

TABLE OF CONTENTS  
 23RD ACNW MEETING  
 AUGUST 29-30, 1990

	<u>Page</u>
I. Chairman's Report (Open)	1-2
II. Draft Technical Position on Waste Forms (Revision 1) (Open)	2-6
III. Status Report on Working Draft #3 of EPA's Environmental Radiation Protection Standards (40 CFR Part 191) (Open)	6-9
IV. Executive Session (Open)	9-13
A. Reports, Letters and Memoranda	9
B. Discussion on Potential Committee Involvement in Decommissioning Reviews for Other than 10 CFR Part 50 Facilities	10
C. Radioactive Waste Repository Licensing Symposium	11
D. Report on Meeting with Chairman Carr and NRC Staff	11
E. Proposed Memorandum of Understanding (MOU) Between ACNW and the EDO	11-12
F. Facility to Use Centrifuge Enrichment of Uranium	12
G. ACNW Future Activities	12
APPENDIX I:	Meeting Attendees
APPENDIX II:	Future Agenda
APPENDIX III:	Documents Received

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Issued: September 19, 1990

MINUTES OF THE 23RD MEETING OF THE  
ADVISORY COMMITTEE ON NUCLEAR WASTE  
AUGUST 29-30, 1990  
BETHESDA, MARYLAND

The 23rd meeting of the Advisory Committee on Nuclear Waste was convened by Chairman Dade W. Moeller at 8:30 a.m., on Wednesday, August 29, 1990, at 7920 Norfolk Avenue, Bethesda, Maryland.

[Note: For a list of attendees, see Appendix I. ACNW members, Drs. William J. Hinze, Dade W. Moeller, Paul W. Pomeroy, and Martin J. Steindler were present. ACNW consultant, Dr. David Okrent, was also present.]

The Chairman said that the agenda of the meeting had been published in the Federal Register. He stated that the meeting was being held in conformance with the Federal Advisory Committee Act and the Government in the Sunshine Act, Public Laws 92-463 and 94-409, respectively. He also noted that a transcript of some of the public portions of the meeting was being made, and would be available in the NRC Public Document Room at the Gelman Building, 2120 L Street, N.W., Washington, D.C.

[Note: Copies of the transcript taken at this meeting are also available from the Ann Riley & Associates, Ltd., 1612 K Street, N.W., Washington, D.C. 20006.]

I. CHAIRMAN'S REPORT (Open)

[Note: Ms. Charlotte Abrams was the Designated Federal Officer for this portion of the meeting.]

Dr. Moeller welcomed Dr. Paul W. Pomeroy to his first meeting as a Committee member and noted his curriculum vitae.

Dr. Moeller announced that U.S. Ecology has filed an application to build a low-level radioactive waste (LLW) disposal site in Boyd County, Nebraska. This will be the first facility to use above-ground storage to handle LLW from an interstate compact.

Dr. Moeller reported that the National State Liaison Officers' Meeting, sponsored by NRC, will be held September 11-12, 1990. Radioactive waste issues will be discussed during the meeting. He recommended that an ACNW staff person attend.

He noted that the technical workshop on radionuclide adsorption will be hosted by the Los Alamos National Laboratory (LLNL) on September 11-12, 1990 and asked whether any members are interested in attending.

Dr. Moeller announced that the Nuclear Waste Technical Review Board (NWTRB) will hold a public hearing on the effects on the environment and public health of siting, characterizing, and building a permanent repository at the proposed Yucca Mountain Site. The hearing will be held in Las Vegas, Nevada on October 15, 1990. He requested that a summary of the meeting be provided to the Committee.

Dr. Moeller informed the Committee that the National Academy of Sciences Board on Radioactive Waste Management will have a planning meeting on August 30, 1990, to go over their schedule for the upcoming NAS Symposium on the EPA standards. [Due to the conflicting schedules, no one from the ACNW staff could attend the planning session.]

## II. DRAFT TECHNICAL POSITION ON WASTE FORMS (REVISION 1) (Open)

[Note: Mr. Howard J. Larson was the Designated Federal Officer for this portion of the meeting.]

Dr. Michael Tokar, Section Leader, Division of Low-Level Waste Management and Decommissioning, Office of Nuclear Materials Safety and Safeguards (NMSS), was the principal presenter. He was introduced by Mr. John Surmeier, NMSS. Mr. John T. Greeves, Deputy Division Director, was also present.

Mr. Surmeier noted that cement waste forms have been disposed of in the United States for over 20 years. The primary purpose of cement waste forms is for solidification as opposed to stabilization. In 1983, the NRC grandfathered cement waste forms for low-level waste (LLW) disposal until the NRC could review the relevant vendor topical reports. To date, no cement waste form topical reports have been approved.

Copies of the cement waste form Technical Position (TP) have been sent to the agreement states, but thus far, only the State of New Jersey has returned formal written comments. (Their comments were supportive). Informal discussions with representatives of South Carolina were also supportive.

Mr. Surmeier completed his introductory remarks indicating that he believed that this Branch TP will provide the means to approve, disapprove or conditionally concur with proposed cement waste forms.

Dr. Steindler raised two general questions that he wished to be covered during the discussion. First, should not Part 61 be revised? Secondly, should not the criteria in the Branch TP include, in addition to its focus on mechanical properties, a focus on the chemical properties which also strongly influence transport?

Dr. Tokar responded that the EPA approaches such issues from the standpoint of chemical stabilization. This approach, he believes, contains merit and ought to be further considered in the radioactive area.

Much of the foundation for the new guidance in the revised TP resulted from a three-day workshop held in June 1989. NRC's goals for revising the TP and the progress made towards meeting them were also described. After noting that three classes of waste are defined in the regulations (A, B, and C), Dr. Tokar noted that Class B and C wastes must meet the structural stability requirement of maintaining its physical dimensions for 300 years. This stability criteria can be met through the use of a solidification medium, a disposal container or an engineered structure. (This latter option is being considered by a number of the new compacts.) While Part 61 established the basic requirements for waste form stability, 10 CFR Part 20.311 contains the additional relevant information.

A brief history of Part 61 was provided. The grandfathering of vinyl ester styrene and asphalt waste forms was noted. These forms are currently regarded as meeting Part 61 stability requirements. In a 1983 Federal Register notice, it was stated that licensees need not submit their compliance programs for formal NRC review and approval but must have such compliance demonstration information available. Unless a previously reviewed and approved generic topical report could be referenced, compliance had to be verified by the NRC inspection program. The topical report approach is preferred as it is far more cost effective and efficient. To further encourage topical report submissions, it was announced that any submitted before the end of June 1984 would not be subjected to a fee. About 20 reports were received before the waiver was closed out.

Dr. Tokar noted that, while Part 61 established the requirements for waste form stability, the guidance on how to meet those requirements is in the TP. He described some of the tests that are used as indirect indicators of stability, noting that the main parameter is compressive strength. He gave several reasons for this focus on cement: a) it is the most widely used medium for solidification and stabilization of low-level waste, b) it was grandfathered, and c) most of the submitted topical reports dealt with cement. As experience has been gained with the cement form, however, more problems have been noted. Field experience has been bolstered by laboratory observations, including a two year old program under the cognizance of the Idaho National Engineering Laboratory (INEL). In the course of this latter program, some 12 sites have been visited. In each case, the observed solidification program was deficient.

Dr. Tokar next described the latest TP revision, pointing out that there are two principal revisions: the reporting of mishaps and the new cement stabilization appendix. In the appendix (which has grown from 4 to 19 pages in this revision) there are several new sections, viz. qualification test specimen preparation; statistical sampling and analyses; waste characterization; process control program, specimen preparation and examination; and surveillance specimens. He pointed out that probably the most significant change is in the compressive strength requirement. That acceptance criterion increased from 60 psi to 500 psi. This value change, which was believed to be reasonably achievable, was primarily due to the number of observed waste stream formulations where unacceptable resultant compressive strengths were reported.

Dr. Steindler noted that the 500 psi compressive strength criterion applied only to concrete and not to the other waste forms. Dr. Tokar agreed, stating that it was their intent to go back and review analogous guidance for other waste forms as applicable. He postulated that perhaps vendors would now start a trend away from cement.

Dr. Steindler asked about the impact on waste form qualifications should a licensee elect to use an engineered structure. In response, Dr. Tokar stated in that case only the minimum requirements need be met (e.g. no pyrophoric or explosive or flammable materials, limited free liquid and compliance with Department of Transportation requirements.) Mr. Greeves noted that while per regulatory requirements Dr. Tokar's response was correct, most states that are considering an engineered structure appear to be supporting both an improved waste form in conjunction with the engineered structure.

Dr. Hinze asked about the intent of the compressive strength testing. Dr. Tokar indicated that the test results, when taken together, are intended to be used as an indicator of the long term behavior of the material. Dr. Hinze then queried why 500 psi was used rather than 700 psi. The answer was that this was achievable and was considered to represent a reasonable number based on values used by other entities (both national and international). The history and background of the 500 psi selection was discussed and the importance of the archival specimen testing noted. Other tests, their background and perceived importance were discussed. For instance, the biodegradation tests are proposed to be deleted since the fungi and microbes "simply don't attack cement" while the immersion tests have been made more rigorous.

A discussion between Drs. Tokar and Steindler on the impacts of irradiation on stability resulted in the latter agreeing to

transmit data in his possession on the observed effects of  $10^9$  rads on non-organic containing waste.

Dr. Tokar discussed the importance of test specimen preparation and some of the important considerations (mixing, curing, storage, statistical sampling and analyses, et al).

In response to Dr. Hinze's question, Dr. Tokar described the qualification process for a given formulation but admitted that there are no provisions for taking specimen cores from large scale waste forms.

Dr. Pomeroy questioned the size of the specimen samples relative to the full scale waste forms. The typical specimen size is 2-3" in diameter and contains no radionuclides while the full scale waste form could be six feet in diameter by six feet high. Dr. Moeller asked whether the archival samples were really samples and was assured that they were representative. Further discussion then ensued on constituents that can harm the waste form, the definition of chelating agents and the use of surveillance testing. In regards to the latter, a surveillance program is not required when there is evidence of little secondary or unknown ingredients in the waste stream.

The purpose of the process control program (PCP) was next discussed. It was noted that formerly the PCP's were part of a nuclear generating station's technical specifications but recently have been removed. In previous years, NRR, was responsible for reviewing both the technical specification change and the PCP topical reports. These relevant functions are now performed by NMSS.

Dr. Tokar, in response to Dr. Steindler, described how the PCP's were removed from the technical specifications, noting that the whole area of radioactive waste management and disposal is no longer in the technical specifications. Both discussed the requirements for review of the PCP's and the approvals required for changes. Dr. Tokar pointed out that if changes are made to PCP's that have been approved as part of the topical report process, they should be reviewed and approved by the NRC.

The in-field preparation of specimens was discussed and some of the pitfalls and inherent errors noted in the past were outlined. The purpose of the revised guidance is to address these concerns by providing additional specificity.

Accelerated cement aging tests were discussed by Drs. Steindler and Tokar with the conclusion being that, although some of the testing could be classed as accelerated, there was no direct aging

equivalent testing either identified or required.

Dr. Tokar presented the approval process for this TP, noting the remaining involvement of both internal and external parties (viz, NRR, CRGR, OMB).

Dr. Tokar discussed the staff's desire to issue the TP as promptly as possible. The various types of approval were discussed with the "interim" or "conditional" approval category receiving the most elaboration. A recent NRC state survey was discussed which indicated that: 1) essentially all of the states will rely on waste form regardless of the type facility (engineered storage or not) and 2) essentially all of the states will continue to rely on an undiminished NRC role in the topical reports review process. It is planned to approve the topical reports after the revised TP position is approved. Past grandfathering would be ended on a schedule, yet to be worked out, with the sited states and NRR.

In concluding the session, Dr. Steindler mentioned several personal comments on the report (e. g. typos, the use of distilled water or synthetic seawater, and drop testing). He congratulated the staff for their efforts on Revision 1 and restated his belief that the reporting of mishaps in an "advisory sort of fashion" should be helpful to both staff and licensees.

### III. STATUS REPORT ON WORKING DRAFT #3 OF EPA'S ENVIRONMENTAL RADIATION PROTECTION STANDARDS (40 CFR PART 191) (Open)

[Note: Mr. Howard J. Larson was the Designated Federal Officer for this portion of the meeting.]

Mr. Ray Clark, Office of Radiation Programs, EPA, was the presenter. He stated he would review the changes to Working Draft #2 currently under consideration by EPA.

Mr. Clark reviewed that part of his previous presentation to the Committee wherein he discussed possible changes to the standards as issued in 1985. EPA plans to modify Subpart A to include Greater-than-Class C (GTCC) wastes because the NRC might require GTCC wastes to be emplaced in the HLW repository. Also, Section 191.04, entitled Alternative Standards, will be deleted because DOE has informed EPA that they no longer will request this capability.

In addition, the words in Subpart B that discuss the use of committed effective dose equivalent will be changed to be made more clear. The 100,000 year site comparison will be reworded to state that it is a qualitative requirement only and that it is in no way related to performance assessments. The groundwater potability definition is being reworked. The individual and groundwater

protection requirements may be extended from 1,000 years to 10,000 years. In regard to this latter item, Dr. Okrent questioned the underlying philosophy. Rather than a philosophy, the extension reflects EPA's interpretation of the intent of the court's ruling that remanded the standards.

Dr. Steindler queried the 100,000 year timeframe for site evaluations. Mr. Clark responded by noting that EPA recognizes the difficulties in making such an extrapolation and that is why it will not be made a part of a performance assessment.

Dr. Okrent and Mr. Clark engaged in a discussion of the difficulties and pitfalls of numbers such as 10,000 and 100,000 years with the former recalling discussions held several years ago while he was a member of the Science Advisory Board (SAE). Dr. Okrent noted that the SAB believed 200-300 years was the proper consideration for individual protection. That value was rounded off in their report to 500 years.

Dr. Moeller discussed the question of hierarchical structure raised in Mr. Guimond's (the Director of EPA's Office of Radiation Programs) letter of August 6, 1990. Mr. Clark pointed out that the goal is 1000 health effects over 10,000 years, not "no more hazardous than unmined ore." The latter was used by EPA merely as a comparison to show that 1,000 health effects is a reasonable level.

Dr. Okrent stated that the goal did not take into account benefits from accumulating the wastes, or a comparison with other radiation risks regulated by EPA or practices that the EPA currently accepts for disposal of hazardous chemical wastes. Mr. Clark concurred. Further discussion on EPA hazardous waste disposal philosophy followed without resolution.

Following further discussion on uncertainty impacts and the underlying general philosophy, Mr. Clark stated EPA's position: the basis of the standard does not need to be changed since the standard is implementable.

After clarification of some groundwater questions for Dr. Hinze, Dr. Steindler asked why EPA believes it is their function to determine site suitability as opposed to defining general environmental standards. Mr. Clark replied that an assurance requirement is the establishment of a background for the use of other requirements. An example of the need to evaluate between sites was given as a reason for looking at timeframes beyond 10,000 years.

A discussion ensued on the drinking water limit, noting that was one of the main bases for the court remand.



The next discussion was on Section 191.17, "Demonstration of Capability to Comply." Dr. Steindler noted that he was pleased that EPA had clearly stipulated this option but at the same time, he believed this was not within EPA's regulatory purview.

Dr. Steindler elaborated on this philosophical discussion, concluding his remarks with the recognition that it was not an issue that could be debated at length by the Committee.

Dr. Moeller questioned the definition of standards and regulations and the line of separation, as he perceived a different interpretation by EPA and the NRC as to what constitutes either one. He pointed out that in his view 1,000 deaths in 10,000 years was clearly a standard while Table 1, which sets specific radionuclide releases, is a regulation. Furthermore, the implementation of a standard is a regulation. Mr. Clark concurred that perhaps there is a philosophical difference in this regards.

The EPA also intends to clarify the section on distribution functions, what "undisturbed performance" means and is reworking the language on borehole sealing. In regard to this latter point, it is intended that the implementing agency can make its own assumptions on borehole sealing as long as they can be supported.

Dr. Steindler asked about using that same general approach to the 30 boreholes/km<sup>2</sup>. Mr. Clark noted that, while the intention was to define a worst-case scenario, a demonstration by the applicant of something more advantageous would be acceptable.

In summarizing possible further changes to Working Draft #2, Mr. Clark stated that EPA will probably change Subpart A to: 1) an annual committed effective dose equivalent; 2) delete the maximum achievable control technology assurance requirement thereby removing the one-time ALARA assurance requirement; 3) change the 1985 groundwater classification scheme to an option which "essentially duplicates what the Safe Drinking Water Act Regulations are now which is basically four millirem/year" or else a potability classification; 4) suggest iterative performance assessments (similar to the recent National Academy of Sciences report suggestion) and; 5) return to the 1985 language for less stringent borehole sealing.

Dr. Steindler questioned whether the probabilistic nature of the performance assessment was left untouched. Mr. Clark replied affirmatively.

Dr. Okrent questioned the philosophy of the EPA in regards to the different acceptable risks from HLW sites, hazardous waste sites and radon. Mr. Clark replied that he could not address EPA's

across-agency philosophies. He suggested that the Committee consider meeting with Mr. Guimond on this subject.

Mr. Clark indicated that Working Draft #3 will hopefully be issued by mid-late October pending receipt of analyses from EPA contractors. It is hoped that the "preamble draft background information document" and "draft economic impact analyses" will also be ready at that time.

Dr. Moeller invited Mr. Jim Wolf, Office of the General Council, NRC, to briefly address the Committee on the difference between a standard and a regulation. Mr. Wolf commented upon the standard setting authority of the EPA and its history (EPA was established in 1970). After describing the evolution to the present time, he noted that the NRC is not planning to litigate any questions relating to compliance with the EPA standards.

The Committee thanked Mr. Wolf for his helpful comments and Mr. Clark for his insights on the anticipated changes to the Standards.

#### IV. EXECUTIVE SESSION (Open)

##### A. Reports, Letters and Memoranda (Open)

- Revision 1 of Draft Technical Position on Waste Form  
[Sent to Chairman Carr on September 6, 1990]
- Decommissioning Reviews for Other Than 10 CFR Part 50 Licensed Facilities [Sent to Chairman Carr on September 6, 1990]
- Program Plan for the Advisory Committee on Nuclear Waste  
[Sent to Chairman Carr on September 7, 1990]
- Letter to Commissioner James R. Curtiss Regarding the Status of Studies in Which He Has Expressed an Interest  
[Sent to Commissioner Curtiss on September 11, 1990]
- Paper to Be Presented to the National Academy of Sciences Symposium on the EPA Standards [Sent to Chairman Carr on September 11, 1990]
- Proposed Memorandum of Understanding (MOU) Between ACNW and the Executive Director for Operations (EDO) [Sent to James Blaha on September 18, 1990]
- Abstract for Presentation at the Waste Management '91 Meeting to Be Held on February 24-28, 1991, in Tucson, Arizona

B. Discussion on Potential Committee Involvement in Decommissioning Reviews for Other Than 10 CFR Part 50 Facilities (Open)

[Note: Mr. Howard J. Larson was the Designated Federal Officer for this portion of the meeting.]

Although no formal presentation was made, Dr. John Austin, NMSS, was available to answer questions and provide regulatory staff support as needed.

Dr. Moeller stated that the purpose of this portion of the meeting was for the Committee to respond to Chairman Carr's query as to its desired involvement in the decommissioning of other than 10 CFR Part 50 licensed facilities.

Dr. Moeller briefly discussed the status of Fort. St. Vrain, Rancho Seco and Shoreham Nuclear Power Plants, noting that until the Commissioners decided as to whether NEPA requires that an evaluation of the environmental impacts of alternative sources of power (electricity) be conducted prior to their decommissioning, the plants must remain in an operational condition.

These three facilities will be submitting decommissioning plans which the Committee will be reviewing. However, ACNW involvement will probably not be active for at least a year. Fort St. Vrain will probably be the first plant of the trio to receive Committee review. Review responsibilities would be in accordance with the Memorandum of Understanding currently being finalized between the Committee and the staff.

The March 29, 1990 Site Decontamination Management Plan (the subject of SECY-90-121) is being revised and is expected to be issued by late Fall 1990. The Plan, which was forwarded to the Committee in April, discusses some forty sites with various degrees and nature of radioactive contamination. It was pointed out that, since the problems at each site are different, the development of a truly generic approach would be extremely difficult. Also noted was the current DOE cleanup program. The staff should be certain that the applicable technology developed by DOE is transferred, as the expertise being developed in that program is significant.

At the completion of its discussion, the Committee approved the enclosed letter to Chairman Carr, indicating their interest in: 1) examining and resolving the key issues at a few sites, and 2) assisting the staff in highlighting and addressing generically, if possible, the key technical issues.

C. Radioactive Waste Repository Licensing Symposium (Open)

The Committee discussed and revised a draft presentation that will be given by ACNW representatives at the Symposium on Radioactive Waste Repository Licensing on September 17-18, 1990, in Washington, D.C. The presentation will summarize previous ACNW advice to the Commission on the EPA standards and site characterization. The symposium is being sponsored by the Board on Radioactive Waste Management, National Research Council, National Academy of Sciences.

Some members noted that the meeting agenda seems to be shifting and expanding to include such issues as 10 CFR Part 60. Dr. Steindler suggested that the ACNW presentation continue to focus on the EPA standards.

D. Report on Meeting with Chairman Carr and NRC Staff (Open)

Dr. Moeller reported on the major highlights of his meeting with Chairman Carr on August 28, 1990. Dr. Moeller noted that:

- Chairman Carr agreed that the ACNW could respond in writing to the inquiry from Mr. Richard Guimond. Chairman Carr requested that the Committee's reply be transmitted to EPA through his office.
- Chairman Carr concurred with the Committee's decision that there was no need for ACNW comments on the effect of National Emission Standards for Hazardous Air Pollutants (NESHAPs) on radioactive waste management and disposal, at this time, unless the Committee observes some particular problems in applying the proposed regulations to specific nuclear facilities.
- Chairman Carr agreed that, although the development of a "strawman" set of standards for a HLW repository would be of interest, it would probably be more useful if the Committee's resources were applied to working with the EPA and NRC staffs in resolving questions with the evolving revisions to the EPA standards.

E. Proposed Memorandum of Understanding (MOU) Between ACNW and the EDO (Open)

Dr. Moeller recommended that, instead of deleting the reference to Part 20 as an area of ACNW interest -- as proposed by the EDO's office, the MOU state that "Although the ACNW recognizes that review of 10 CFR Part 20 will be

primarily an ACRS responsibility, the ACNW maintains an interest in those portions of Part 20 that pertain to nuclear waste facilities." The Committee directed the ACNW Executive Director to make specific changes to the proposed MOU. The MOU was approved with the changes.

F. Facility to Use Centrifuge Enrichment of Uranium (Open)

Dr. Steindler expressed interest in the status of the facility to use centrifuge enrichment of uranium. Since a waste stream will be involved, what will ACNW be called on to do? Mr. Raymond Fraley agreed that the ACNW staff would obtain information regarding this matter.

G. ACNW Future Activities (Open)

- The Committee agreed to cancel the meeting scheduled for November 26-27, 1990, and to reschedule the December 19-21 meeting for December 12-14, 1990.
- The Committee discussed meeting quorum requirements and a proposed letter on the feasibility of a five member committee. It was agreed that the proposed letter should not be sent to the Commission at this time. The members should continue the search for a highly qualified hydrologist to assist in the Committee's future deliberations. When a qualified person is identified and that person expresses interest, the Committee will request his or her appointment to the ACNW as a fifth member.
- Attempts will be made to schedule a meeting for Drs. Moeller and Pomeroy with Chairman Carr within the next month or so.
- Dr. Hinze advised the Committee that he will attend the Geological Society of America's national meeting in Dallas, Texas, in October, 1990. Dr. Hinze also expressed interest in making a side trip on behalf of the Committee during his visit to Switzerland.
- Dr. Moeller requested that a summary of the next public hearing of the Nuclear Waste Technical Review Board (October 11-12, 1990, in Arlington, VA) be obtained and distributed to the Committee.

- Dr. Moeller recommended that the Committee review and comment on two reports, NUREG-1199, Standard Format and Content Guide, and NUREG-1200, Standard Review Plan for LLW. The NRC staff will be informed of the Committee's interest to do so.
- Dr. Moeller recommended that a Working Group meeting be scheduled for a briefing by the New Mexico Environmental Assessment Group and other. The briefing will be on the Sandia National Laboratories' report that concluded that "reasonable confidence that compliance [of the WIPP facility with the EPA standards] is achievable." The Committee agreed to include this subject with the proposed Working Group meeting on Human Intrusion.
- The Committee considered planning a future session to discuss NRC jurisdiction on Process Control Programs of waste processors. Items that could be addressed include how to ensure that changes in processing techniques are not made without NRC approval.

#### H. Future Agenda

Appendix II 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.

The 23rd ACNW meeting was adjourned at 3:15 p.m. on August 30, 1990.

APPENDIX I: MEETING ATTENDEES

23RD ACNW MEETING  
AUGUST 29-30, 1990

<u>ACNW MEMBERS</u>	<u>1st Day</u>	<u>2nd Day</u>
Dr. William J. Hinze	<u>  X  </u>	<u>  X  </u>
Dr. Dade W. Moeller	<u>  X  </u>	<u>  X  </u>
Dr. Martin J. Steindler	<u>  X  </u>	<u>  X  </u>
Dr. Paul W. Pomeroy	<u>  X  </u>	<u>  X  </u>
 <u>CONSULTANT</u>		
Dr. David Okrent	<u>  X  </u>	<u>  X  </u>

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John J. Surmeier  
Donald J. Loosley  
James R. Wolf  
Seth M. Coplan  
Michael Tokar  
Robert E. Shewmaker  
Banad N. Jagannath  
Phillip R. Reed  
Everett Wick  
Jacob Philip  
Peter W. McLaughlin

OTHER AGENCIES AND GENERAL PUBLIC

Raymond H. Wallace	USGS-HQ/DOE-HQ (Liaison)
G. W. Roles	Department of Energy
Charles E. Jensen	Diversified Technology
Carol Hornbrook	EPRI
Dudley Thompson	DNF Safety Board
Dermot Winters	DNF Safety Board
Bill Barnard	Nuclear Waste Technical Review Board
Wayne Stone	R. F. Weston
Cliff Noronha	R. F. Weston
David Michlewicz	R. F. Weston
H. L. Bermanis	R. F. Weston/UE&C
Ellen Z. Coombs	SAIC
Bill House	Chem-Nuclear Systems
John T. Schmitt	NUMARC
Michael A. Bauser	EEL/UWASE
John Harries	ANSTO
John Lange	General Accounting Office
Brian Roy	SEG
Greg Boris	SEG
Peter Soo	Battelle National Laboratories
Roy Clark	Environmental Protection Agency
Bill Russo	Environmental Protection Agency
Karen Unnerstall	Newman & Holtzinger
Andy Muir	ICF
Lokesh Chaturvedi	New Mexico Env. Eval. Group
Stan Echols	Bishop, Cook, Purcell & Reynolds



## APPENDIX II. FUTURE AGENDA

September 19-20, 1990 (Tentative Agenda)

Response to Mr. Guimond, EPA (Open) - The Committee will discuss a response to the EPA's request for clarification of the comments and recommendations made by ACNW on the EPA's standards for disposal of high-level waste in a geologic repository.

National Academy of Sciences - National Research Council Report on "Rethinking High-Level Radioactive Waste Disposal" (Open) - The Committee may meet with the NRC staff to discuss their evaluation of the NAS-NRC report on "Rethinking High-Level Radioactive Waste Disposal".

Performance Assessment Methodology (Open) - The Committee will hear a presentation on EPRI's activities on the development of performance assessment methodology for a HLW repository. The EPRI report is scheduled for release in October.

Recent Request from Commissioner Curtiss (Open) - The Committee will discuss the strategy and schedule for responding to recent requests from Commissioner Curtiss to review technical issues involved in the disposal of mixed waste with an emphasis on the resolution of conflicts between NRC's and EPA's regulations, and to consider subsystem requirements within 10 CFR Part 60 to determine their conformance with the EPA high-level waste standards.

Proposed Regulatory Guide on the Format and Content for HLW Repository License Applications (Open) - The Committee will review the proposed Regulatory Guide on the Format and Content for HLW Repository License Applications. The Committee will review this guide prior to the public comment period.

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

October 24-26, 1990 (Tentative Agenda)

HLW Performance Assessment (Open) - The Committee will be briefed by the NRC staff on the "Phase I Demonstration of the Nuclear Regulatory Commission's Capability to Conduct a Performance Assessment for a HLW repository." This presentation will be informational only.

Sandia National Laboratories' Report (Open) - The Committee will be briefed on a recent report by Sandia National Laboratories regarding the conclusion that there is reasonable confidence that the WIPP facility will comply with the EPA standards.

LLW Performance Assessment (Open) - The Committee will hear a briefing by the NRC staff on performance assessment methodology for a LLW site. This presentation will be for information only.

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

NRC's Radioactive Waste Research Program (Open) - The Committee will be briefed by a member of NRC's Nuclear Safety Research Review Committee on their conclusions regarding the NRC's radioactive waste research program.

Probabilistic Characterization of Yucca Mountain HLW Site (Open) - The Committee will be briefed by representatives of EPRI on a probabilistic characterization of the proposed Yucca Mountain HLW site. The report is expected to be completed in September 1990.

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

Unscheduled Items (Dates to be determined)

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

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 guidance from 40 CFR 191 Appendix B. This will include discussion of the WIPP experience and will be designed to explore the range of current thinking from various groups. A report to the full Committee will follow.

DOE/USGS White Paper (Open) - An ACNW Working Group will have discussions with the NRC staff on the review of and comments on the DOE/USGS white paper on integration of the geophysical aspects of the repository SCP. This report is important as it relates to a major central theme of the SCA comments on integration.

Seismic Hazards and Tectonics (Open) - The Committee will be briefed on NRC staff's overall approach to the evaluation and assessment of seismic hazards and tectonics at the proposed HLW geologic repository.

APPENDIX III. DOCUMENTS RECEIVED

A. Documents Received from Presenters and ACNW Staff

AGENDA  
ITEM NO.

DOCUMENTS

2. 1. Items of Current Interest Relative to Activities of the Advisory Committee on Nuclear Waste by Dade Moeller, dated August 25, 1990
2. 2. Highlights of Meetings with Chairman Carr and NRC Staff by Dade Moeller, dated August 28, 1990
3. 3. Memorandum for ACNW Members from Charlotte Abrams, dated August 28, 1990, re Staff's Comments on Working Draft Number 2 of the U.S. Environmental Protection Agency Environmental Standards for HLW, with enclosures
4. 4. Memorandum for Richard Major from Dade Moeller, dated August 26, 1990, re Comments on Paper for Presentation at the NAS Meeting -- Steindler Version, with enclosure
5. 5. MJS Draft Presentation to the Board on Radioactive Waste Management Meeting on September 17-18, 1990, dated August 24, 1990
3. 6. Draft Technical Position on Waste Form by Dr. Michael Tokar, dated August 29, 1990 [Viewgraphs]
7. 7. Cement Waste Form Technical Position, undated [Viewgraphs]
4. 8. Possible Changes to the 1985 Standards, undated [Viewgraphs]
7. 9. a. Abstract of proposed paper to be given at the Waste Management '91 Symposium on February 24-28, 1991, on the Advisory Committee on Nuclear Waste  
b. Letter to Dade Moeller from Sidney Parry, dated July 18, 1990, re Abstract
10. 10. Future Activities (Planned and Tentative) of the Advisory Committee on Nuclear Waste, undated

B. Meeting Notebook Contents Listed by Tab Number

TAB

CONTENTS

1. Introductory Statement by ACNW Chairman for August 29-30, 1990
2. Items of Current Interest, August 29-30, 1990
2. Status Report, undated
4. Memorandum for ACNW Members and Staff from Richard Major, dated August 14, 1990, re Presentation at the Symposium on Radioactive Waste Repository Licensing - Sponsored by the National Research Council Board on Radioactive Waste Management with enclosures [Official Use Only]
3. Status Report on Draft Technical Position on Waste Form (Revision 1), June 1990
6. Draft Technical Position on Waste Form (Revision 1), June 1990 [Official Use Only]
4. Status Report on Working Draft #3 of 40 CFR Part 191, EPA's High-Level Waste Standards, dated August 29, 1990
8. Working Draft 2 of 40 CFR Part 191, dated January 31, 1990
5. Status Report on Potential Committee Involvement in Decommissioning Reviews for Other Than 10 CFR Part 50 Facilities, dated August 29, 1990
10. Memorandum for Dade Moeller from Howard Larson, dated July 17, 1990, re "Nuclear Regulation: NRC's Decommissioning Procedures and Criteria Need to be Strengthened," GAO/RCED-89-119, May 1989, with enclosure
11. Letter to the Honorable Mike Synar, U.S. House of Representatives, from Kenneth Rogers, Acting Chairman, NRC, dated September 26, 1989, with enclosure
12. Memorandum for ACNW Members from Howard Larson, dated April 30, 1990, re SECY-90-121, "Site Decontamination Management Program", Dated March 29, 1990, with enclosure
13. Memorandum for ACNW Members from Howard Larson, dated August 8, 1990, re Status of the Shoreham Nuclear Power Station, SECY-90-259, Dated July 20, 1990, with enclosure [Official Use Only]
14. Memorandum for Dade Moeller from Stewart Long, dated July 26, 1990, re Fort Saint Vrain Defueling and

Decommissioning Update, with enclosures [Official Use Only]

- 7
15. Future Items for ACNW Meetings, undated
  16. Final Draft 2 ACNW Letter Report to Chairman Carr on Increasing the Number of Members on the Advisory Committee on Nuclear Waste from Four to Five, dated August 9, 1990
  17. Memorandum for ACNW Members from Richard Major, dated August 14, 1990, re Request from EPA for Clarification of ACNW Comments on Its May 1, 1990 Letter "Critique of the Environmental Protection Agency's Standards for Disposal of High-Level Wastes", with enclosures
  18. Memorandum for ACNW Consultants from Richard Major, dated August 8, 1990, re A Fresh Start for Performance Assessment Standards for a U.S. High-Level Waste Geologic Repository
  19. Memorandum for Raymond Fraley from James Blah dated August 20, 1990, re Proposed Memorandum of Understanding (MOU) Between the Advisory Committee on Nuclear Waste (ACNW) and the Executive Director for Operations (EDO), with enclosure [Official Use Only]

Background Information (NESHAP)

20. Status Report on Implications of National Emission Standards for Hazardous Air Pollutants (NESHAPs) on Radioactive Waste Management and Disposal
21. Extract from SECY-89-383 entitled "Clean Air Act", dated December 27, 1989
22. Memorandum for ACNW Members from Howard Larson, dated April 25, 1990, re SECY-90-127, "NRC Role in the Implementation of the Clean Air Act (CAA) Radionuclide Emission Standards," Dated April 4, 1990, with enclosure [Official Use Only]
23. Memorandum for Chairman Carr et. al. from William Parler, dated September 29, 1990, re Proposed Clean Air Act Amendments, with enclosures [Official Use Only]
24. Letter to Honorable William Reilly, Administrator, EPA, from Chairman Kenneth Carr, dated June 21, 1990, with enclosure
25. Memorandum for ACNW Members et. al. from Howard Larson, dated August 6, 1990, re Proposed National Emission Standards for Hazardous Air Pollutants (NESHAPs), with enclosures [Official Use Only]

discuss administrative and ministerial issues regarding the conduct of Committee and NRC regulatory activities. Items which were not completed during previous ACNS meetings will also be discussed as time and availability of information permit.

366th Meeting, October 4-6, 1990—Agenda to be announced. 367th Meeting, November 8-10, 1990—Agenda to be announced.

#### ACNW Full Committee Meetings

23rd ACNW Meeting, August 29-31, 1990, Bethesda, MD. Items are tentatively scheduled.

\*A. Review a branch technical position which deal with the cementation of low-level radioactive waste (waste from) (Open).

\*B. Briefing on the NRC staff's overall approach to providing guidance on seismic hazards and tectonics at the proposed high-level waste repository (Open).

\*C. Prepare remarks for its participation in a symposium on radioactive waste repository licensing sponsored by the U.S. National Academy of Sciences, National Research Council, Board on Radioactive Waste Management, September 17-18, 1990, Washington, DC (Open).

\*D. Continue discussion with the EPA on their standards for high-level radioactive waste disposal in a geological repository (tentative) (Open).

\*E. Review the effect of the National Emission Standards for Hazardous Air Pollutants (NESHAP) on radioactive waste management and disposal (tentative) (Open).

\*F. Review aspects of decommissioning other than 10 CFR part 50 facilities and determine its potential involvement in such reviews (Open).

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

24th ACNW Meeting, September 19-20, 1990, Bethesda, MD. Items are tentatively scheduled.

\*A. Briefing on the current review procedures being developed (revised) by the NRC staff for their review of DOE Study Plans associated with Site Characterization for the proposed high-level waste repository (Open).

\*B. Representatives from Electric Power Research Institute (EPRI) will brief the Committee on EPRI's performance assessment methodology (Open).

\*C. The Committee will discuss anticipated and proposed Committee activities, future meeting agenda, and

organizational matters, as appropriate (Open).

25th ACNW Meeting, October 24-26, 1990—Agenda to be announced. 26th ACNW Meeting, November 26-27, 1990—Agenda to be announced.

Dated: August 16, 1990.

John C. Hoyle,

Advisory Committee Management Officer.  
[FR Doc. 90-19765 Filed 8-21-90; 8:45 am]

BILLING CODE 7590-01-01

#### Meeting; National State Liaison Officers

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of national state liaison officers' meeting.

On September 11 and 12, 1990, the Nuclear Regulatory Commission (NRC) will sponsor a national meeting with the State Liaison Officers to discuss items of mutual regulatory interest. The State Liaison Officers are appointed by each of the fifty Governors and the Commonwealth of Puerto Rico to provide a communications channel between the States and NRC. Topics of discussion will include NRC Policy on Below Regulatory Concern (BRC), Low-Level Radioactive Waste, Emergency Planning Issues and Emergency Response Data System (ERDS), Standardized Reactor Designs, License Renewal, Risk Communication, Dry Cask Storage, Current Safety Priorities at Nuclear Reactors, and State Experiences and Interest in Accompanying and Participating in NRC Reactor Inspections. The meeting will be conducted at the Holiday Inn Crowne Plaza, 1750 Rockville Pike, Rockville, Maryland 20852. The meeting is open to the public for attendance and observation and will take place from 8:30 a.m. until 5 p.m. on Tuesday, September 11, and from 8:30 a.m. until 12 p.m. on Wednesday, September 12, 1990. Questions regarding the meeting should be directed to Mindy Landau at (301) 492-0308.

Dated at Rockville, Maryland, this 15th day of August, 1990.

For the Nuclear Regulatory Commission,

Carlton Kammerer,

Director, State Programs, Office of Governmental and Public Affairs.

[FR Doc. 90-19764 Filed 8-21-90; 8:45 am]

BILLING CODE 759-01-01

#### Biweekly Notice Applications and Amendments to Operating Licenses Involving No Significant Hazards Considerations

##### I. Background

Pursuant to Public Law (P.L.) 97-415, the Nuclear Regulatory Commission (the Commission) is publishing this regular biweekly notice. P.L. 97-415 revised section 189 of the Atomic Energy Act of 1954, as amended (the Act), to require the Commission to publish notice of any amendments issued, or proposed to be issued, under a new provision of section 189 of the Act. This provision grants the Commission the authority to issue and make immediately effective any amendment to an operating license upon a determination by the Commission that such amendment involves no significant hazards consideration, notwithstanding the pendency before the Commission of a request for a hearing from any person.

This biweekly notice includes all notices of amendments issued, or proposed to be issued from July 30, 1990 through August 10, 1990. The last biweekly notice was published on August 8, 1990 (55 FR 32322).

#### NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE AND PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The Commission has made a proposed determination that the following amendment requests involve no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendments would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. The basis for this proposed determination for each amendment request is shown below.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination. The Commission will not normally make a final determination unless it receives a request for a hearing.

Written comments may be submitted by mail to the Regulatory Publications Branch, Division of Freedom of

REVISION #3 - AUGUST 22, 1990

SCHEDULE AND OUTLINE FOR DISCUSSION  
23RD ACNW MEETING  
AUGUST 29-30, 1990

Wednesday, August 29, 1990, Room P-110, 7920 Norfolk Avenue,  
Bethesda, Maryland

- 1) 8:30 - 8:45 a.m. Opening Remarks by ACNW Chairman (Open)  
1.1) Conduct of Meeting (DWM/RKM)  
1.2) Items of current interest (DWM/RKM)
- 2) 8:30 - 10:30 a.m. Committee Preparation for Remarks at the  
U.S. National Academy of Sciences/National  
Research Council Board on Radioactive  
Waste Management Symposium on September  
17-18, 1990, Washington, D.C.  
(DWM/RKM)  
2.1) Remarks for discussion on  
Radioactive Waste Repository  
Licensing  
2.2) Review Past ACNW advice on EPA  
Standards and the Proposed High-  
Level Waste Repository
- 10:30 - 10:45<sup>to</sup> a.m. \*\*\*\*\* BREAK \*\*\*\*\*
- 3) 10:45<sup>50</sup> - 12:30<sup>45</sup> p.m. Review of the Branch Technical Position  
which deals with the Cementation of  
Low-Level Radioactive Waste (Waste Form)  
(DWM/HJL)  
3.1) Introduction  
3.2) Overview of the Technical Position  
3.3) General Discussion/Proposed Report  
to the Commission
- 12:30<sup>45</sup> - 1:30<sup>45</sup> p.m. \*\*\*\*\* LUNCH \*\*\*\*\*
- 4) 1:30<sup>45</sup> - 2:30<sup>3:15</sup> p.m. Status Report on Working Draft #3 of  
40 CFR Part 191 EPA's High-Level Waste  
Standards (MJS/HJL)  
4.1) Presentation by EPA.  
4.2) General Discussion

{ = Transcribed portion of meeting

TENTATIVE SCHEDULE FOR THE 23RD 7  
ACNW MEETING, AUGUST 29-30, 1990

- 5) 2:30 - 3:30 p.m. Committee deliberation - The Committee will discuss its potential involvement in decommissioning reviews for other than 10 CFR Part 50 facilities  
(DWM/HJL)  
5.1) Round table discussion by ACNW Members  
5.2) Report on Committee involvement to Commission

<sup>15</sup> 3:30 - <sup>35</sup> 3:45 p.m.

\*\*\*\*\* BREAK \*\*\*\*\*

- 6) <sup>35</sup> 3:45 - <sup>45</sup> 5:00 p.m. Preparation of ACNW Reports  
6.1) Preparation of ACNW Reports as appropriate  
6.1.1) Report on Waste Form T.P.  
6.1.2) Decommissioning other than Part 50 licenses  
6.1.3) Narrative for NAS

<sup>5:45</sup> 5:00 p.m.

RECESS

Thursday, August 30, 1990, Room P-110, 7920 Norfolk Avenue, Bethesda, Maryland

- 7) 8:30 - <sup>20</sup> 10:00 a.m. Anticipated ACNW Activities (Open)  
(DWM/RKM)  
7.1) The Committee will discuss anticipated and proposed Committee activities, future meeting agenda, and organizational matters, as appropriate including:  
7.1.1) Questions from EPA on ACNW Critique of the HLW Stds.  
7.1.2) Alternative Set of Standards for a HLW Repository - A Strawman  
7.1.3) Size of the Committee  
7.1.4) Future Meeting topics  
7.1.5) Complete M.O.U. with EDO  
7.1.6) ACNW Four Month Plan



TENTATIVE SCHEDULE FOR THE 23RD 8  
ACNW MEETING, AUGUST 29-30, 1990

10:00 a.m.

BREAK

8) 10:15 - 1:00 P.M.

Preparation of ACNW Reports

8.1) Preparation and completion of ACNW reports as appropriate

8.1.1) Waste Form T.P.

8.1.2) Decommissioning of other than Part 50 License

8.1.3) Narrative for National Academy of Sciences Symposium

1:00 p.m.

ADJOURN