



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, D.C. 20555-0001

August 20, 1999

The Honorable Greta Joy Dicus
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: SUMMARY REPORT—111TH MEETING OF THE ADVISORY COMMITTEE ON
NUCLEAR WASTE, JULY 19–21, 1999, AND OTHER RELATED COMMITTEE
ACTIVITIES

Dear Chairman Dicus:

During its 111th meeting on July 19–21, 1999, 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 its report entitled, "Comments on DOE's License Application Selection Process (LADS) and Recommended Repository Design," dated August 9, 1999, attaching a white paper on engineered barriers at Yucca Mountain.

HIGHLIGHTS OF KEY ISSUES CONSIDERED BY THE COMMITTEE

1. **Risk Communication**

John Larkins, Executive Director, Advisory Committee on Reactor Safeguards/Advisory Committee on Nuclear Waste (ACRS/ACNW), introduced the topic of risk communication. Dr. Larkins noted that the Committee needed to make several key decisions regarding the October 1999 ACNW meeting and its discussion of risk communication. He noted that Lynn Deering, ACNW staff, would present all the options and decisions to the Committee.

Ms. Deering presented several options and issues requiring Committee input concerning details of the October 1999 public meetings. Options and issues were focused on details of how, when, and where the meetings will be conducted. Additional topics that were discussed include what is meant by the term "risk communication," and whether the Committee should attempt to communicate risks associated with Yucca Mountain (YM), or simply listen to the public concerns. On the basis of these discussions, the Committee decided to hold a full-day working group meeting in Pahrump, Nevada, on the subject of safety assessment and the ACNW's role therein. In addition, the Committee agreed to hold an evening meeting with the public on topics of interest to the public, as well as on clarification of the ACNW's oversight role and priority topics. The Committee agreed that a continental breakfast meeting

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with the public would be a good idea to consider. Invited participants to the meetings may include representatives of the Environmental Protection Agency, NRC offices, the Department of Energy (DOE), affected units of local government, the Nuclear Waste Technical Review Board, and others.

2. **Update on DOE Yucca Mountain Repository Design**

Representatives from DOE updated the Committee on the license application design selection (LADS) process and the details of the design selected. Paul Harrington, DOE, provided an overview and discussion of the LADS process, including the evaluation of design alternatives and design features. He also discussed the development of enhanced design alternatives (EDAs) and specific features of the five EDAs. These were evaluated and ranked in terms of four evaluation criteria. Finally, he discussed the results of the ranking process.

Richard Snell from the Management and Operations (M&O) contractor described in detail specific features of the enhanced design alternative - II (EDA-II) repository design, which was selected by the M&O using the LADS process and submitted as a report to DOE for approval. He also compared the results of performance assessments for the EDA-II and the Viability Assessment reference designs and discussed the advantages of the EDA-II design. In conclusion, he described some of the possible "refinements" that the M&O report recommends before submission of the site recommendation (SR).

Conclusions/Action Items

The Committee prepared a letter to the Commission on its observations and recommendations regarding the LADS process and specific aspects of the recommended repository design. The ACNW will continue to follow the evolving DOE repository design for the SR and the license application.

3. **Spent Fuel Projects Office Briefing**

William Brach, Director, Spent Fuel Project Office (SFPO), assisted by Deputy Directors Susan Shankman and Wayne Hodges, gave an overview of recent SFPO activities, including office outputs since September 1998. Current and future endeavors were also presented.

The status of dual-purpose, storage-only, and transportation-only cask approvals was discussed, as were several independent spent fuel storage installation licenses. SFPO management noted particularly its communications plan and the seven interactive meetings held in the last year with the nuclear industry, for example, Nuclear Energy Institute, the American Nuclear Society, and others. Mr. Brach also explained SFPO's activities with the DOE and the Naval Reactors groups.

Ms. Shankman clarified for the Committee the roles of the Department of Transportation (DOT) and NRC with regard to transportation regulations. She discussed the effort currently underway to revise 10 CFR Part 71, stating that one reason for this effort is the need to make our regulations compatible with those of the International Atomic Energy Agency by 2002.

The Committee was particularly interested in the update to NUREG-0170 and the progress on Modal Study 11. Considerable discussion was held on the role of the DOT as the "competent" authority in the United States and the nature of the NRC's responsibilities (as well as the other entities having a role) in the transportation of nuclear materials. Ms. Shankman noted that according to a DOT study, at any given moment in the United States there are 170,000 hazardous shipments.

Conclusions/Actions

Mr. Brach's offer to brief the Committee more frequently, particularly in light of the interest in transportation issues related to the proposed repository at YM, was accepted.

4. DOE Presentation on the Draft Environmental Impact Statement for the Proposed Yucca Mountain Repository

Wendy Dixon, Environmental Impact Statement (EIS) Project Manager, DOE, gave a background briefing overview on the draft EIS (DEIS) currently being finalized by DOE. Included in her presentation was a discussion of the relationship and impact of the National Environmental Policy Act (NEPA), the National Waste Policy Act (NWPA), as well as the role of various local, State and Federal agencies (including the Council on Environmental Quality).

She explained the past, current, and intended public and agency involvement in the YM DEIS/EIS. In her presentation, she discussed the "proposed action" (construction, operation, monitoring, and closure of a geologic repository at YM) and the "no-action" alternative (no development of a geologic repository at YM).

Ms. Dixon noted that in addressing the NEPA requirements for the repository, the NWPA specified that it was not necessary to consider the need for a repository, alternatives to geologic disposal, or alternative sites to YM in the EIS. In her presentation, she discussed the following issues in varying degrees of detail:

- national transportation scenarios
- the current preliminary design concept, as well as alternative design concepts being considered
- short-term environmental impacts (i.e., biology, culture, noise, aesthetics, environmental justice)
- long-term impacts (dose and the probability of a latent cancer fatality)
- cumulative impacts (i.e., the resultant impact, when added to other past, present, and reasonably foreseeable future actions)

She closed her formal presentation by discussing the size of the DEIS (600 pages in Volume I and 900 pages in the Appendices - Volume 2), the schedule for public hearings, and the time line of related events. She did note that the DEIS had just been released for printing. This release, she perceived, meant that the proposed time line and the dates for the 14 scheduled hearings should be very close to the dates given in her presentation. The major current scheduling uncertainty was the length of the comment period—the State of Nevada has requested a time frame longer than the 90-day period currently under consideration (90 days being consistent with the current overall project schedule.)

The Committee was particularly interested in the process to be followed and what effect should be expected if the design continued to change (and how those changes would be reflected in determining the ability of the NRC to "adopt" the DEIS).

Conclusions/Actions

Based upon current understandings of the DOE schedule, the NRC staff scheduled a briefing for the Committee at its 112th meeting (September 14-15, 1999). During the 113th meeting, DOE is scheduled to brief the Committee on comments received at the public meetings. (It is noted that the schedule for these briefings is based upon a 90-day public comment period. Should that period be changed, these dates may be affected.) Committee members also plan to attend at least one of the DOE public comment meetings. The Committee plans to integrate its response closely with that of the NRC staff regarding commenting on the DEIS, once the document is publicly available.

Discussion of the Potential ACNW Contribution to Agency Comments on the Department of Energy's DEIS for Yucca Mountain

The Committee discussed a range of possible comments on DOE's proposed DEIS for YM. The nature and extent of the comments are uncertain because DOE has yet to publish the DEIS, and the length of the comment period is currently unresolved.

Conclusions/Action Items

The Committee will continue to follow the progress of the DEIS.

PROPOSED SCHEDULE FOR THE 112th ACNW MEETING

The Committee agreed to consider the following issues at its 112th meeting on September 14-15, 1999:

- **ACNW Planning and Procedures** — The Committee will be briefed by its staff on issues to be covered during this meeting. The Committee will also consider topics proposed for future consideration by the full Committee and Working Groups. The Committee will also discuss ACNW-related activities of individual members.

- **Risk Communications** — The Committee will continue to prepare for sessions with the local stakeholders to be held this fall (1999) in the Las Vegas, Nevada, area.
- **Results of the Arthur Andersen Review of the Activities of the Division of Waste Management** — The Deputy Director, Office of Nuclear Material Safety and Safeguards (NMSS), will discuss the results of the Arthur Andersen review of recent strategic planning activities within the Division of Waste Management and their potential impacts on ACNW activities.
- **Progress Report on Waste Management Research Program Plan** — Representatives from the Office of Nuclear Regulatory Research (RES) will present RES's plan to the Committee, which RES believes is consistent with the recommendations in NUREG-1635, the most recent joint ACRS/ACNW report on NRC research activities.
- **Decommissioning Standard Review Plan and Dose Modeling** — Representatives from NMSS will provide a scheduled update of NMSS's progress in this area. Included will be a discussion of the draft standard review plan modules and the status of dose models.
- **Division of Waste Management, Office of Nuclear Material Safety and Safeguards, Fiscal Year 2000 Budget and Operating Plan Overview** — NMSS managers will present an overview of their priorities as defined by available resources for Fiscal Year 2000.
- **Preparation of ACNW Reports** — The Committee will discuss planned reports, including a white paper on near-field chemistry issues, a joint ACRS/ACNW letter report on an NMSS approach to risk-informed, performance-based regulation in NMSS, and other topics discussed during this and previous meetings.
- **Meeting with the Director, Division of Waste Management** — The Committee will meet with the Director informally to discuss items of mutual interest.

OTHER RELATED ACTIVITIES OF THE COMMITTEE

The 113th ACNW meeting is scheduled for October 12–14, 1999, in Nevada.

Sincerely,



B. John Garrick
Chairman