



**US Department of Energy
Office of Packaging
and Transportation**



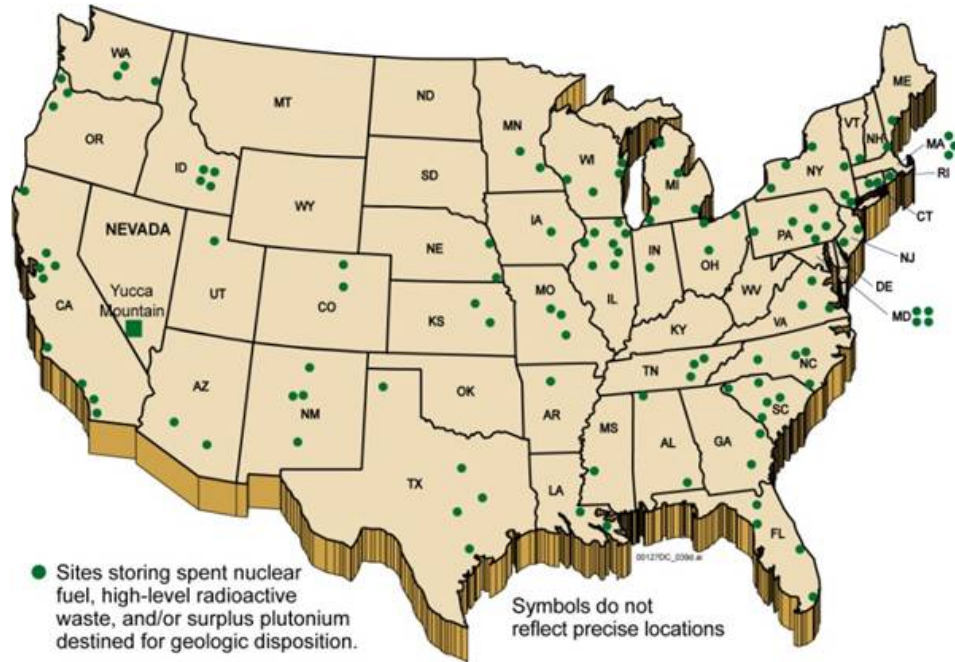
Identifying Opportunities for Process Improvements in Addressing Transportation Safety and Compliance Issues

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SAFE CLEAN-UP OF DOE SITES



- Largest environmental clean up program in the world
- Transportation of waste, soil, structural debris and other materials
- Focused on transporting RAM in a safe and cost effective manner
- Continuous improvement processes to ensure safe and compliant shipments



Waste Certification Programs Used at DOE Facilities



- *Radioactive Waste Management Manual* requires use of a Waste Certification Program
 - Designates waste certification officials
 - Requires auditable, retrievable documentation
- Waste characterization ensures compliance with the waste acceptance requirements



Identifying and Understanding Concerns with Shipments

Office of Packaging and Transportation

- Assists facilities by assessing transportation-related activities
- Identified findings indicating shipments were completed without meeting hazard communication requirements
- Assigned staff to review the various concerns and the assessment findings
- Formed working group to address concerns



Working Group Focuses on Problem Shipments

- Consisted of waste certification and transportation experts
- Chartered to develop a solution useable at facilities with differing waste volumes and waste types
- Focused discussion on low-level waste shipments



Documenting Information Needed to Support LSA or SCO Determinations

- Documentation is essential and should include
 - Data collected to support assumptions
 - Distribution of radionuclides within the waste matrix.
 - Distribution of radionuclides on the surfaces of a non-radioactive object.
 - Ability to meet the criteria for “fissile excepted”
- An independent review of the documentation should result in the same outcome.



Early Project Coordination Provides Numerous Benefits

- Minimizes cost, time, personnel exposure , damaged equipment, and other unwanted consequences associated with a mismanaged project.
- Interdisciplinary teams recommended and used
 - Review proposed projects and activities
 - Identify and resolve potential issues before and during the commencement of a project
- Helps determine methodologies needed to perform characterization based on the waste



Properly Trained Personnel Needed

Trained in meeting the requirements of

- Waste acceptance criteria
- Hazardous Materials Regulations



CONCERN: Pre-Containerized Waste



- Consider ALARA
- Use conservative packaging (e.g., Type A or Type B packaging)
- Obtain additional data to satisfy the Hazardous Materials Regulations



CONCERN: Combining LSA Materials and SCO



- LSA and SCO meet respective definitions, including activity limits
- Ensure smears are obtained before placing SCO with LSA



Guidance Developed to Highlight the Requirements



- Hazardous Materials Regulations requirements
- Department of Transportation letters of interpretation
- Waste acceptance criteria
- “Categorizing and Transporting Low Specific Activity Materials and Surface Contaminated Objects”



CONCLUSIONS

Steps taken to ensure low-level waste shipments are

- Characterized to meet waste acceptance criteria
- Classified to meet Department of Transportation requirements for transporting hazardous materials as LSA material or SCO.

Guidance emphasizes

- Early project coordination
- Trained personnel to perform characterization and hazard classification
- Clearly documenting methodologies used
- Ensuring collection of information to properly characterize, classify and identify material
- Guidance finalized by November 2010.

