

**CERTIFIED**

2/14/2000

BY B. JOHN GARRICK

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CERTIFIED MINUTES OF THE 114 TH MEETING OF THE  
ADVISORY COMMITTEE ON NUCLEAR WASTE  
NOVEMBER 17-19, 1999  
ROCKVILLE, MARYLAND

The U.S. Nuclear Regulatory Commission's (NRC's) Advisory Committee on Nuclear Waste (ACNW) held its 114th meeting on November 17-19, 1999, at Two White Flint North, Room T-2B3, 11545 Rockville Pike, Rockville, Maryland. Notice of this meeting was published in the Federal Register on November 3, 1999 (64 FR 59795) (Appendix I). This meeting served as a forum for attendees to discuss and take appropriate action on the items listed in the meeting schedule and outline (Appendix II). The entire meeting was open to the public.

A transcript of selected portions of the meeting is available in the NRC's Public Document Room at the Gelman Building, 2120 L Street, NW., Washington, DC 20003-1527. Copies of the transcript are available for purchase from Ann Riley & Associates, Ltd., 1025 Connecticut Avenue, NW., Suite 1014, Washington, DC 20036. Transcripts are also available for downloading from, or reviewing on, the Internet <<http://www.nrc.gov/ACRSACNW>>.

**ATTENDEES**

ACNW members who attended this meeting are Dr. B. John Garrick (ACNW Chairman), Dr. Raymond G. Wymer, and Dr. George M. Hornberger. For a list of other attendees, see Appendix III.

**I. CHAIRMAN'S REPORT (OPEN)**

(Mr. Richard K. Major was the Designated Federal Official for this portion of the meeting.)

Dr. B. John Garrick, ACNW Chairman, convened the meeting at 8:35 a.m. and briefly reviewed the agenda. He stated that the meeting was being conducted in conformance with the Federal Advisory Committee Act. He asked members of the public who were present and had something to contribute to the meeting to inform the ACNW staff so that time could be allocated for them to speak. He noted the following as items of interest:

- On October 29, 1999, Dr. Richard A. Meserve was sworn in as Chairman of the NRC.

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- Effective November 1, 1999, Howard J. Larson was detailed to the position of Associate Director, Technical Support, of the Advisory Committee on Reactor Safeguards/Advisory Committee on Nuclear Waste (ACRS/ACNW).
- Richard P. Savio, has assumed the position of Special Assistant to the ACRS Executive Director John T. Larkins. Dr. Savio will work with Dr. Larkins to keep the Commission informed on Committee activities, the operating plan, self-assessment, and so on, and will work with NRC senior staff on procedural and policy issues affecting the ACRS and the ACNW.
- Andrew Campbell will begin a 6-month rotational assignment in the Office of Nuclear Regulatory Research (RES) beginning November 22, 1999. Dr. Campbell will join the Radiation Protection, Environmental Risk, and Waste Management Branch. The ACNW staff will welcome Dr. John Randall from RES, who will temporarily replace Dr. Campbell while Dr. Campbell is on rotation.
- The NRC has launched a new study on spent nuclear fuel cask responses to severe transportation accidents. NRC last studied the issue in the 1980s with its so-called modal study.

Over the next few years, NRC will revisit the conclusions of the 1987 study to confirm that they are still valid. Risk insights obtained using modern analysis techniques and physical testing and thorough interaction with stakeholders and the public will support NRC's ongoing efforts to ensure the effectiveness of its regulatory actions.

- Seventy-five experts representing a broad spectrum of opinion will meet in early December 1999 near Washington, D.C., to seek consensus on issues around the health effects of low-level ionizing radiation, including how to regulate in the face of scientific uncertainty.
- The meeting, sponsored by a number of U.S. and international associations and financially supported by U.S. agencies and scientific organizations, is a follow-on to an initial gathering held at the Wingspread Conference Center in Racine, Wisconsin, August 1-3, 1997.

The idea, as at Wingspread, is to bring people from all sides of the contentious issue together for several days of structured debate to see whether there are some points on which they can agree.

The follow-on conference, "Bridging Radiation Policy and Science," will be held December 1-5, 1999, at the Airlie Center in Warrenton, Virginia. Among the organizers are Gail dePlanque, former NRC Commissioner and currently President of the

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International Nuclear Societies Council, and Manning Muntzing, President of the International Nuclear Law Association.

**II. DISCUSSION OF THE RESEARCH PLAN FOR ENVIRONMENTAL TRANSPORT  
(OPEN)**

(Mr. Howard J. Larson was the Designated Federal Official for this portion of the meeting.)

Margaret Federline, Deputy Director of RES, discussed the self-assessment process utilized by RES for planning and prioritizing research activities. Of particular interest to the Committee were RES activities in the waste arena and their relationship to NRC performance goals. Ms. Federline noted the three critical aspects of the RES vision, namely, to be technically independent from licensees, to be realistic in the technical bases, and to be forward-looking. She stressed that the operating plan for RES is outcome-oriented, that is, it supports customer needs and anticipates future issues.

After describing the approach used by RES, Ms. Federline discussed the multi-attribute, decision-analytic hierarchy process, as well as some of the process refinements that will contribute not only by simplifying the process but also by making it more transparent. She closed her presentation by discussing the Fiscal Year (FY) 1999 self-assessment results and the link between agency goals and operating plan milestones. Of particular interest to the Committee was the FY 2000-2001 activity- to evaluate the conceptual models and parameters of existing models and integrate them into computer codes. The first such milestone is August 2000—development of a probabilistic version of the RESRAD code.

Cheryl Trottier, Chief of the Radiation Protection, Environmental Risk and Waste Management Branch, RES, discussed the radionuclide transport and decommissioning projects underway in her branch. After indicating several projects that support the performance goal of maintaining safety and those that support the goal of reducing unnecessary regulatory burden, she focused on the path being taken over the next 3 years to provide more realistic dose models. This discussion updated the Committee on the status of the DandD, RESRAD, and SEDSS codes, all directly related to the Committee's responsibilities in the facility decommissioning arena. Dr. Wymer noted his intent to attend the final public workshop on dose modeling that is currently scheduled for February 2000.

Ms. Trottier noted RES's intent to obtain significant stakeholder and industry input into the definition of future research efforts. In response to a question from the Committee, she noted that the following needs were principal sources for input into the research program:

1. Outputs from a small contract with the National Academy of Sciences.
2. Requirements indicated by the Office of Nuclear Material Safety and Safeguards (NMSS).
3. Professional meetings and outside program reviews.

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When questioned as to the mechanisms used for obtaining industry input, William Ott, RES, noted that the principal contributors were the Electric Power Research Institute and the Nuclear Energy Institute (NEI).

The Committee requested copies of written reports on the decommissioning-related public workshops and indicated that it will continue to follow and review relevant research activities. The Committee will factor this presentation into its annual letter report to the Commission on agency waste-related research.

**III. RUBBLIZATION (OPEN)**

(Mr. Howard J. Larson was the Designated Federal Official for this portion of the meeting.)

Larry Camper, Chief of the Decommissioning Projects Branch, NMSS, presented the rubblized dismantlement approach to meeting the license termination rule. Mr. Camper was assisted by Larry Pittiglio from his branch. Mr. Camper noted at the outset that the staff believes that although the concept of rubblization is not specifically considered in the license termination rule, it can be considered consistent with the rule and, therefore, is included. He also noted that the Environmental Protection Agency (EPA) has not communicated formally to the NRC on the concept, although EPA has suggested that such an action may require a Resource Conservation and Recovery Act type survey and program.

After describing the concept, Mr. Camper discussed the issues and concerns associated with the concept, noting that the path to resolution involved many stakeholders. He indicated that although the staff had yet to receive an application using such an approach, in discussions with the industry (noticeably the licensee for Maine Yankee) it appears likely that an application using the rubblization approach will be submitted. (The Maine Yankee representative noted that the licensee was delaying submission of its application because of controversy within the State as to what the actual conditions at the site will be, particularly in regard to the acceptable level of contamination. The cost of surveys is also directly related to the acceptable release level and is non-linear.)

In response to a Committee question as to whether a cost-benefit and risk analysis was performed for the different possible scenarios, the staff indicated that an analysis had not yet been performed primarily because of resource limitations and the fact that there is yet no formal application requesting consideration of the rubblization concept. Mr. Camper stressed that whether or not this concept was used by a licensee, the requirements of the license termination rule applied-25 mrem all pathways and as low as reasonably achievable.

Dr. Garrick stated that as it appeared to be an interesting concept with a possible far-reaching effect, he found it difficult to understand why a full cost-benefit and risk analysis that would fully

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justify the concept had not been performed by some entity. A representative from NEI volunteered that the concept is still in its inception and a detailed analysis had not yet been scoped.

At this time, the staff is preparing a paper advising the Commission of the concept and committing to inform the Commission in greater detail if an application is received requesting approval of the concept.

Representatives from NEI and the Maine Yankee facility clarified several questions asked by the Committee, and a representative from the Office of the General Counsel discussed several legal questions. A representative from RES clarified several questions relating to the application of the license termination rule.

The Committee indicated its intent to follow this issue closely as part of its overall responsibilities in the area of decommissioning. It also intends to provide a letter on the rubbleization concept.

**IV. DISCUSSION OF 10 CFR PART 63, NRC'S PROPOSED HIGH-LEVEL WASTE REGULATION (OPEN)**

(Ms. Lynn G. Deering was the Designated Federal Official for this portion of the meeting.)

Timothy McCartin, NMSS, summarized the public comments on draft 10 CFR Part 63 and reviewed the schedule for finalizing the rule. He described the categories of public comments and the staffs proposed responses. He also discussed the NRC's comments on the proposed EPA high-level waste (HLW) standard. Christiana Lui, NMSS, discussed the staffs current thinking on the multiple barriers discussed in 10 CFR Part 63 and public comments on the multiple barriers. Mr. Robert Bernero commented on 10 CFR Part 63 following the staffs presentations.

The staff received approximately 100 sets of written comments, approximately 700 specific comments, and comments from 5 public meetings. The staff will use an issue, comment, and response format to address the comments. The staff may also plan public workshops to communicate the responses to the comments. The staff plans to complete responses to all comments by December 30, 1999, and to complete the final draft rule by January 31, 2000. The staff will submit to the Commission the rulemaking package, along with the first revision of the draft Yucca Mountain Standard Review Plan by March 31, 2000.

NRC grouped the public comments into the following categories: NRC's regulatory authority; safety analysis; dose limit; lack of ground water protection; multiple barriers; additional requirements, including retrievability, human intrusion, emergency planning, quality assurance, changes, tests, and experiments; transportation; and selection of the Yucca Mountain site. Mr. McCartin summarized the comments and NRC responses in these categories. The NRC is still considering how to address several questions from the public, including (1) Why does the NRC

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require the Department of Energy (DOE) to evaluate alternative designs? (2) Should NRC require DOE to demonstrate its plans for retrieval? (3) Should NRC prescribe a more realistic approach for the stylized calculation of human intrusion? (4) Will NRC require that DOE provide funding to local communities to enhance emergency preparedness? (5) Should NRC use an adjudicatory or a legislative hearing process? and (6) Should NRC allow DOE to receive waste before completion of construction? Mr. McCartin indicated that he would appreciate the Committee's comments on the topic.

Mr. McCartin reviewed the three points NRC made to EPA on the HLW standard in 40 CFR Part 197, that is, (1) NRC objects to the inclusion of separate ground water protection requirements because these requirements result in non-uniform risk levels, are a misapplication of the maximum contaminant levels, and far exceed what is needed for public health and safety; (2) NRC objects to those portions of the proposed standard that address technical matters of compliance determination and implementation; and (3) NRC objects to the 15-mrem-per-year individual dose limit from all pathways.

Ms. Lui briefed the Committee on the staffs current thinking on philosophical and technical issues regarding multiple barriers and highlights from the meeting on November 2, 1999, with stakeholders on defense in depth held in Las Vegas, Nevada.

Ms. Lui indicated that the multiple barrier requirement is intended to provide confidence that known uncertainties are addressed in performance assessment (PA) and that the repository system is sufficiently robust to account for imperfect knowledge. She noted that the NRC intends for DOE to conduct a PA that is as realistic as possible. Multiple barriers are intended to go beyond what would be needed for the PA alone.

DOE is required to assess all significant impacts on safety in the PA, identify all barriers and describe and quantify their capabilities, perform additional analyses to show that safety does not wholly depend on a single barrier, and provide a technical basis for the analyses. Further, DOE must demonstrate multiple barriers by showing that the repository system has the ability to compensate for an underperforming barrier. This goal can be accomplished by assuming the barriers do not perform as intended.

One of the technical issues the staff is evaluating includes the degree of underperformance that should be acceptable. The staff does recommend that the barrier performance should be performance based rather than prescribed. She also described other NRC staff recommendations for several technical issues. For example, regarding how NRC should evaluate the outcome of barrier underperformance analysis, the staff recommends that all the evidence be weighed rather than establishing a predetermined numerical limit.

Ms. Lui indicated that members of the public have suggested using the approach in 10 CFR Part 60, the approach in the proposed 10 CFR Part 63, and the approach in the proposed 10 CFR Part 63, with clarification. Another suggestion from the public is that the NRC should specify

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performance of individual barriers. The NRC does not recommend this step because the goal is for the barriers to work together to meet the safety objective.

In its review, the NRC will determine if DOE has met all of the requirements, conduct a detailed technical evaluation of DOE's work, make a determination of acceptability, and conduct independent calculations to probe DOE's analysis. In reviewing DOE's PA, NRC will evaluate the data collected and the quality of the data, conceptual and mathematical models, and application of the models, results, and conclusions. In ensuring that DOE has demonstrated multiple barriers, NRC will examine whether DOE has demonstrated a contribution from both natural and engineered barriers and has conducted additional analyses that assume barriers do not perform as intended ("what if" analyses).

The staff plans to modify the statement of considerations of the rule to clarify the intent of the multiple barriers requirement and to discuss the potential methods DOE can use to demonstrate multiple barriers.

The ACNW indicated that the approach is flexible and that it generally approves of the approach.

**V. ANNOTATED OUTLINE FOR A YUCCA MOUNTAIN REVIEW PLAN (OPEN)**

(Dr. Andrew C. Campbell was the Designated Federal Official for this portion of the meeting.)

The ACNW was given a status update by representatives of the NRC and the Center for Nuclear Waste Regulatory Analyses on the development of the Yucca Mountain Review Plan (YMRP). The staff described its progress in developing the YMRP, including utilizing guidance from other staff initiatives in formulating the YMRP, when appropriate, and identifying areas in which support may be needed from other NRC entities. The staff also described the progress in the preclosure and postclosure safety areas. The staff noted that it is streamlining its efforts by systematically examining work performed in the Issue Resolution Status Reports, focusing on the DOE's safety strategy, and prioritizing work based on risk significance. The ACNW will continue to follow the development of the YMRP.

**VI. NRC STAFF REVIEW OF THE YUCCA MOUNTAIN DRAFT ENVIRONMENTAL IMPACT STATEMENT (OPEN)**

(Mr. Richard K. Major was the Designated Federal Official for this portion of the meeting.)

George Homberger introduced this topic to the Committee. He stated that the purpose of this session was to discuss with the representatives of the NRC staff the results of the NRC staffs review of the Yucca Mountain Draft Environmental Impact Statement (DEIS).

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**NRC Staff Presentation**

James Firth, NMSS, led the discussion for the staff. Mr. Firth presented the results of the staffs review of DOE's DEIS for the proposed Yucca Mountain repository. He stated that the staff reviewed the document for overall completeness and validity of the evaluation methods; for example, do the analyses support the conclusions? The staff identified the following 10 areas of concern, which included the evaluations associated with transportation, consultations, the "no-action" alternative, and socioeconomic impacts.

1. Lack of Synthesis
2. Consultations
3. Mitigation Measures
4. Cumulative Effects
5. Environmental Justice
6. No-Action Alternative
7. Transportation
8. Socioeconomic Impacts
9. Cultural Impacts
10. Proposed Action

Mr. Firth concluded that the staff plans to develop a Commission paper documenting staff concerns and to brief the Commission on January 25, 2000.

**VII. MEETING WITH MANAGERS FROM THE OFFICE OF NUCLEAR MATERIAL  
SAFETY AND SAFEGUARDS (OPEN)**

(Mr. Richard K. Major was the Designated Federal Official for this portion of the meeting.)

William Kane, Director of NMSS, met with the Committee to discuss NMSS priorities for the upcoming months. He explained that a number of strategies are shaping the priority list. These strategies involve performance goals that include maintaining safety; improving public confidence; improving effectiveness, efficiency, and realism; and reducing, where it exists, unnecessary stakeholder burden.



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The Yucca Mountain proposed repository remains the top priority project. initiatives underway on this project include a review of the Yucca Mountain Environmental Impact Statement, a revised 10 CFR Part 63 (HLW regulation), a review of the defense-in-depth philosophy, creation of the Yucca Mountain review plan, pre-closure activities, site recommendation comments, and DOE siting guidelines. The ACNW was asked to work with the staff in these areas.

Mr. Kane believes that the ACNW could help the staff in the low-level waste area in the coming year by reviewing the Branch Technical Position on Performance Assessment.

Dr. Garrick mentioned that ACNW has traditionally had a very keen interest in pre-closure issues for the proposed repository. He offered to work with the staff on pre-closure issues through an ACNW working group or similar means.

Mr. Kane discussed priorities in the decommissioning field. Site decommissioning will be a priority. Decommissioning of reactor sites and SDMP (site decommissioning management plan) facilities will receive specific attention. The license termination and associated guidance and siting modeling methods will receive attention also. The rubbleization decommissioning option will be considered by the staff in the near future.

Transportation issues associated with a large campaign, like the fuel moving to the Yucca Mountain repository, will be studied by the staff. Finally, the staff will evaluate the control of solid materials and under what conditions clearance for release might be granted.

**VIII. EXECUTIVE SESSION (OPEN)**

(Mr. Richard K. Major was the Designated Federal Official for this portion of the meeting.)

**A. Future Meeting Agenda (Open)**

Appendix IV summarizes the proposed items endorsed by the Committee for the 115th ACNW meeting on December 14–16,1999.

**B. Future Committee Activities (Open)**

The 116th ACNW meeting is scheduled for January 13–14, 2000.

### **APPENDIX III: MEETING ATTENDEES**

#### **114TH ACNW MEETING NOVEMBER 17-19, 1999**

##### **ACNW STAFF**

Dr. Andrew Campbell

Ms. Lynn Deering

Ms. Michele Kelton

Dr. John Larkins

Mr. Howard Larson

Mr. Richard Major

Dr. Richard Savio

##### **ATTENDEES FROM THE NUCLEAR REGULATORY COMMISSION**

##### **NOVEMBER 17, 1999**

T. Bloomer	NMSS
B. Ott	EDO
C. Trottier	RES
R. Neel	NMSS
J. Peckenpaugh	NMSS
L. Hamdan	NMSS
P. Reed	RES
J. Philip	RES
L. Veblen	RES
R. Johnson	NMSS
T. Nicholson	RES
P. Castleman	OCM/NJD
T. Mo	RES
J. Randall	RES
M. Webb	NRR
J. Lubinski	OCM/NJD
J. Minns	NRR
S. Lewis	OGC

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**ATTENDEES FROM THE NUCLEAR REGULATORY COMMISSION (CONT'D)**

**NOVEMBER 18, 1999**

S. Wastler	NMSS
B. Ott	EDO
T. Bloomer	NMSS
M. Shuaibi	NRR
B. Reamer	NMSS
J. Kotra	NMSS
B. Ibrahim	NMSS
T. Ahn	NMSS
C. Prichard	NMSS
P. Reed	RES
M. Comar	NMSS
L. Hamdan	NMSS
E. Wolff	NMSS
N. Coleman	NMSS
P. Castleman	OCM/NJD
P. Justus	NMSS
C. Lui	NMSS
J. Firth	NMSS
R. Codell	NMSS
J. Randall	RES
C. Abrams	NMSS
B. Dam	NMSS
J. Davis	NMSS
F. Young	NMSS
S. Gagner	OPA
B. Elliot	NRR
D. Nguyen	NRR
Keith ???	
M. Banic	NRR
Shou-nien Hou	NRR
G. Georgiev	NRR
A. Dromerick	NRR

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**ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC**

**NOVEMBER 17, 1999**

M. Scott	CRWMS M&O
M. Mulligan	BAH
R. Wallace	USGS/HQ
T. Fabian	Nuclear Waste News
B. Littleton	EPA
P. Genoa	NEI
G. Zinke	Maine Yankee - Entergy
G. Wittmeyer	CNWRA
E. Hiruo	Nucleonics Week
J. Russell	CNRWA

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R. Wallace	USGS/HQ
M. Scott	CRWMS M&O
E. Scalsky	TEC/EH
L. Bissell	Booz Allen/DOE-RW
J. Bartlett	SC&A/EPA
S. Crawford	Consultant
K. Mulligan	Booz Allen/DOE-RW
R. Bernero	Consultant
D. Fehringer	NWTRB
M. Baughman	Lincoln & White Pine Counties (Nevada)
A. Shollenger	Public Citizen
S. Tetreault	Davy Media (Las Vegas Review - Journal)
P. Mackin	CNWRA
T. Fabian	Nuclear Waste News
O. Pensaclo	CNWRA
G. Wittmeyer	CNWRA
R. McCullum	NEI
R. Edwards	FTI
S. Absury	EPA

## APPENDIX IV: FUTURE AGENDA

The Committee agreed to consider the following during the 115th ACNW Meeting, December 14-16, 1999:

- **ACNW Planning and Procedures** — The Committee will hear a briefing from 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. This will include strategic planning and self assessment as well as topics for the next Commission briefing. The Committee will discuss ACNW-related activities of individual members. The Committee may also discuss potential ACNW members. (Note: The new members portion may be closed to discuss information the release of which would constitute a clearly unwarranted invasion of personal privacy per 5 U.S.C. 552b(c)(6)).
- **Department of Energy's Yucca Mountain Draft Environmental Impact Statement (DEIS)** — The Committee will discuss various aspects of the DEIS with representatives of the Department of Energy. Topics will likely include a discussion on transportation issues, the nature of public comments to date, and future activities on the part of the DOE.
- **Prepare for and Meet With the NRC Commissioners** — The Committee will meet with the Commissioners to discuss items of mutual interest. Topics are expected to include: risk communications, repository design white paper, NRC's proposed high-level waste regulation, decommissioning issues, and the ACNW action plan and self assessment.
- **Clearance Rule** — The Committee will discuss this proposed rule. The rule will address the level of radioactive contamination on solid material that is acceptable for unrestricted release.
- **NRC Staff's Strategic Planning Efforts (Tentative)** — The Committee will discuss with the NRC staff their recent strategic planning efforts. The Committee will use this information in drafting their Year 2000 Action Plan.
- **Meeting With the Director of the Division of Waste Management, Office of Nuclear Material Safety and Safeguards** — The Committee will meet with the Director to discuss items of mutual interest.
- **Preparation of ACNW Reports** — The Committee will discuss planned reports, including the Yucca Mountain DEIS, rubbleization decommissioning option, waste-related research, the role of safety assessment in regulatory decision making, defense in depth, the proposed NRC high-level waste regulation, and other topics discussed during this and previous meetings.

**APPENDIX V**  
**LIST OF DOCUMENTS PROVIDED TO THE COMMITTEE**

[Note: Some documents listed below may have been provided or prepared for Committee use only. These documents must be reviewed prior to release to the public.]

**MEETING HANDOUTS**

**AGENDA**  
**ITEM NO.**

**DOCUMENTS**

- |          |  |
|----------|--|
| <b>3</b> | <b><u>Discussion of Research Plan for Environmental Transport</u></b> <ol style="list-style-type: none"><li>1. Research Self-Assessment Process, presented by Margaret V. Federline, Deputy Director, RES, dated November 17, 1999 <b>[Viewgraphs]</b></li><li>2. Radionuclide Transport and Decommissioning Projects, Office of Nuclear Regulatory Research, presented by Cheryl A. Trottier, Chief, Radiation Protection, Environmental Risk, and Waste Management Branch, RES, dated November 17, 1999, <b>[Viewgraphs]</b></li></ol>   |
| <b>4</b> | <b><u>Rubblization</u></b> <ol style="list-style-type: none"><li>3. Presentation to ACNW Addressing the Rubblized Dismantlement Approach to Meeting License Termination Rule, presented by Larry Camper, NMSS, dated November 17, 1999</li></ol>   |
| <b>6</b> | <b><u>10 CFR Part 63, NRC's Proposed High-Level Waste Regulation</u></b> <ol style="list-style-type: none"><li>4. Overview of Comments on Proposed Part 63, presented by Tim McCartin, Performance Assessment and High-Level Waste Branch, Division of Waste Management, NMSS, dated November 17, 1999 <b>[Viewgraphs]</b></li><li>5. The Decision Process, Deep Geologic Disposal of High-Level Radioactive Waste, presented by Robert M. Bernero, Retired, NRC, dated November 18, 1999 <b>[Viewgraphs]</b></li><li>6. Public Comment from Clinton E. Crackel, re a proposal to create a U. S. Nuclear Waste Management Agency, dated November 13, 1999 <b>[Handout 1, Agenda Item 6]</b></li><li>7. Deep Geologic Disposal of High-Level Radioactive Waste—The Regulation's Dilemma, by Robert M. Bernero, Retired, NRC, dated November 4–5, 1999 <b>[Handout 2, Agenda Item 6]</b></li></ol> |
| <b>7</b> | <b><u>Annotated Outline for a Yucca Mountain Review Plan</u></b> <ol style="list-style-type: none"><li>8. Current Thinking on Multiple Barriers, presented by Christiana H. Lui, High-Level Waste and Performance Assessment Branch, Division of Waste Management, NMSS, dated November 18, 1999 <b>[Viewgraphs]</b></li><li>9. Yucca Mountain Review Plan Development, presented by Christiana H. Lui, High-Level Waste and Performance Assessment Branch, Division of Waste</li></ol>  |

Management, NMSS, and Patrick C. Mackin, Center for Nuclear Waste Regulatory Analyses, dated November 18, 1999 **[Viewgraphs]**

10. Outline for Yucca Mountain License Application Review Plan, NUREG-11/1999 **PREDECISIONAL [Handout 1, Agenda Item 7, ]**

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**NRC Staff Review of the Yucca Mountain Draft Environmental Impact Statement**

11. NRC Staff Review of DOE's Yucca Mountain Environmental Impact Statement, presented by James R. Firth, Division of Waste Management, NMSS, dated November 18, 1999 **[Viewgraphs]**

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**Meeting With NMSS Management**

12. NMSS Priorities for ACNW, presented by William F. Kane, Director, NMSS, **[Viewgraphs]**

## MEETING NOTEBOOK CONTENTS

### TAB

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### DOCUMENTS

#### Opening Remarks by ACNW Chairman

1. Introductory Statement by the ACNW Chairman, undated
2. Items of Current Interest, undated
3. NRC Office of Public Affairs Press Release, "Remarks of Dr. Richard A. Meserve, Swearing-in Ceremony of the U.S. Nuclear Regulatory Commission"
4. Introductory Statement by the ACNW Chairman, Second Day, undated
5. Introductory Statement by the ACNW Chairman, Third Day, undated

#### 2 ACNW Planning and Procedures

6. Items for Discussion for 115<sup>th</sup> ACNW Meeting, December 14-16, 1999
7. EDO Responses to ACNW Reports on the White Paper on Repository Design and the ACNW Section of the Research Report
8. EDO's List of Future Meeting Topics
9. OCRWM/M&O Meeting Status
10. ACNW 1999/2000 Meeting Calendar

#### 3 Discussion of Research Plan for Environmental Transport

11. Status Report

##### **Enclosures:**

- Letter dated October 22, 1999, from William D. Travers, EDO, to Dr. Dana A. Powers, Chairman, ACRS, Subject: ACRS and ACNW Report Entitled "Review and Evaluation of the Nuclear Regulatory Commission's Safety Research Program," NUREG-1635, Vol. 2
- ACRS and ACNW Report entitled "Review and Evaluation of the Nuclear Regulatory Commission's Safety Research Program," NUREG-1635, Vol. 2

#### 4 Rubblization

12. Electronic Copy of memorandum from William D. Travers, EDO, to The Commissioners, Subject: The Rubblized Concrete Dismantlement Approach



**6      10 CFR Part 63, NRC's Proposed High-Level Waste Regulation**

**13.      Status Report  
            Enclosures:**

- Memorandum dated September 22, 1999, from William D. Travers, EDO, to The Commissioners, Subject: Request for Extension of Milestone for Final Rulemaking Package on 10 CFR Part 63 (Disposal of High-Level Waste at Yucca Mountain, Nevada), SECY-99-234
- Memorandum dated September 21, 1999, from William D. Travers, EDO, to The Commissioners, Subject: Staff Comments on the U. S. Environmental Protection Agency's Proposed Rule on Environmental Radiation Protection Standards for Yucca Mountain, Nevada, SECY-99-230
- Memorandum dated July 16, 1999, from William D. Travers, EDO, to The Commissioners, Subject: Staff Plan for Clarifying How Defense-In-Depth Applies to the Regulation of a Possible Geologic Repository at Yucca Mountain, Nevada, SECY-99-186
- Letter dated May 16, 1999, from Robert M. Bernero, to Secretary, U.S. Nuclear Regulatory Commission, regarding comments on the Proposed Rulemaking for Disposal of High-Level Wastes in a Proposed Repository at Yucca Mountain, Nevada, as appeared in *Federal Register* on February 22, 1999

**7      Annotated Outline for a Yucca Mountain Review Plan**

**14.      Status Report  
            Enclosures:**

- "Framework for the Yucca Mountain Review Plan," viewgraphs presented by Christiana Liu at 109<sup>th</sup> ACNW Meeting, May 11, 1999
- *Draft* 10 CFR Part 63, "Disposal of High-Level Radioactive Wastes in a Proposed Geological Repository at Yucca Mountain, Nevada, Proposed Rule," *Federal Register*, Vol. 64, No. 34, February 22, 1999
- Preliminary Outline for Yucca Mountain License Application Review Plan (**Predecisional Draft**)
- Department of Energy's "Repository Safety Strategy — Implementation and Work Prioritization," viewgraphs presented at 113<sup>th</sup> ACNW Meeting, October 12-13, 1999, Las Vegas, Nevada
- Letter dated June 25, 1999, from Robert J. Budnitz, Future Resources Associates, Inc., to B. John Garrick, Chairman, ACNW, regarding defense-in-depth in proposed 10 CFR Part 63

- Letter dated May 19, 1999, from Dana A. Powers, Chairman, ACRS, to Shirley Ann Jackson, Chairman, NRC, Subject: The Role of Defense in Depth in a Risk-Informed Regulatory System

**8      NRC Staff Review of the Yucca Mountain Draft Environmental Impact Statement**

- 15. Table of Contents
  - 16. Proposed Schedule
  - 17. Status Report
- Attachments:

- Memorandum dated September 28, 1999, from Richard K. Major, Special Assistant, ACNW, to ACNW Members and Staff, Subject: DOE Presentation to the Commission on the Yucca Mountain Draft Environmental Statement (DEIS)
- Transcript of the DOE presentation during the 111<sup>th</sup> ACNW Meeting on July 21, 1999
- Memorandum dated October 31, 1999, from Richard K. Major, Special Assistant, ACNW, to ACNW Members and Staff, Subject: Public Meeting on DOE's Draft Environmental Impact Statement (DEIS) on Yucca Mountain
- Suggested questions for the DOE/NRC Technical Exchange on the Yucca Mountain DEIS

**11      Meeting With Managers from the Office of Nuclear Material Safety and Safeguards**

- 18. Status Report