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Lessons Learned from International Low-Level Waste Disposal Experiences: Progress Report

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- Background:** As many of you know, GAO has a long history reporting on low-level radioactive waste (LLRW) management issues
- GAO has examined commercial LLRW management issues since the 1970s
 - GAO specifically addressed disposal issues under the LLRW Act in 1983, 1992, 1998, 1999, and 2004
 - GAO specifically addressed the management of disused sealed radioactive sources in 2003, 2005, and 2006

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- ❑ **Current Study:** GAO is now examining foreign experiences in managing LLRW

 - ❑ **Requester:** Chairman Domenici, Senate Energy and Natural Resources Committee

 - ❑ **Some Driving Forces:**
 - ✓ Concerns about a LLRW disposal system that has questionable reliability and cost effectiveness
 - ✓ Concerns about the lack of comprehensive information on LLRW and sealed radioactive sources
 - ✓ Awareness that these shortcomings have increased in importance in light of new nuclear power plant proposals
 - ✓ Awareness that other developed countries that manage similar radioactive wastes may apply approaches that could be used to improve the U.S. System

- ❑ **Research objective:** To identify ways that the U.S. might improve the management of LLRW in 4 areas considered to be attributes of a well-managed system

- ❑ **More specifically,** GAO will attempt to determine to what extent the U.S. and other countries have established:
 1. National waste inventory and source tracking systems
 2. Requirements for the timely removal of waste from users sites
 3. Reliable and cost effective waste disposal options
 4. Funding mechanisms to ensure that users can cover waste storage and disposal costs

Scope and methodology

The study involves domestic and foreign components:

There are 4 aspects to the domestic analysis component:

1. Reference to recent GAO reports

✓ LLRW disposal availability (GAO-04-604)

✓ Recovery of sealed radioactive sources (GAO-05-967)

2. Survey of domestic LLRW management experts representing key stakeholder agencies, organizations, and groups (many represented here)

3. Specific data collection at federal and state agencies, disposal operators, and waste generator groups

4. Questionnaire sent to the Nuclear Regulatory Commission

❑ **Scope and methodology**

❑ There are 4 aspects of the foreign analysis component:

1. Questionnaire sent to 20 foreign countries that are members of the OECD Nuclear Energy Agency's (NEA) Radioactive Waste Management Committee
 - Questionnaire seeks the identification of approaches used in the 4 management areas
2. Case study assessments of management approaches taken in France, Japan, and Sweden
3. Review of country information from the IAEA and NEA country reports
4. Review of country information from the IAEA Net-Enabled Waste Management Database

□ Research Progress

- ✓ Completed pretest of questionnaire and visits to France and Sweden
- ✓ Completed content analysis of 33 interviews with domestic LLRW management experts/organizations
- ✓ Engaged in data collection and gap analysis of domestic LLRW conditions
- ✓ Awaiting return of questionnaires sent to foreign countries (Delay caused by country representatives involvement fulfilling requirements of the IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management)
- ✓ Pending visit to Japan in July
- ✓ Anticipate start of report drafting in August
- ✓ Expect release of report in December '06 or January '07

□ General Observations

□ Cannot discuss preliminary findings at this time

□ However, the following is apparent

- ✓ Nuclear power plant development is back on the table in other countries as well
- ✓ Most domestic experts believe that the time is right to seriously address LLRW issues
- ✓ The 4 attributes of a well-managed LLRW system appear applicable across countries, but their importance varies depending on specific circumstances
- ✓ Active discussions surround the need to gain public acceptance of LLRW disposal and central storage development
- ✓ Lessons can be learned from other country approaches, despite differences in culture and legal structures