UNITED STATES
NUCLEAR WASTE TECHNICAL REVIEW BOARD
2300 Clarendon Boulevard, Suite 1300
Arlington, VA 22201

Agenda
Meeting of the Panel on the Repository

Disposal of aluminum-clad, highly enriched, DOE-owned spent fuel; vitrified high-level waste; and immobilized weapons-grade plutonium in a repository

Wednesday, December 17, 1997

Radisson Riverfront Hotel Augusta
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8:30 a.m. **Introductory remarks**
Daniel Bullen, meeting chair
Nuclear Waste Technical Review Board (NWTRB)
- NWTRB charter
- Introductions
- Meeting purposes

8:40 a.m. **Introduction to DOE-owned spent fuel**
Howard Eckert
Office of Spent Fuel Management
Office of Environmental Management
U.S. Department of Energy (DOE)
- General characteristics
- Current and projected amounts and locations
- Strategy for management and disposal

9:*00 a.m. Questions/discussion*

9:10 a.m. **Introduction to spent naval fuel**
David Curtis
Naval Nuclear Propulsion Program
- General characteristics
- Current and projected amounts and locations
- Strategy for management and disposal
- Near-term cooperation with the DOE's Office of Civilian Radioactive Waste Management (OCRWM)

9:*30 a.m. Questions/discussion*

Continued

9:45 a.m. **Aluminum-clad, highly enriched uranium (HEU) spent fuel**
Mark Barlow,
Westinghouse Savannah River Corporation (WSRC)

- Characteristics
- Current and projected amounts and locations
- Strategy for management and disposal
- Research Reactor Task Team activity
- Nuclear Regulatory Commission review
- National Research Council review

10:10 a.m. Questions/discussion

10:25 a.m. **BREAK (15 minutes)**

10:40 a.m. **Treatment options for aluminum-clad, HEU spent fuel disposal**
Natraj Iyer, WSRC

- Proposed paths forward for disposal
  - Direct disposal
  - Press or melt and dilute
  - Advanced technology options

11:10 a.m. Questions/discussion

11:30 a.m. **Disposal of aluminum-clad, HEU spent fuel in a repository**
David Haught
Yucca Mountain Site Characterization Office (YMSCO)
(a part of OCRWM)

- Waste package design
- Performance analysis
- Criticality analysis
  - Probabilities of internal criticalities
  - Probabilities of external criticalities
  - Consequences

11:55 am Questions/discussion

12:10 p.m. **LUNCH (1 hour and 15 minutes)**

Continued

1:25 p.m. **Introduction to the Savannah River Site**
Charles Anderson
Savannah River Operations Office, DOE
- Size of site, number of employees, annual budget, etc.
- Ongoing activities on site
- How organized (DOE, contractor), responsible organizations/people for spent nuclear fuel, vitrification, and plutonium immobilization

1:40 p.m. Questions/discussion

1:50 p.m. **Defense Waste Processing Facility (DWPF)**
Neil Brosee, WSRC
- Process and facility overview
- Production experience
  - Disposition of high-level waste from maintenance and decommissioning
  - Quality control/methods for recycling unacceptable glass
- Projected output
- Record keeping for transfer to a repository

2:15 p.m. Questions/discussion

2:35 p.m. **Characteristics of DWPF vitrified high-level waste**
Sharon Marra, WSRC
- Amounts of fission products and actinides contained in the glass
- Composition ranges for acceptable glass
  - Comparison of production samples to predicted properties

2:55 p.m. Questions/discussion

3:05 p.m. **BREAK (15 minutes)**

3:20 p.m. **Immobilization of surplus weapons-grade plutonium**
Bill Danker
Office of Fissile Materials Disposition, DOE
- Immobilization project overview

Tom Gould
WSRC, on assignment to Lawrence Livermore National Laboratory
- Immobilized form description
- Form development and characterization

3:45 p.m. Questions/discussion

Continued

4:00 p.m. **Disposal of vitrified high-level waste and immobilized weapons-grade plutonium**
David Haught, YMSCO

- Waste package design
- Performance analysis
- Criticality analysis
    - Probabilities of internal criticalities
    - Probabilities of external criticalities
    - Consequences

4:20 p.m. Questions/discussion

4:30 p.m. **Questions/comments from the public**

5:00 p.m. **Closing remarks and adjournment**
Daniel Bullen, NWTRB