - Develop procedures for Import/Export Reviews
 - Perform scoping study of the need to revise/expand byproduct material financial assurance

✓ = completed projects and * = current projects.

Proposed Updates to the Strategic Assessment

- Review 2007 Strategic Assessment and could reprioritize some of remaining activities
 - Develop licensing criteria for greater than Class C disposal facility.
 - Perform scoping study of the need to revise/expand byproduct material financial assurance to account for life-cycle cost.
 - Develop procedures for Import/Export Review.

Initial Scoping of the Update to the Strategic Assessment

- Activities to consider include
 - Licensing Criteria for GTCC
 - Low Activity Waste Rulemaking
 - Revision of the Waste Manifest
 - Waste Attribution

Next Steps

- Information gathering
- *Federal Register Notice* soliciting comments on proposed activities
- Request comment on draft updated Strategic Assessment

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Introduction of Panelists



| | |
|------------------|--|
| Brad Broussard | Texas Commission on Environmental Quality |
| Earl Fordham | Washington Department of Health |
| Rusty Lundberg | Utah Department of Environmental Quality |
| Ralph Andersen | Nuclear Energy Institute |
| William Dornsife | Waste Control Specialists |
| Dan Shrum | EnergySolutions |
| Christine Gelles | U.S. Department of Energy-Environmental Management |
| Michael Garner | Northwest Interstate Compact on Low-Level Radioactive Waste Management/State of Washington |
| Gregory Suber | U.S. Nuclear Regulatory Commission |

Topics

- What changes are anticipated to the national landscape in the LLRW area in the context of safety, security, and the protection of the environment in the next 5-7 years?
- As a result of the new national landscape, what activities from the 2007 Strategic Assessment should remain on the list and are they appropriately prioritized in order to strengthen the NRC's ability to ensure safe and secure LLRW disposal, improve the effectiveness of its regulations, and assure regulatory stability and predictability while allowing flexibility in disposal options?
- As a result of the new national landscape, what additional changes are needed to the NRC regulatory framework?

Recap and Closing

Aby Mohseni, Deputy Director

Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental
Management Programs

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Insights From Today's Workshop



Next Steps

- Evaluate today's comments
- Additional Outreach efforts
- Expect proposed 10 CFR Part 61 rule issued for public comment in 2015
- Draft Strategic Assessment issued for public comment in early 2015



QUESTIONS?

