

April 23, 2001

The Honorable Richard A. Meserve
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: SUMMARY REPORT — 125TH MEETING OF THE ADVISORY COMMITTEE ON
NUCLEAR WASTE ON MARCH 21–22, 2001, AND OTHER RELATED COMMITTEE
ACTIVITIES

Dear Chairman Meserve:

During its 125th meeting, March 21–22, 2001, at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland, the Advisory Committee on Nuclear Waste (ACNW or the Committee) discussed several matters and approved the following report and memorandum:

REPORT

- Advisory Committee on Nuclear Waste 2001 Action Plan and Priority Issues (Report to The Honorable Richard A. Meserve, Chairman, NRC, from B. John Garrick, Chairman, ACNW, April 18, 2001).

MEMORANDUM

- Proposed Rule to Standardize the Process for Allowing a Licensee to Release Part of Its Reactor Facility or Site for Unrestricted Use Before NRC Has Approved Its License Termination Plan (Memorandum to William D. Travers, Executive Director for Operations, NRC, from John T. Larkins, Executive Director, ACRS/ACNW, March 27, 2001).

HIGHLIGHTS OF KEY ISSUES CONSIDERED BY THE COMMITTEE

1. Planning and Procedures

The ACNW approved issues to be considered during the 126th ACNW meeting on May 15–17, 2001. Topics to be discussed will include the following:

- **Planning and Procedures** — The Committee will review items under consideration at this meeting and consider topics proposed for future ACNW meetings.

- **Status Report on Sufficiency Review** — The Committee will be briefed by an NRC staff representative on the current status of the staff's sufficiency review.
- **Key Technical Issues—Vertical Slice Report** — The Committee members will present a progress report on their assigned key technical issues (KTIs).
- **Overview of Sequoyah Fuels** — The Committee will be briefed by the NRC staff on the current status of activities at the Sequoyah Fuels Corporation Facility.
- **Discussion of Proposed ACNW Reports** — The Committee will discuss proposed ACNW reports on entombment, proposed revisions to 10 CFR Part 71, high-level waste chemistry, the status of its sufficiency review, and a response to a Commission Staff Requirements Memorandum issued as a result of the ACNW's March 22, 2001, presentation.
- **Meeting With the Deputy Director, Office of Nuclear Material Safety and Safeguards (Tentative)** — The Committee will meet with the Deputy Director of the Office of Nuclear Material Safety and Safeguards (NMSS) to discuss items of mutual interest.

2. Department of Energy's Status Report on Key Technical Issue (KTI) Resolution

The Committee heard a presentation by and held a discussion with a representative of the DOE's staff regarding the issue resolution process and the status of the subissues of each KTI. Since June 2000, DOE and NRC have held 11 technical exchange meetings on KTIs in the areas of Total System Performance Assessment and Integration, Unsaturated and Saturated Flow Under Isothermal Conditions, Igneous Activity, Structural Deformation and Seismicity, Container Life and Source Term, Criticality, Radionuclide Transport, Thermal Effects on Flow, Evaluations of the Near-Field Environment, and Repository Design and Thermal-Mechanical Effects. The remaining two technical exchange meetings for Total System Performance Assessment and Integration and Preclosure Issues are tentatively scheduled for June and July 2001, respectively. As of this date, 27 issues are closed pending, 5 are closed, and 5 open. These remaining KTIs are scheduled to be completed by July 2001.

Conclusions/Action Items

This briefing was for information only and Committee action was not required.

3. ACNW 2001 Action Plan

The ACNW approved its Action Plan for calendar year 2001 and beyond. The plan contains the issues the ACNW plans to address in the coming year and beyond. The action plan contains four first-tier priority issues: (1) site suitability and license application (for the proposed Yucca Mountain repository), (2) the risk-informed and performance-based regulatory framework, (3) decommissioning, and (4) the Yucca Mountain Review Plan. The action plan also lists four second-tier issues: (1) research (and technical assistance conducted by the NRC), (2) low-level radioactive waste, (3) transportation of high-level waste (HLW) and spent fuel, and (4) the proposed Private Fuel Storage facility.

Conclusions/Action Items

The Committee issued its 2001 Action Plan on April 18, 2001.

4. Key Technical Issues—Vertical Slice Report

George Hornberger, ACNW, and Raymond Wymer, ACNW, assisted by Andrew Campbell, ACNW staff, reported on progress in their vertical slice areas, saturated zone hydrology and HLW chemistry, respectively. The speakers discussed the general approach they are taking in their vertical slice review and specific subissues they are evaluating. Milton Levenson, ACNW, agreed to report during the May 15–17, 2001, ACNW meeting on progress in the vertical slice review of thermal effects on flow. Dr. Garrick will report on the total system performance assessment vertical slice following the NRC-DOE technical exchange meeting scheduled in June and July of this year.

Dr. Wymer and Dr. Campbell provided an overview of the ACNW Working Group meeting on HLW chemistry issues for the Yucca Mountain repository (February 21-22, 2001). They discussed the general approach they are taking in the vertical slice review and specific subissue areas that are being evaluated.

Conclusions/Action Items

During the May 2001 ACNW meeting, the Committee plans to draft a letter report to the Commission summarizing key issues and recommendations in the vertical slice area of HLW chemistry. The Committee will eventually begin developing letter reports on each of the vertical slice topics.

5. Partial Release of a Reactor Facility or Site for Unrestricted Use

The Committee met with the cognizant Nuclear Reactor Regulation (NRR) staff engineer, Mr. Mike Ripley, to discuss a proposed rule providing for the partial release of a reactor site or facility for unrestricted use prior to approval of the License Termination Plan. Paul Harris, NRR, also participated in the discussion.

Mr. Ripley noted that a regulatory gap was discovered during the review of an Oyster Creek nuclear power reactor technical specification amendment evaluation. Not only was the partial site release not provided for in regulations, but the radiological release criteria of 10 CFR Part 20, Subpart E, were clearly not applicable if the license was not terminated. When it was recognized that partial site release would most likely become an emerging issue, a rulemaking plan was proposed and approved in April 2000 with a target date in 2002 for the final rule.

The presentation on the rulemaking plan included discussions of the regulatory approach, the requirements for submittals for areas designated as impacted or nonimpacted, and the changes proposed for 10 CFR 50.82 and 10 CFR Part 20, as well as the recordkeeping requirements and the provisions for public participation.

Conclusions/Action Items

The Committee approved a letter from the Executive Director, ACRS/ACNW. The letter stated that the rule should be published with the understanding that the Committee would like to have the opportunity to review the proposed final rule after public comments had been reviewed and evaluated.

6. License Termination Plan Review—Lessons Learned

The Committee met with the cognizant Office of Nuclear Material Safety and Safeguards (NMSS) Section Chief, Robert A. Nelson, to hear a presentation on the status of the License Termination Plan (LTP), the lessons learned to date in its implementation, and improvements that will be incorporated in the future.

The status of the LTP activities related to the Trojan, Maine Yankee, Connecticut Yankee, and Saxton nuclear reactors was discussed. It was noted that one of the most important lessons learned, thus far, was the need for early and frequent consultations between the NRC staff and the licensee. Among other lessons learned were the following: in-process inspections are more efficient than one-time confirmatory surveys, old records are often inadequate or inaccurate, and environmental impact reviews need to address nonradiological impacts (such as land use, hazardous wastes, water and air quality, and socioeconomic issues).

The proposed improvements were discussed and the Committee agreed that these should contribute to the LTP process.

The Committee asked about the applicability of these lessons learned to nonreactors and was informed that most of these lessons applied, but that to date relatively few materials facility licenses had been terminated. It was noted that the Sequoyah fuels facility had been decommissioned and that the license termination process for that facility encompassed a wide range of facility and process challenges.

Conclusions/Action Items

The staff agreed to give a presentation on the license termination process for the Sequoyah fuels facility to the ACNW in the future.

7. Commission Meeting Preparation

The Committee discussed the following topics for its March 22, 2001, meeting with the Commission:

ACNW's Integrated Strategy to Evaluate the Staff's Licensing Capability and Sufficiency Review

- Integrated Strategy—Introduction
- ACNW's Vertical Slice Review
- Evaluation of Issue Resolution of KTIs
- Evaluation of Performance Assessment Tools—Total Performance Assessment and Preclosure Safety Assessment Codes
- Alloy 22 Corrosion Studies

8. Proposed Revisions to 10 CFR Part 71, "Packaging and Transportation of Radioactive Material"

The Committee heard a presentation by and held discussions with representatives of NRC staff regarding proposed revisions to 10 CFR Part 71, "Packaging and Transportation of Radioactive Material." The staff stated that the scope of the proposed rule is to make 10 CFR Part 71 compatible with ST-1, "The International Atomic Energy Agency (IAEA) Transportation Safety Standards." Based on the comparison, the staff identified 11 compatibility issues between 10 CFR Part 71 and ST-1 that were addressed through the rulemaking process. The staff adopted nine of these issues in the proposed 10 CFR Part 71. Eight additional NRC-initiated issues were identified by the Commission and the staff for incorporation in the 10 CFR Part 71 rulemaking process. The staff plans to have three public meetings during the 90-day public comment period and plans to continue to coordinate with the Department of Transportation.

Conclusions/Action Items

This briefing was for information only and no Committee action was required.

Sincerely,

/RA/

B. John Garrick
Chairman