



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, D.C. 20555

ACNWS-0059

PDR
10/29/85

April 21, 1994

The Honorable Ivan Selin
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Selin:

SUBJECT: SUMMARY REPORT - SIXTY SECOND MEETING OF THE ADVISORY
COMMITTEE ON NUCLEAR WASTE, MARCH 23-24, 1994

During its 62nd meeting, March 23-24, 1994, held in the Phillips
Building, 7920 Norfolk Avenue, Bethesda, Maryland, the Advisory
Committee on Nuclear Waste discussed several matters and
completed a report as noted below.

Report

Recently Discovered Faulting at Yucca Mountain and Its
Implication for NRC On-Site Geologic Representation (Report
to Chairman Selin from Martin J. Steindler, ACNW Chairman,
dated April 8, 1994)

HIGHLIGHTS OF KEY ISSUES CONSIDERED BY THE COMMITTEE

1. NRC Research on Natural Analogs

This review is one of a series initiated in response to a
recent request from you to determine if the ongoing high-
level radioactive waste (HLW) research program of the NRC
and its contractors is focused on meeting the regulatory
decisions that must be made by the Commission.

The Committee heard briefings by and held discussions with
representatives of the NRC and the Center for Nuclear Waste
Regulatory Analyses (CNWRA) on the following subjects:

- Overview and Future Plans for NRC HLW Research on
Natural Analogs
- Systematic Regulatory Analysis and Prioritization of
Key Technical Uncertainties and User Needs
- Application of Results from Natural Analog Studies
- Performance Assessment and Natural Analogs
- Geochemical Natural Analogs Research Project

9510260173 940421
PDR ADVCM NACNUCLE
S-0059 PDR

DESIGNATED ORIGINAL

Certified By

EMB

ACNW

*04m-7
P502/10*

Conclusions/Action Items

In response to your request that the Committee assess the NRC HLW research programs, the Committee plans to continue its review of several technical topics in the HLW research and NMSS technical assistance programs, including tectonics and possibly research related to multipurpose canisters. The Committee expects to prepare a report on this topic.

2. Meeting with the Director of the Office of Nuclear Materials Safety and Safeguards (NMSS)

The Committee heard a briefing by and held discussions with Mr. Robert M. Bernero, Director, NMSS, concerning recent activities within the NMSS that are relevant to the Committee's future direction and priorities. This meeting is one of the periodic exchanges between the Director and the Committee. The following items of interest were discussed:

- Restructuring of the NMSS waste management organization
- Explication of the "societal pledge"
- Recent activities related to the work of the National Academy of Sciences Committee on the Technical Bases for Yucca Mountain Standards

Conclusions/Action Items

The Committee will continue to follow the efforts of the National Academy of Sciences Committee on the Technical Bases for Yucca Mountain Standards and expects to offer advice to the Commission as this effort develops.

3. Final Draft of the Staff Technical Position on Consideration of Fault Displacement Hazards in Geologic Repository Design

The purpose of this review was to ensure that the earlier comments by the Committee (ACNW report dated November 24, 1992) had been addressed and to explore what implications the guidance may have on the HLW geologic repository design considerations given the discovery of additional faults.

The Committee heard a briefing by and held discussions with representatives of the NRC staff on the final draft of the Staff Technical Position (STP) on Consideration of Fault Displacement Hazards in Geologic Repository Design.

Conclusions/Action Items

The Committee concluded that the final draft STP is satisfactory and that a separate report to you would not be needed.

4. Nuclear Waste Technical Review Board (NWTRB) Meeting Held on March 8-9, 1994

Dr. Pomeroy shared his observations on a meeting of the NWTRB Panel on Structural Geology and Geoengineering, held March 8-9, 1994, in San Francisco, CA, which he attended. The meeting was on Probabilistic Seismic and Volcanic Hazard Estimation.

Conclusions/Action Items

The techniques discussed at the Panel meeting would be part of the license application for the proposed Yucca Mountain HLW repository. The Committee maintains awareness of the NRC staff capability and the scope of the NRC and DOE activities in this area.

5. Report on the ACNW Low-Level Radioactive Waste Performance Assessment Working Group Meeting Held on March 22, 1994

The Committee discussed the results of its Working Group meeting that reviewed the NRC's low-level radioactive waste (LLW) performance assessment program, with emphasis on the status of the draft Branch Technical Position and the NRC staff's performance assessment capability. The Working Group examined ongoing and planned activities, milestones and schedules, and the results of ongoing test case analyses.

Conclusions/Action Items

The Committee expects to prepare a report to the Commission on this subject.

6. New Committee Members (Closed Session)

The Committee discussed potential candidates for ACNW membership.

Conclusions/Action Items

A slate of the most qualified candidates is expected to be completed during the April or May ACNW meeting for submission to the Commission.

7. Anticipated Activities

The Committee discussed anticipated and proposed Committee activities, future meeting dates and agenda.

- The Committee members were invited to participate in a three-day workshop on the coupling of site characterization with performance assessment, sponsored by the International Programs Coordinating Group for the DOE Yucca Mountain Site Characterization Project and the National Cooperative for the Disposal of Radioactive Waste (Switzerland), to be held on May 18-20, 1994, at Sandia National Laboratories, Albuquerque, New Mexico. The Committee authorized Mr. Richard Major to advise the sponsors that the members could not come because of other commitments.
- The following proposed items were endorsed by the Committee for the 63rd ACNW Meeting, April 20-21, 1994, and future Working Group Meetings.

Volcanism Studies Underway in the Characterization of the Yucca Mountain Site (Open) - Discuss site characterization studies related to volcanism with the DOE staff and gain additional insights into the NRC staff's volcanology research program.

Nuclear Waste Technical Review Board Meeting on Saturated Zone Hydrology (Open) - Hear a report from ACNW members and staff that attended this meeting.

Multi-Purpose Canister (MPC) Concept (Open) - Discuss with the DOE and NRC staffs the MPC concept which utilizes a single canister in combination with over-packs for spent fuel storage, transportation and disposal.

Meet with the Director of the Waste Management Division, NMSS (Open) - Discuss the status of staff progress in resolving the "important to safety" issue as related to the DOE petition to revise the design basis accident for a high-level waste repository. The ACNW was directed to review this topic in the SRM on SECY-92-408, dated February 3, 1994.

Committee Activities (Open) - Discuss anticipated and proposed Committee activities, future meeting dates and agenda, and organizational matters. Also, the members will discuss matters and specific issues that were not completed during previous meetings.

New Committee Members (Open/Closed) - Discuss matters related to the appointment of new members, and organizational and personnel matters related to the ACNW members and ACNW staff.

April 21, 1994

Working Group Meetings

NRC Staff Capabilities in Performance Assessment and Computer Modeling of High-Level Waste Disposal Facilities, May 16, 1994, Bethesda, Maryland - The Working Group will discuss progress in the NRC's Iterative Performance Assessment (PA) Program, the NRC staff's completion of an expert elicitation exercise, and progress in the execution of the NRC's modular computer model. These discussions will be held periodically, along with the review of NRC reports, to remain apprised of the degree of NRC staff and contractor-supported PA capability, the coordination and integration between data analysts and computer modelers, revisions to the High-Level Radioactive Waste Management PA Strategy Plan, and future plans for PA development.

Groundwater Age Dating, June 1994, Bethesda, Maryland - The Working Group will discuss the results of groundwater age dating at the proposed Yucca Mountain site and implications of the results on groundwater travel time and flow paths.

Sincerely,



Martin J. Steindler
Chairman