

PDR 2/6/91



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

December 19, 1990

MEMORANDUM FOR: James M. Taylor  
Executive Director for Operations

FROM: *Richard S. ... for*  
Raymond F. Fraley  
Executive Director, ACNW

SUBJECT: 25TH ACNW MEETING FOLLOW-UP ITEMS

Based on discussions regarding methods for improving implementation and follow-up of ACNW recommendations, a summary of "Actions, Agreements, Assignments, and Requests" made during each ACNW meeting is sent to your office following each meeting.

Attached is the summary of "Actions, Agreements, Assignments, and Requests" made at the 25th ACNW meeting, October 24-25, 1990. Those items in the list that do not deal with requests made of the NRC Staff or that are not pertinent to NRC Staff activities have not been included in the attached summary.

Attachment: As stated

- cc: H. L. Thompson, EDO
- J. L. Blaha, EDO
- S. J. Chilk, SECY
- E. J. Jordan, AEOD
- R. M. Bernero, NMSS
- T. E. Murley, NRR
- E. S. Beckjord, RES
- A. L. Eiss, NMSS
- J. G. Glitter, NRR
- M. V. Federline, OCM/KC
- J. Kotra, OCM/JC
- R. R. Boyle, OCM/FR
- S. Bilhorn, OCM/KR
- M. Weber, OCM/KC

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ACTIONS, AGREEMENTS, ASSIGNMENTS, AND REQUESTS  
25TH ACNW MEETING - OCTOBER 24-25, 1990

1. Technical Assessment Review (TAR) of the Geologic and Geophysical Evidence Pertaining to Structural Geology in the Vicinity of the Proposed Exploratory Shaft (Open)

The Committee was briefed by Mr. John Corbett, ACNW Consultant on geophysics, on his assessment of the geophysical testing techniques and data discussed in the DOE report, "Technical Assessment Review Record Memorandum, Geologic and Geophysical Evidence Pertaining to Structural Geology in the Vicinity of the Proposed Exploratory Shaft" (TAR). Representatives of the NRC staff and DOE OCRWM Consultants were also present and made brief remarks about the status of the staff's review and the future plans of the TAR committee.

The members expressed interest in being kept informed on the outcome of the TAR activities and suggested that the NRC staff continue to monitor DOE studies related to the ESF.

This briefing was for information only. No Committee action was taken.

2. Overview of the Nuclear Regulatory Commission's Waste Management Research Program (Open)

The Committee heard presentations from representatives of the Office of Research, Waste Management Branch, on the research program for waste. The briefing was intended as an overview to familiarize the Committee with the scope of the research program and how the various projects are integrated. The continuing transition from a program involving several contractors to the Center for Nuclear Waste Regulatory Analyses was also discussed.

Some areas of concern identified by members of the Committee were the funding limitations and the timely initiation of research in the area of seismotectonics.

The staff agreed to provide the Committee with copies of various reports that included:

- Statement of Work (SOW) for the Valdes Caldera Project
- Quarterly reports from the Valdes Caldera Project
- Annual report on the Alligator Rivers analog project
- CNWRA report on geochemical analogs for HLW sites
- Future meeting dates of the Nuclear Safety Research Review Committee

Members of the Committee encouraged increased interaction with the states. No Committee action was taken at this time.

3. Status Report: Potential for Long Term Isolation by the WIPP Disposal System (Open)

The Committee was briefed by Dr. D. R. Anderson on the recent report by Sandia National Laboratories, SAND 90-0616, "Status Report: Potential for Long-Term Isolation by the Waste Isolation Pilot Plant Disposal System", dated June 1990. The report concluded that there is reasonable confidence that compliance of the WIPP facility with the EPA standards is achievable. In light of other comments and uncertainties, the members questioned the report's conclusion. The following four areas were discussed:

- (a) The WIPP project perception of the stringency of EPA's high-level waste standards and their impact upon WIPP.
- (b) The use and role of expert judgment (This will be the subject of a future ACNW Working Group meeting).
- (c) Performance assessment methodology.
- (d) Human intrusion.

Dr. Anderson agreed to provide to the Committee the specific report on borehole drilling in the Delaware Basin, in light of its significance on WIPP performance.

No Committee action was taken.

4. Working Group Chairman's Report on the Human Intrusion Working Group Meeting (Open)

An ACNW working group meeting was held on October 23, 1990, to discuss concerns relative to the potential for and impact of human intrusion of a high-level waste repository. Presentations were heard from representatives of the Environmental Protection Agency, Bureau of Land Management (BLM), State of Nevada, Sandia National Laboratories, and New Mexico Environmental Evaluation Group. Discussions focused on the guidance on human intrusion found in 40 CFR Part 191 Appendix B. The Working Group heard discussions on examples of performance assessments incorporating human intrusion from the WIPP experience and discussed the lessons learned.

The Working Group plans to hold a follow-up meeting at a future date on this topic to examine the concern of natural resource assessment for a HLW site.

This briefing was for information only. No Committee action was taken.

5. ACNW Future Activities (Open)

Appendix A summarizes the tentative agenda items that were proposed for future meetings of the Committee and related Working Groups. This list includes items proposed by the Commissioners and NRC staff as well as ACNW members.

## APPENDIX A. FUTURE AGENDA

Working Group Meeting October 26, 1990

Migration of Carbon-14 (Open) - A Working Group will be briefed on the potential impact that could arise at a high-level repository in the event of carbon-14 release and subsequent migration to the environment. This will include a discussion of EPA release limits for this radionuclide. A report to the full Committee is planned for the 26th ACNW meeting.

Working Group Meeting December 11, 1990

Mixed Wastes (Open) - The Working Group will review and discuss the interchangeability (if any) of EPA requirements for land burial of hazardous materials and the NRC disposal requirements for radioactive materials, particularly as related to the disposal of mixed wastes. A report to the full Committee will follow.

26th Committee Meeting December 12-13, 1990

Meeting with Commissioners (Open) - The Committee is scheduled to meet with the Commissioners to discuss items of mutual interest.

Division of High-Level Waste Management Study Plans (Open) - The Committee will be briefed by the HLWM staff on the results of the staff's reviews of the Study Plans for the characterization of volcanic features and mineralogy, petrology and chemistry of transport pathways.

Reports from ACNW Working Groups (Open) - The Committee will be briefed on the results of the Working Group meetings on carbon-14 release and migration, human intrusion of a high-level waste repository, and mixed wastes. The development of Committee reports to the Commission on these subjects will be initiated, as appropriate.

DOE Study Plans (Open) - The Committee will review the proposed revisions to current NRC staff review procedures for its review of DOE study plans and progress reports associated with the site characterization for the proposed HLW repository.

HLW Repository Subsystem Performance Requirements (Open) - The Committee will consider 10 CFR Part 60, high-level waste repository subsystem performance requirements regarding their conformance with the EPA high-level waste standards.

Committee Activities (Open/Closed) - The Committee will discuss anticipated and proposed Committee activities, future meeting agenda, and organizational matters, as appropriate. The Committee will also elect officers for the calendar year 1991.

**Working Group Meeting January 25, 1991 (Tentative Agenda)**

Expert Judgment (Open) - The Working Group will review and discuss the role of expert judgment in site characterization and licensing activities. A report to the full Committee will be scheduled for February 20-22, 1991 ACNW meeting.

**Working Group Meetings (Dates to be determined)**

DOE/USGS White Paper (Open) - An ACNW Working Group will discuss the NRC staff's review of and comments on the DOE/USGS white paper on integration of the geophysical aspects of the repository SCP. The Committee will discuss the results of the NRC staff's review of the DOE/USGS "white paper" on the "Status of Data, Major Results, and Plans for Geophysical Activities, Yucca Mountain Project." This report is important as it relates to an important theme on integration of tests, studies, and existing data in the NRC staff's comments on the DOE Site Characterization Plan.

Subsystem Requirements Strategy (Open) - An ACNW Working Group will discuss the performance criteria of 10 CFR Part 60.113 to determine the interface with the EPA HLW standards. The Committee will discuss the 10 CFR Part 60.113 subsystem performance criteria for groundwater travel-time, substantially complete containment, and release rate limit and how these criteria relate to the overall performance objective of the EPA HLW standards.

Guidelines on Calculating Collective Dose (Open) - The Working Group will review and discuss methods of calculating collective population doses from exposure to low levels of ionizing radiation.

Definition of "Substantially Complete Containment" (Open) - An ACNW Working Group will discuss the feasibility of the "Substantially Complete Containment" concept. The Committee will hear a briefing on the study by the staff and CNWRA on the technical feasibility of the substantially Complete Containment Concept. Issues to be considered include the feasibility of a canister that can be designed to contain the waste for 300 to 1000 years.