

April 16, 2003

The Honorable Nils J. Diaz
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: SUMMARY REPORT—140TH MEETING OF THE ADVISORY COMMITTEE
ON NUCLEAR WASTE, MARCH 25–27, 2003, AND OTHER RELATED COMMIT-
TEE ACTIVITIES

Dear Chairman Meserve:

The Advisory Committee on Nuclear Waste (ACNW or Committee) held its 140th meeting on March 25–27, 2003, at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland. During that meeting, the Committee discussed the following matters.

HIGHLIGHTS OF KEY ISSUES CONSIDERED BY THE COMMITTEE

1. **Working Group on Nuclear Regulatory Commission (NRC) and Department of Energy (DOE) Performance Assessments: Assumptions and Differences**

The Committee convened a Working Group on performance assessments for the proposed Yucca Mountain high-level-waste site. The purposes of the Working Group were to increase the ACNW's understanding of the ongoing performance assessments, to identify areas in the analyses that may warrant increased realism, to understand the different approaches being taken by DOE and NRC, and to provide a reference point for a follow-on Working Group on Performance Confirmation. The theme of the Working Group meeting was how the NRC and DOE are achieving appropriately credible and realistic performance assessment models. Realism of the source term work was emphasized because it will be a key driver in the performance of the proposed repository.

A panel of five expert engineers and scientists participated in the Working Group along with the Committee. The expert panel included a representative from the State of Nevada. The Working Group meeting began with a keynote address by a distinguished engineer on the topic of waste package lifetime and potential processes and conditions of materials degradation and corrosion. Then detailed presentations were given by DOE and NRC staff on the following topics:

- Infiltration/tunnel dripping
- Source term
- Near field
- Unsaturated zone
- Saturated zone
- Biosphere and dose

At the invitation of ACNW, stakeholders then spoke, including representatives from the State of Nevada, Nye County (Nevada), Clark County (Nevada), the Las Vegas Paiute tribe, and the Electric Power Research Institute. Inyo County was also invited, but did not send a speaker. An Inyo County representative will be invited to present at a future ACNW meeting. After the stakeholders spoke, the expert panelists presented their views on the proceedings and their current understanding of the site characterization and waste package lifetime.

Committee Action

The Committee is evaluating the input received from stakeholders and the expert panel and will issue a letter to the Commission regarding performance assessments for Yucca Mountain. In addition, the Committee plans to issue a NUREG documenting the proceedings of the Working Group meeting. A followup Working Group on Performance Confirmation is planned for later in 2003.

2. NRC and the Environmental Protection Agency Memorandum of Understanding Related to Decommissioning and Decontamination of Contaminated Sites

The Committee met with the cognizant Office of Nuclear Material Safety and Safeguards staff engineer to discuss the recent Memorandum of Understanding (MOU) between the Environmental Protection Agency (EPA) and the NRC related to the decommissioning of NRC-licensed facilities.

In addition to discussing the history of, and reasons for the MOU, past and proposed NRC outreach programs were described. It was noted that there was no experience as to the success of the MOU in minimizing the potential for dual regulation, since both agencies were still developing the necessary information to implement the MOU.

Committee Action

This was an information-only briefing. The Committee indicated its interest in receiving an update once sufficient experience is gained.

3. Discussion of Self-Assessment Survey Preliminary Results

The status of the ongoing work on the ACRS/ACNW self-assessment was discussed. The SECY paper containing this self-assessment is due to the Commission by May 31, 2003. A draft of this SECY paper will be available for discussion during the April 22–23, 2003, ACNW meeting.

Committee Action

The Committee will discuss a draft SECY paper during its 141st meeting.

4. ACNW Action Plan

The ACNW Action Plan identifies the Committee's mission, vision, desired outcomes, commitments, goals, objectives, and priority topics. In June 2002, the ACNW updated the Plan to reflect new and continuing Committee priorities for fiscal years 2002 and 2003. In issuing that Action Plan, the Committee committed to considering an update should conditions warrant.

During its 139th meeting, the ACNW's Executive Director discussed some general approaches for updating the Action Plan. These discussions continued during this meeting with additional priority topics proposed.

Committee Action

Members agreed to review the proposed list of briefing topics, amend the list as appropriate, and decide what specific updates to the Action Plan might be warranted.

5. Reconciliation of ACNW Comments and Recommendations

- The Committee considered the response from the NRC's Executive Director for Operations (EDO), dated January 10, 2003, to ACNW letter dated October 17, 2002, concerning Orphan Sources.

The Committee decided that it would defer its evaluation of the EDO/staff response until the report of the Interagency Working Group on Radiological Dispersal Devices is publicly available, in light of the statement in the EDO response "we are confident that the Working Group's final report will provide information for Commission consideration in the areas identified in your recommendations."

- The Committee considered the response from the EDO, dated February 21, 2003, to ACNW report dated January 7, 2003, concerning the Transportation Working Group Meeting conducted by the ACNW on November 19–20, 2002.

The Committee did not fully accept the EDO's response with regard to full-scale testing and the use of improved computer codes. The Committee will consider a reply to the EDO subsequent to the follow-on Transportation Working Group Meeting during the April 2003 Committee Meeting.

6. PROPOSED AGENDA FOR THE 141st ACNW MEETING

The Committee agreed to consider the following issues at its 141st meeting on April 22 and 23, 2003:

- National Research Council report "One Step at a Time: The Staged Development of Geologic Repositories for High-Level Radioactive Waste," dated 2003.
- Transportation Working Group Follow-on
 - National Academy of Sciences Transportation Study
 - State of Nevada Technical Concerns With the Transportation of Spent Fuel and High-Level Waste
 - Full-Scale Testing Issues, Including an Assessment of NUREG-1768
- Update on NRC Division of Waste Management Activities
- Self-Assessment Survey Results
- ACNW Action Plan
- Preparation of ACNW Reports

In addition, Committee members will participate on April 21, 2003, in the ACRS Subcommittee meeting on the proposed Mixed Oxide Fuel Fabrication Facility and on April 24, 2003, in the closed ACRS Subcommittee meeting addressing Security and Safeguards issues.

Sincerely,

/RA/

George M. Hornberger
Chairman