



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON NUCLEAR WASTE  
WASHINGTON, DC 20555 - 0001

ACNWS-0139

August 14, 2003

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

SUBJECT: SUMMARY REPORT—144<sup>TH</sup> MEETING OF THE ADVISORY COMMITTEE  
ON NUCLEAR WASTE, JULY 29–31, 2003, AND OTHER RELATED  
COMMITTEE ACTIVITIES

Dear Chairman Diaz:

The Advisory Committee on Nuclear Waste (ACNW or the Committee) held its 144<sup>th</sup> meeting on July 29–31, 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 Performance Confirmation Plans for the Proposed Yucca Mountain High-Level Waste Repository**

The Committee convened a Working Group session on performance confirmation plans for the proposed Yucca Mountain high-level waste repository. The objective of performance confirmation is to confirm the assumptions, data, and analyses that lead to the findings that permit potential repository construction and subsequent waste emplacement. The purposes of the working group were to (1) increase ACNW's technical knowledge of plans to develop and conduct performance confirmation work for the proposed Yucca Mountain repository; (2) understand NRC staff expectations for performance confirmation; (3) review examples of performance confirmation work being planned; (4) identify aspects of performance confirmation that may warrant further study; and (5) complement the previous working group session on performance assessment. The session began with a keynote presentation by Dr. Chris Whipple, a prominent nuclear scientist. Other presentations were given by NRC and Department of Energy staffs and stakeholder representatives for the State of Nevada, Nye County, Clark County, the Las Vegas Paiute tribe, and the Electric Power Research Institute. A panel of six nuclear experts, including a representative from the State of Nevada, participated along with the Committee members.

### **Committee Action**

The Committee plans to prepare a letter report to the Commission with key observations and recommendations from the Working Group. A NUREG report is also planned to document the proceedings.

## **2. Risk-Informed Regulation for the Office of Nuclear Material Safety and Safeguards: Status Report and Plan for Future Work**

The Committee received an update on the current status and proposed path forward for risk-informing the materials and waste arenas from the members of the NRC Office of Nuclear Material Safety and Safeguards (NMSS) Risk Task Group and representatives of the NRC Office of Nuclear Regulatory Research (RES).

The presenters discussed the status of NMSS risk-informing initiatives, their perspective on the value of risk-informing NMSS activities, and the plans for future work. Committee members interacted with the presenters and indicated their interest in hearing further details as they develop.

### **Committee Action**

The Committee believes the effort to risk-inform NMSS activities is of value and anticipates additional information on the topic by the end of calendar year 2003.

## **3. Summer Intern Project**

The ACNW summer intern, Tina Ghosh, updated the Committee on the status of her project. She presented a risk-informed, integrated decisionmaking approach to assessing and managing model uncertainty in the Yucca Mountain performance assessments. She will present her final report to the committee on September 16, 2003. Ms. Ghosh is currently a Ph.D. candidate at the Massachusetts Institute of Technology.

### **Committee Action**

None. This was an information briefing.

## **4. ACNW September 2003 Retreat**

ACNW staff provided an information briefing on possible approaches for conducting the retreat. The focus of the September 2003 retreat would be to identify the suite of topics (including focused Working Groups) that the Committee intends to examine over the next 12 to 18 months. The briefing topics to be proposed would be consistent with the priorities defined in the Committee's recently updated Action Plan as well as earlier Committee discussions with the Commission and NRC/NMSS management.

**Committee Action**

Continue interactions with the ACNW staff on the retreat agenda development.

**5. Committee's Visit to the Proposed Yucca Mountain Repository - November 2003**

As part of its public outreach efforts, the ACNW schedules one meeting annually in southern State of Nevada. The Committee plans to visit the Yucca Mountain site as part of the 147<sup>th</sup> ACNW meeting in November 2003.

In addition to an underground tour of the proposed repository, the Committee will tour the nearby community of Amargosa Valley, observing, first hand, the characteristics and lifestyles of this rural area near the potential geologic repository. The tour will also contribute to the Members' knowledge base for the forthcoming ACNW Working Group meeting on biosphere dose calculations. Stakeholder representatives have been invited to accompany the Committee on the tour.

Potential technical topics for briefings by DOE representatives over the remaining 2 days of the scheduled visit were also discussed.

**Committee Action**

None. This briefing was intended for information only.

**6. Preparation for ACNW Meeting With the NRC Commissioners**

The Committee decided upon the topics it proposes to discuss with the Commission on October 23, 2003 as follows:

**Chairman's Report**

- ACNW Priorities and Future Review Plans
- Working Groups (Past and Future)
- Public Outreach Initiatives
- ACNW Role in the Yucca Mountain License Application

**Presentations**

- High-Level Waste Risk Insights
- TSPA/TPA Working Group
- Performance Confirmation Working Group
- Status of Key Technical Issue Resolution

**7. Reconciliation of ACNW Comments and Recommendations**

During its Planning and Procedures meeting on July 29, 2003, the Committee considered the following reports from the NRC's Executive Director for Operations (EDO):

- EDO response dated July 17, 2003, to ACNW letter dated June 12, 2003, concerning the Total System Performance Assessment Working Group session held March 25–26, 2003.

The Committee decided that it would further require status briefings on in-package chemistry/mineralogy, metal fabrication flaws, and realism of diffusive transport during the next 6 months.

- EDO response, dated July 16, 2003, to ACNW letter dated June 4, 2003, concerning the Transportation Working Group meeting held April 2003.

The Committee decided that it was satisfied with the EDO's response.

**8. Proposed Agenda for the 144<sup>th</sup> ACNW MEETING**

The Committee agreed to consider the following topics at its 145<sup>th</sup> meeting on September 16–18, 2003:

- Package Performance Study - Analysis of Public Comments
- Summer Intern Project (Final Report)
- Committee Retreat
- ACNW Preparation for October Meeting With the NRC Commissioners
- ACNW November Site Visit to the Proposed Yucca Mountain Repository
- Preparation of ACNW Reports
  - Performance Confirmation Working Group
  - Package Performance Study - Resolution of Public Comments

Sincerely,

**/RA/**

B. John Garrick  
Chairman