Technology Innovation and International Partnership Workshop on DOE Used Nuclear Fuel & High Level Waste

Ongoing GAO Studies Related to Proposed Termination of Yucca Mountain Repository

September 14, 2010

Background

- Accumulation of industry and government-related used nuclear fuel and high-level radioactive waste with no permanent disposal currently available
  - By 2009 ~ 70,000 metric tons of waste
  - By 2055 ~ 153,000 metric tons of waste
- Nuclear Waste Policy Act of 1982 (NWPA) directed DOE to evaluate multiple sites as candidates for geologic repositories
- NWPA amended in 1987, directing DOE to phase-out activities at candidate sites other than Yucca Mountain and carry out site characterization activities only at the Yucca Mountain site (located 100 miles NW of Las Vegas, NV)

Background

June 2008	• DOE submits a license application to NRC
March 2009	• Secretary of Energy announces intent to terminate the Yucca Mountain repository
January 2010	• Secretary of Energy establishes a Blue Ribbon Commission to study alternatives
	• President's fiscal year 2011 budget proposal eliminates funding for licensing activities
March 2010	• DOE filed a motion to withdraw its license application with prejudice
June 2010	• Atomic Safety Licensing Board denies DOE's motion, stating that DOE does not have authority to withdraw its license application

Ongoing GAO Studies Related to Yucca Mountain

In October 2009, GAO received two requests for studies of issues related to Yucca Mountain

- House Committee on Energy and Commerce requested a study on issues related to commercial nuclear waste
- Subcommittee on National Security and Foreign Affairs, House Committee on Oversight and Government Reform requested a study on issues related to waste managed by DOE

GAO is currently conducting fieldwork for these two studies

Study Objectives for Engagement Focusing on Commercial Waste Issues

1. What factors did the Department of Energy consider leading up to the Secretary of Energy's announcement in March 2009 that Yucca Mountain was no longer considered an option as a nuclear waste repository?
2. What are the likely major ramifications if the Yucca Mountain repository were to be terminated?
3. What are the principal lessons learned and how might the lessons be applied to current issues and to future waste management strategies?

Study Scope and Methodology

Objective #1 (factors):

- Request input directly from the Secretary of Energy

Objectives #2 and 3 (ramifications and lessons learned):

- Content analysis of extant public policy reports on Yucca
- Input from national associations and organizations including:
  - National Academy of Sciences,
  - Nuclear Waste Technical Review Board
  - Nuclear Energy Institute
  - U.S. Chambers of Commerce
  - Natural Resources Defense Council
  - Western Governors' Association

Study Scope and Methodology

Objectives #2 and 3 (ramifications and lessons learned) cont.:

- Case studies:
  - Oyster Creek, Prairie Island, Trojan, Watts Bar, Zion
  - Interview officials including state, utility, local government, and nongovernmental
- Site visits to Yucca Mountain and WIPP
  - Interview officials including federal, contractor, state, local, and nongovernmental

Study Objectives for Engagement Focusing on DOE-Managed Waste

1. What agreements does DOE have with states where DOE has sites with high-level waste (HLW) and spent nuclear fuel (SNF) and what provisions for penalties, if any, are included if milestones are not met?
2. If the Yucca Mountain project is terminated, what will be the effect, if any, on the agreements or DOE's ability to meet milestones in them?
3. If the Yucca Mountain project is terminated, what would be the effect on DOE's costs related to the storage of HLW and SNF?

Study Objectives for Engagement Focusing on DOE-Managed Waste cont.

4. What effect could ending the Yucca Mountain project have on the Navy's reactors program, which stores SNF on a DOE site?
5. If the Yucca Mountain project is terminated, what are DOE's plans to mitigate the potential legal and financial impacts related to the HLW and SNF at its sites?

Study Scope and Methodology

- Objective #1 (agreements)
  - Review pertinent agreements for five sites that manage the majority of DOE's HLW and SNF:
    - Hanford, WA
    - Savannah River, SC
    - Idaho National Lab, ID
    - West Valley, NY
    - St. Vrain, CO

Study Scope and Methodology

- Objectives #2 and 3 (possible effects)
  - Interview DOE, state, EPA, DNSFB, NWTRB, and other officials and community groups
  - Review current storages plans and analyses of a delayed repository opening
  - Review current and projected storage costs at DOE sites, including the EM's Environmental Liability study
- Objective #4 (possible effect on Navy)
  - Interview Naval Reactor officials and review storage plans
- Objective #5 (mitigation)
  - Interview DOE, state, and other officials and community groups

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