

ACNW COMMITTEE AND CONSULTANT REPORTS - 019

**Submitted in Accordance with
Sections 10 and 13
of the
Federal Advisory Committee Act**

MAY 1990

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C O N T E N T S

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I) SUMMARY LETTER	06/18/90
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1) Moeller ltr to Carr, Final Staff Technical Position on the Design of Erosion Protection Covers for Stabilization of Uranium Mill Tailings Sites	05/31/90
2) Moeller ltr to Carr, Review of NRC Staff Comments on Working Draft No. 2 of EPA's High-Level Waste Disposal Standards	06/01/90
III) ACNW QUARTERLY REPORT TO ACOM	
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, D.C. 20555
June 18, 1990

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: SUMMARY REPORT - TWENTIETH MEETING OF THE ADVISORY
COMMITTEE ON NUCLEAR WASTE, MAY 24-25, 1990

During its 20th meeting, May 24-25, 1990, the Committee completed
the activities noted below and prepared the following reports.

REPORTS TO THE COMMISSION

- Final Staff Technical Position on the Design of Erosion Protection Covers for Stabilization of Uranium Mill Tailings Sites (Report to Chairman Carr, dated May 31, 1990) Editorial comments were provided directly to the NRC regarding this paper.
- Review of NRC Staff Comments on Working Draft No. 2 of EPA's High-Level Waste Disposal Standards (Report to Chairman Carr, dated June 1, 1990)

OTHER ACTIONS, AGREEMENTS, ASSIGNMENTS, AND REQUESTS

- Center for Nuclear Waste Regulatory Analyses (CNWRA)

The Committee was briefed by representatives of CNWRA on Program Architecture, an integrated systems analysis of the statutory and regulatory framework for the high-level radioactive waste program.

The representatives of CNWRA also addressed the regulatory, institutional, and technical uncertainties identified thus far. This briefing was for information only. No Committee action was taken.

- Licensing Support System (LSS)

The Committee was briefed by the LSS Administrator on the status of the LSS in light of DOE schedule changes. DOE plans to issue a Request for Proposals for the procurement of the LSS in August 1991, and plans to award the contract in April 1992. During FY 1990 - 1994, a broad range of criteria and

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procedures related to LSS design and operation will be developed and/or evaluated by the LSS Administrator. This will include criteria and procedures related to document header design, indexing requirements, handling of privileged material, etc. The Committee requested to be kept informed on the status of the document header design and prioritization of document input. The staff agreed.

During the discussion on the role of the LSS Advisory Review Panel (LSSARP), the Committee requested that future minutes of LSSARP be provided. This briefing was for information only. No Committee action was taken.

° ACNW Future Activities

In addition to those activities listed in the ACNW Program Plan, dated May 1, 1990, the ACNW members identified the following additional areas of interest.

a. Future ACNW/ACRS Letter on Decommissioning Responsibilities

In response to a request from the NRC Chairman, the Committee discussed the scope and nature of a proposed joint ACNW/ACRS letter to the Commission on decommissioning responsibilities. The purpose of this letter would be to delineate the responsibilities of the two Committees regarding various aspects of decommissioning. Further discussion of this proposed letter will be scheduled during the next meeting.

b. Annual Report on ACNW Activities and Future Plans

The Committee agreed that an annual report summarizing past ACNW contributions and future ACNW missions and goals should be prepared. Further discussion of this proposed report will be scheduled during the next meeting.

c. Human Intrusion and Carbon-14 Migration Issues

The Committee discussed the feasibility of having a working group meeting on the 40 CFR Part 191 approach to human intrusion and concerns with EPA release limits for carbon-14 at the proposed high-level waste repository. A possible working group meeting in July was considered.

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d. Discussion on the Use of the Term "representativeness"

The Committee agreed to indefinitely defer a briefing on the use of the term "representativeness" as it pertains to NRC staff's review of DOE's methodology for three-dimensional characterization of the proposed Yucca Mountain repository site. The briefing will be scheduled after the NRC staff has issued a position paper on this subject.

e. Alternative Exploratory Shaft Facility Construction Techniques

The Committee agreed to indefinitely defer a briefing on alternative exploratory shaft facility construction techniques from both engineering and geoscience perspectives. The briefing will be scheduled after the NRC staff has issued a position paper on this subject.

However, the Committee agreed to schedule time during the next meeting to see two films on tunnel boring machines and be briefed on excavation techniques for information only.

f. Proposed Revision 1 to the Branch Technical Position on Solidification of Low-Level Radioactive Wastes

The Committee decided to review this proposed revision after it has been published for public comment. Revision 2 is expected to be submitted to the Committee for review prior to its publication as a final Branch Technical Position.

g. Radioactive Waste Research Program

Based on guidance from Chairman Carr, the Committee deferred any review or action on the NRC research programs related to high-level and low-level wastes.

h. DOE Study Plans

Based on guidance from Chairman Carr, the Committee agreed to limit its review of NRC evaluations of DOE Study Plans for the Characterization of the Yucca Mountain site to Study Plans of special significance. The Committee also agreed to advise the Commission of any deficiencies noted in the process.

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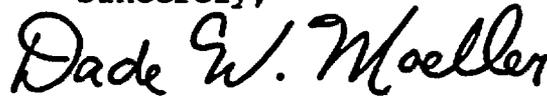
i. NESHAPS EPA Proposal

Dr. Moeller noted EPA's proposal for the National Emission Standards for Hazardous Air Pollutants (NESHAP). The Committee will continue plans to review the EPA proposal.

FUTURE ACTIVITIES

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

Sincerely,

A handwritten signature in black ink that reads "Dade W. Moeller". The signature is written in a cursive style with a large initial "D".

Dade W. Moeller
Chairman

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APPENDIX A. FUTURE AGENDA

June 28-29, 1990 (Tentative Agenda)

BEIR V Report (Open) - The Committee will be briefed by a representative of the National Research Council on the BEIR V Report, "Health Effects of Exposure to Low-Levels of Ionizing Radiation".

Iodine-129 Source Term (Open) - The Committee will be briefed by representatives of EPRI and NUMARC on a methodology for predicting the iodine-129 source term for low-level radioactive waste sites.

Annual Report on ACNW Activities and Future Plans (Open) - The Committee will discuss an annual report that summarizes past ACNW accomplishments and future ACNW goals and priorities.

Tunnel and Shaft Boring Techniques (Open) - The Committee will see two films on boring machines and be briefed on excavation techniques.

Off-site Spent Fuel Storage (Open) - The Committee will be briefed and watch a video presentation on the off-site spent fuel storage and transportation experience at the Morris, Illinois, facility.

Committee Activities (Open) - The Committee will discuss anticipated and proposed Committee activities, future meeting agenda, and organizational matters, as appropriate.

Migration of Carbon-14 (Open) - An ACNW Working Group will be briefed and report to the full Committee on the potential problems that could arise at a high-level repository as a result of carbon-14 release and migration. This will include a discussion of EPA release limits for this radio-nuclide.

Human Intrusion (Open) - An ACNW Working Group will examine how human intrusion at a high-level waste repository will be dealt with under 10 CFR Part 60 considerations and report to the full Committee. This will include discussion of the WIPP experience and will be designed to explore the range of current thinking from various groups in the U.S. and other countries.

July 30-31, 1990 (Tentative Agenda)

Pathfinder Atomic Power Plant Dismantlement (Open) - The Committee will review the NRC staff's Safety Evaluation Report. The final SER is expected to be issued by the end of June 1990. ACNW comments are requested.

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Status of Proactive Work (Open) - The Committee will be briefed by the NRC staff on the status of proactive work (technical positions and rules) in the Division of HLWM and on NRC programmatic response to changes in the DOE program. (The revision of SECY 88-285 is expected to be released in June.)

Trip Report (Open) - Dr. Linda Lehman, Lehman and Associates, will brief the Committee on her recent visits to the Soviet Union to review radioactive waste management activities.

Quality Assessment Activities (Open) - The Committee plans to meet with NRC staff to receive an update on QA activities associated with the HLW repository.

Committee Activities (Open) - The Committee will discuss anticipated and proposed Committee activities, future meeting agenda, and organizational matters, as appropriate.

August 29-31, 1990 (Tentative Agenda)

EPA Standards (Open) - The Committee will continue discussion on EPA standards for high-level radioactive waste disposal in a geologic repository (per memorandum from Galpin, EPA, to Moeller, ACNW). Working draft #3 of the standard is expected to be issued prior to this meeting.

Committee Activities (Open) - The Committee will discuss anticipated and proposed Committee activities, future meeting agenda, and organizational matters, as appropriate.



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

May 31, 1990

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: FINAL STAFF TECHNICAL POSITION ON THE DESIGN OF EROSION PROTECTION COVERS FOR STABILIZATION OF URANIUM MILL TAILINGS SITES

During its 20th meeting, May 24-25, 1990, the Advisory Committee on Nuclear Waste met with members of the NRC staff for a briefing on and a discussion of the referenced Final Draft Technical Position.

We are pleased with the modifications included in this draft in response to our October 18, 1989 comments on the draft Technical Position, as well as in response to public comments received by the NRC staff. We believe that this Technical Position will be helpful to applicants and licensees in designing erosion protection covers for uranium mill tailings sites so as to meet the requirements of 10 CFR Part 40, Appendix A for Title II (Active) sites and 40 CFR Part 192 for Title I (Inactive) sites. Specifically, the staff recommendations aid in defining the concept of "reasonable assurance" as set out in the regulations and provide a consistent basis for site-specific designs and reviews.

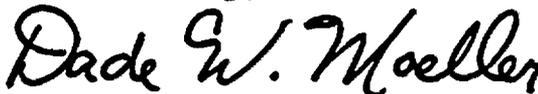
We understand that this Technical Position is limited to guidance regarding erosion protection; it does not provide comprehensive guidance on other aspects of the EPA Standards and NRC regulations.

As a result of our review, we have recommended to the staff several specific areas where clarification is needed, consistency of terms would be useful, and placement of statements could be employed to improve the general use and understanding of this Technical Position.

May 31, 1990

We believe that the Technical Position, contrary to several public comments as discussed in Appendix 4.1 (page E-4), is not too conservative and is in accordance with the NRC Uranium Mill Tailings Management Position.

Sincerely,

A handwritten signature in black ink that reads "Dade W. Moeller". The signature is written in a cursive style with a large initial "D".

Dade W. Moeller
Chairman

Reference:

U.S. Nuclear Regulatory Commission, "Final Staff Technical Position, Design of Erosion Protection Covers For Stabilization of Uranium Mill Tailings Sites," May 1990.



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

June 1, 1990

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

**SUBJECT: REVIEW OF NRC STAFF COMMENTS ON WORKING DRAFT NO. 2 OF
EPA'S HIGH-LEVEL WASTE DISPOSAL STANDARDS**

In response to your request, the Advisory Committee on Nuclear Waste reviewed the above subject report (SECY-90-162) during its 20th meeting, May 24-25, 1990. Our comments follow.

Overall, we believe that the comments and recommendations of the NRC staff are thorough and comprehensive. If implemented by EPA, these suggestions would represent an important step toward resolving many of the problems cited by this Committee. The comments by the NRC staff are in general agreement with the remarks submitted to you in our letter of May 1, 1990. However, we offer the following clarifications on several key points:

1. One of our criticisms of the EPA Standards was that they should be organized using a hierarchical structure and that lower levels should not be more stringent or conservative than higher levels. The call (Comment 2.1) by the NRC staff for EPA to conduct performance assessments of real sites (which will undoubtedly prove to be more complex than the hypothetical sites evaluated to date), and (Comment 1) to "explicitly document the acceptable risk level that underlies the release limits in the standards" should provide the information necessary to resolve this criticism.
2. We also urged that EPA express its lower level standards in terms of annual risk limits and that the critical population group be defined. We wish to reiterate this recommendation since this is standard practice in evaluations of public exposures from all types of environmental radionuclide releases. When combined with limits on cumulative releases, this approach assures control of both individual and collective doses.

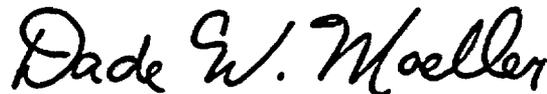
June 1, 1990

3. Our recommendation that subsystem standards be used only as guidance was directed primarily to the limits within the EPA Standards on doses to members of the public arising through consumption of contaminated groundwater. This recommendation applies equally, however, to the 1,000 year groundwater travel time in 10 CFR Part 60. If, for example, waste containers that have a projected lifetime of 10,000 years could be developed, a more relaxed groundwater travel time might be acceptable.
4. Because of its major contribution to risk, we recommended that the EPA Standards be revised to include separate considerations for evaluating the impacts of human intrusion. The approaches suggested by the NRC staff (Comments 5 and 18) are fully compatible with our recommendations.

In addition, the steps recommended by the NRC staff will help resolve some of our basic concerns relative to the potential difficulties that might be encountered in attempting to confirm compliance of a proposed HLW repository facility with the probabilistic requirements of the EPA Standards.

In summary, we believe that the comments and suggestions of the NRC staff are in concert with our recommendations. If implemented, these suggestions would resolve our major concerns.

Sincerely,



Dade W. Moeller
Chairman

Reference:

SECY-90-162, May 7, 1990, "Comments on Working Draft No. 2 of the U.S. Environmental Protection Agency's High-Level Waste Disposal Standards" (Predecisional)



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

June 1, 1990

MEMORANDUM FOR: John C. Hoyle
Advisory Committee Management Officer

FROM: *Raymond Fraley*
Raymond F. Fraley, Executive Director

SUBJECT: QUARTERLY REPORT ON CLOSED MEETINGS OF THE
ADVISORY COMMITTEE ON NUCLEAR WASTE

In accordance with 10 CFR Part 7.17(b), "Reports Required for Advisory Committees," this is to advise you that the Advisory Committee on Nuclear Waste held the following meetings since our last report on October 3, 1989.

	<u>Meeting No.</u>	<u>Meeting Date</u>
Fourth Quarter	14th	October 11-13, 1989
	15th	December 20, 1989
First Quarter	16th	January 24-25, 1990
	17th	February 21-22, 1990
	18th	March 22-23, 1990
Second Quarter	19th	April 26-27, 1990
	20th	May 24-25, 1990

Portions of the 17th, 18th, and 19th meetings were closed to discuss the qualifications of candidates proposed for nomination to the Committee. These portions were closed to discuss information the release of would represent a clearly unwarranted invasion of personal privacy [5 U.S.C. 552b(c)(6)].

Copies of this report will be filed in the NRC Public Document Room and the Library of Congress for public inspection and use.

cc: M. Nordlinger, OGC