



UNITED STATES
NUCLEAR WASTE TECHNICAL REVIEW BOARD
2300 Clarendon Boulevard, Suite 1300
Arlington, VA 22201-3367

AGENDA
Summer Board Meeting
Wednesday, June 13, 2018

Hilton Garden Inn
North Fork River Room
700 Lindsay Blvd.
Idaho Falls, Idaho 83402

- 8:00 a.m. Call to Order and Introductory Statement**
Jean Bahr, Board Chair
- 8:10 a.m. Department of Energy (DOE) Opening Remarks – DOE’s Integrated Program for the Management and Disposal of Nuclear Waste**
William Boyle, DOE, Office of Nuclear Energy (DOE-NE)
- i. What are the DOE-NE priorities in preparing a program for transporting spent nuclear fuel (SNF) and high-level radioactive waste (HLW) as part of an integrated waste management system?
 - ii. What are the highest priority technical issues to be addressed before DOE can begin a large transportation effort for SNF and HLW, and what action has DOE taken to address these priority issues?
 - iii. What steps is DOE-NE planning to take to integrate its waste transportation preparation activities with the efforts of DOE-EM?
- 8:35 a.m. Questions, discussion*
- 8:50 a.m. Management of Spent Nuclear Fuel and High-Level Waste as an Integrated Program in Switzerland**
Mark Whitwill, Kernkraftwerk Gösgen Däniken AG (KKG), Switzerland
- i. What are the highest priority technical issues to be addressed when developing a new dual-purpose cask for commercial SNF or HLW? Please explain the advanced planning and integration needed to ensure the issues are properly addressed?
 - ii. When preparing for transporting SNF or HLW, which preparation steps take the longest time to complete? Please provide examples.
 - iii. Please discuss lessons learned during the planning stages of the program for transportation of SNF and HLW in Switzerland—what unexpected conditions or challenges have been encountered and how have you resolved the issues?

9:25 a.m. *Questions, discussion*

9:40 a.m. Break

9:55 a.m. U.S. Experience in Developing a National Program for Transporting Spent Nuclear Fuel and High-Level Waste

Gary Lanthrum, Principal Consultant to NAC, Intl.
(former OCRWM Transportation Director)

- i. From your experience at OCRWM, what technical issues caused the greatest concern for adversely impacting the successful implementation of a transportation program?
- ii. What unexpected challenges were encountered in planning the OCRWM transportation program and what steps were taken to minimize the impacts of these surprises?
- iii. Prior to shipping radioactive wastes, which inter-agency (DOT, NRC, State regulator, etc.) coordination activities required the most effort and most lead-time? Please give examples of lead times.
- iv. Based on your experience, what are the top-priority technical issues you recommend that DOE focus on now to prepare for an efficient and effective transportation program?

10:30 a.m. *Questions, discussion*

10:45 a.m. Nuclear Industry Priorities in Preparing for Large-scale Transportation of Commercial Spent Nuclear Fuel

Mark Richter, Nuclear Energy Institute

- i. Please explain the charter, focus, and membership of the NEI-sponsored Used Fuel Transportation Task Force.
- ii. What types of interaction on technical issues does the Task Force have with government agencies at all levels (e.g., state and federal) and how effective have those interactions been?
- iii. What are the top priority technical issues to be addressed, either by industry or by the government, before commercial SNF transportation can begin?
- iv. Which technical issues are expected to take the longest time to address? Please provide estimates of the time needed to resolve these issues.
- v. Based on the Task Force efforts to date, what actions does the Task Force recommend that DOE take now to best ensure an effective and efficient program to transport commercial SNF, when that program begins?

11:20 a.m. *Questions, discussion*

11:35 a.m. Public Comments

11:50 a.m. Lunch

12:50 p.m. Integrated Planning for Packaging, Transportation, and Storage of Commercial SNF at a Proposed Interim Storage Facility
Myron Kaczmarzsky, Holtec, International

- i. Please explain the Holtec plans to transport the wide range of commercial SNF canister designs currently in use at nuclear power plant sites to an interim storage facility—focusing on the technical steps to be completed to ensure SNF canisters are approved for transport.
- ii. What does Holtec consider to be the top priority technical issues to be addressed before commercial SNF transportation begins?
- iii. What additional technical issues would need to be addressed for reshipment of commercial SNF for final disposition in a repository?
- iv. Which technical issues are expected to take the longest time to address? Please provide estimates of the time needed to resolve these issues.
- v. Please explain the lessons learned, or unexpected conditions that had to be addressed in planning to transport a wide range of commercial SNF canister designs for storage at an interim storage facility.

1:25 p.m. Questions, discussion

1:40 p.m. Insights Gained About Technical Issues to be Addressed— Based on Detailed Evaluations of the Readiness to Transport SNF from Commercial Reactor Shut-down Sites
Erica Bickford, DOE-NE

- i. Based on the detailed reviews completed at six shut-down sites, were common technical factors identified that need to be resolved before SNF transportation can begin and that help prioritize actions needed to develop the transportation program for SNF? Please explain.
- ii. Were unexpected factors encountered that indicate priorities that had not previously been identified?
- iii. Of the technical issues to be addressed in preparing for transporting SNF, which issues will take the longest to resolve? Please provide an estimate of the time needed to resolve these issues.
- iv. What does DOE-NE consider to be the top priority technical issues to be addressed?
- v. How does DOE plan to address the technical issues discussed above?
- vi. What are DOE's plans for extending the detailed pre-transportation reviews to other commercial reactor shut-down sites?

2:15 p.m. *Questions, discussion*

2:30 p.m. Stakeholder Perspectives on the Technical Issues to be Addressed Before Starting a Large Program to Transport Nuclear Waste

Ken Niles, Oregon Department of Energy (and Western Interstate Energy Board)

- i. What are the most significant technical or safety concerns expressed by local stakeholders when considering SNF or HLW transportation?
- ii. What issues have the potential for disrupting a transportation program if they are not addressed successfully at the planning stage?
- iii. What recommendations do you have for DOE in supporting local, state, and tribal groups affected by SNF transportation as they develop emergency preparedness and response plans and capabilities?
- iv. Before DOE begins a large effort to transport SNF and HLW, what further actions would you like see from DOE to further inform and engage stakeholders regarding technical and safety topics?

2:55 p.m. *Questions, discussion*

3:10 p.m. Break

3:25 p.m. Using DOE System Analysis Tools to Inform the Planning of an Integrated Transportation System

Jack Wheeler, DOE-NE

- i. Please explain the key features related to transportation that are modeled in the DOE-NE system analysis tools (e.g., SNF and canister parameters, transportation overpack parameters, packaging facilities, railcar and truck capacities).
- ii. Please explain how the different tools are linked to support the development of an integrated transportation program.
- iii. What is the plan and schedule for integrating into the DOE-NE system analysis tools the SNF and HLW managed by DOE-EM?
[For the following questions assume SNF transport is approved and funded and a destination with storage capability has been chosen]
- iv. Before SNF shipping begins, what technical preparation steps have the longest lead times (list the top few)? What are the lead times? What actions has DOE-NE taken to begin to address these preparation steps?
- v. If not among the issues noted above, what is the estimated time needed to put in place all emergency preparedness and response plans with local, state, and tribal groups affected by SNF transportation?

- vi. Considering only technical and engineering issues, what portion of the commercial SNF in dry-storage today could be ready for transport by heavy-haul truck or rail within one year? Three years? Not transportable unless repackaged or overpacked?
- vii. Please explain the activities being undertaken by DOE-NE to address the need to transport commercial SNF dry-storage canisters that are not approved by the NRC for transportation.

4:00 p.m. *Questions, discussion*

4:15 p.m. DOE-EM: Transportation Lessons Learned and Integrating Transportation Planning with DOE-NE

Mike Brown, DOE Carlsbad Field Office (DOE Office of Environmental Management (DOE-EM))

- i. From the DOE-EM experience in transporting transuranic wastes and low-level radioactive wastes, what technical issues cause the greatest concern in adversely impacting the successful implementation of a transportation program?
- ii. What unexpected challenges were encountered in moving from planning these programs to implementing them? How has DOE-EM addressed these issues to or minimize adverse impacts?
- iii. Prior to shipping radioactive wastes, which inter-agency (DOT, NRC, State regulator, etc.) coordination activities require the most effort and most lead-time? Please give examples of lead times.
- iv. When preparing for a new shipping campaign, explain the level of effort required to engage communities and stakeholders regarding the technical and safety aspects of waste transportation.
- v. How is DOE-EM coordinating with DOE-NE to prepare for transporting DOE-managed SNF and HLW?

4:40 p.m. *Questions, discussion*

4:55 p.m. Challenges to be Addressed in Regulating a National Program for Transporting Spent Nuclear Fuel and High-Level Waste

Darrell Dunn, Nuclear Regulatory Commission

- i. Please explain the NRC guidance development for the transition of commercial SNF from storage to transportation to storage (possibly in repeating cycles).
- ii. Some commercial SNF has been sealed in welded dry-storage canisters for extended periods (more than 20 years). What steps can the licensee take to demonstrate to the NRC that the condition of the SNF has not changed substantially and conforms to the licensing requirements, thereby ensuring that the SNF is safe for transportation?

- iii. As DOE begins to plan for transporting all domestic SNF and HLW and develops new SNF and HLW containers, DOE will need to submit several new license applications for those containers. Please explain the length of time typically needed by the NRC staff to review and approve a license application for storage or transportation?
- iv. How much notice does the NRC recommend that DOE provide to the NRC if, for example, DOE wants to have four new licenses for SNF or HLW containers approved in the same timeframe? How does that recommendation change if DOE needs to have six or eight licenses approved?
- v. What involvement does NRC have in approving individual SNF or HLW shipments in a transportation cask system that has a Certificate of Compliance?

5:25 p.m. Questions, discussion

5:40 p.m. Public Comment Period

6:00 p.m. Adjourn