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MINUTES OF THE 56TH ACNW MEETING
AUGUST 25-26, 1993

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Supplement to the Meeting Minutes [Official Use Only]
[SUPPLEMENT REMOVED - FOIA EX(b) (4)]

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MINUTES OF THE 56TH MEETING OF THE
ADVISORY COMMITTEE ON NUCLEAR WASTE
AUGUST 25-26, 1993
BETHESDA, MARYLAND

The 56th meeting of the Advisory Committee on Nuclear Waste was held Wednesday and Thursday, August 25-26, 1993, in the Maryland Room at the Holiday Inn, 8120 Wisconsin Avenue, Bethesda, Maryland. The purpose of this meeting was to discuss and take appropriate actions on the items listed in the attached agenda. A transcript of the meeting was not kept.

Dr. Dade W. Moeller, Committee Chairman, convened the meeting at 8:30 a.m. and briefly reviewed the schedule for the meeting. He stated that the meeting was being conducted in conformance with the Federal Advisory Committee Act. He stated that the Committee had received a request from Mr. Steven Frishman to make an oral statement during the meeting.

ACNW members, Drs. William J. Hinze, Paul W. Pomeroy, and Martin J. Steindler, were present. Also present was Dr. Robert Budnitz, Consultant to the Committee. [For a list of attendees, see Appendix III.]

I. CHAIRMAN'S REPORT (Open)

[Note: Mr. Richard Major was the Designated Federal Official for this part of the meeting.]

Dr. Moeller identified a number of items that he believed to be of interest to the Committee, including:

- Several NRC organizational changes have been announced:
 - Mr. Carlton Kammerer has been placed on sabbatical leave
 - Mr. Richard Bangart has been appointed Director, Office of State Programs
 - Mr. John Greeves has been appointed Director, Division of Low Level Waste Management (LLWM)
 - Mr. Paul Lohaus has been appointed Deputy Director, LLWM
 - Dr. Michael Bell was appointed Branch Chief, LLWM
- The Mescalero Apache tribe of New Mexico and the Skull Valley Band of Goshute Indians in Utah have announced that they are ready to begin formal talks aimed at siting a monitored retrievable storage (MRS) facility on their

land. The Governors of New Mexico and Utah have stated their opposition to an MRS being built in their states.

- Mr. Floyd Galpin will retire from the U.S. Environmental Protection Agency (EPA) on August 31, 1993. He will join Rogers and Associates Engineering as its Washington, D.C., representative.
- In a letter to the ACNW Chairman, dated July 30, 1993, the Associate Director for the U.S. Department of Energy (DOE) Program for Systems and Compliance has suggested that the DOE and ACNW jointly plan a systematic schedule for interaction on key high-level radioactive waste (HLW) related issues. The specific proposal is that DOE provide summary briefings on key issues to the ACNW approximately 60 days after the DOE has briefed the NRC staff on the same issue.

II. STATEMENT BY MR. STEVEN FRISHMAN, STATE OF NEVADA (Open)

[Note: Mr. Richard Major was the Designated Federal Official for this part of the meeting.]

Mr. Steven Frishman, representative from the State of Nevada, presented his views on the issues related to the ACNW role in the regulatory review process. He stated that the working group meeting format has proven to be very beneficial and the Committee should continue to use the roundtable approach. He observed that the Committee plays an important role by having open communication with the public and he encouraged the Committee to expand on this role. Dr. Moeller noted that having the Committee serve as a channel for open communication with the public is worthy of consideration. Dr. Steindler countered that the Committee does not have the power or scope -- it is the Commission's role to respond to public concerns.

Mr. Frishman and the members discussed a public statement made by Ms. Margaret Federline during the first meeting of the National Academy of Sciences Committee on the Yucca Mountain Standards, held in Las Vegas, Nevada, last May. The focus of the discussion was on the "Societal Pledge to Future Generations," as presented in the statement. The goal of this pledge is to "provide future societies with the same protection from radiation we would expect for ourselves." Several ACNW members pointed out that, should radiation biologists later determine that radiation was more harmful than now estimated, greater protection than that provided today might be required.

III. DISCUSSION WITH DR. ROBERT BUDNITZ, ACNW CONSULTANT (Open)

[Note: Mr. Giorgio Gnugnoli was the Designated Federal Official for this portion of the meeting.]

Dr. Robert Budnitz prefaced his remarks by acknowledging his association with the advisory committees -- both ACRS and ACNW -- and his familiarity with how they function in terms of the report formats, open meeting structures, and other protocol. He stated that it was commonly understood that the ACNW's charter was the same as that of ACRS's except restricted to nuclear waste. He questioned the substance of the statutory distinction, as having little real impact in how the ACNW should function in the area of assisting the Commission with valuable advice in the areas of nuclear waste regulation. He also cited the effectiveness of the advisory committees.

Dr. Budnitz pointed out that the ACRS's role has evolved in the 20 years that he has dealt with it, indicating that this was a necessary evolution. He explained this by alluding to the motto of Dartmouth University, which -- translated from the Latin -- is [the] voice crying in the wilderness. He indicated that this did not mean that the Committees uselessly spout guidance to no one who could or would hear or listen [wilderness meaning remote or isolated], but rather that the Committees are a useful civilizing influence in the wilderness, bringing order to disorder or showing the way to survive in the wild. The advisory nature of the Committees gives the Commission the prerogative to take the advice or to reject it.

He discussed the composition of the Committee. He separated this discussion into three parts:

1. The Impact of the Committee. He stated that the impact of the Committees -- whether great or ineffective -- was a direct function of the stature of the membership. The technical prestige or eminence of the individuals was the controlling element in swaying and influencing the Commission and the NRC staff. He stressed this because of his perception that the Commission had so tarnished the effectiveness of the ACNW (by the treatment of the members and the gutting of the charter) that this would repel any prestigious or eminent candidates. This would then result in reducing the overall stature of the committee and hence its effectiveness. The perception of the negative charter has to be diffused in order to attract and retain individuals of stature who can produce the influence and respect and willing receptiveness on the part of the Commission and staff. Dr. Moeller was described as this kind of individual.

2. Member Qualifications. Candidates would need to blend in-depth expertise in the necessary scientific discipline(s), as well as possess a broad and wide-ranging overview of the nuclear waste management program. Too narrow an expertise and ability would not serve the Committee's needs, and hence the Commission's needs. Dr. Budnitz criticized the content of the position posting for replacing ACNW members as confusing, and too limiting in terms of the Committee's breadth of skills. Listing a few disciplines such as risk assessment or hydrology is inadequate. The Committee needs individuals of breadth and experience.

3. Continuity of Function. It is crucial that the Committee maintain continuity and institutional longevity. Dr. Budnitz cited the importance of the long and crucial history of interaction by the ACRS with industry. Although turnover can be beneficial, it is questionable for the advisory committees of the NRC. Certain committees, which may meet annually, may not suffer disruption of purpose and function; the Nuclear Safety Research Review Committee was discussed as an example. The ACRS and ACNW are committees that need to have a constant level of activity and interaction with the NRC staff and with the Commission, as well as with licensees and potential licensee, and with other outside groups in order to provide a level of advice to the Commission that is of high quality and comprehensive in nature. The role of these advisory Committees is one of conscience and of providing objective and honest insight into the workings of the regulatory process. It is in the Commission's interest to maintain the continuity with respect to the turnover process, because rapid turnover can disrupt the function of the ACNW in the following ways:
 - a. The ACNW -- unlike the ACRS -- is a small and constantly working/interacting group of individuals. Turnover threatens the dynamics of interaction; the congenial and collegial working of the ACNW is an essential ingredient in the execution of its advisory function.

 - b. There is an inevitable and unavoidable down time with the arrival of a new member, until the new arrival's emplacement into the Committee's working dynamic.

Dr. Hinze asked Dr. Budnitz whether the stature should be specifically in the area of nuclear waste. Dr. Budnitz indicated that the stature need not be limited to the

area of nuclear waste. In fact, it would be a mistake to limit potential candidates to only that arena.

Dr. Budnitz discussed the mission and scope of the ACNW. He made the following points:

1. Modus Operandi. A crucial element of the Committees' value is in its freedom to set its own agenda within the bounds of the areas where the Commission needs advice. This is the independence question. Dr. Budnitz acknowledged that the Commission has every right to set the scope of the areas for the ACNW's consideration, but within that scope, the Commission must defer to the ACNW in setting the agenda. Furthermore, the Commission has no business interfering within that scope by setting certain study areas off-limits. The freedom of the Committee must be preserved. He questioned the Commission's motives in modifying the charter. If the Commission wants to minimize or eliminate the Committee's independence, then the Committee has little value. Dr. Steindler observed that there had been some reconciliation in some of the meetings between Members of ACNW and certain Commissioners.
2. Scope Limitation. The restriction to nuclear waste disposal facilities in the charter implies that other waste management subjects can be studied only at the explicit direction by the Commission. These subjects would include risks from transportation or on-site storage of nuclear waste. Trade-off judgments made in the HLW program require the ACNW to evaluate the whole system in order to weigh the strategies proposed by industry and the DOE, as well as the judgments by the NRC staff. For example, the multi-purpose container must satisfy storage requirements, transportation requirements, and handling limitations, as well as disposal considerations (integrity, corrosion resistance, strength, etc.). It may very well happen that an optimal consideration for storage may be detrimental to long-term disposal integrity. How can the ACNW make this determination without directly tracking the progress made in these other waste-related areas? This only makes sense if there is another independent advisory committee, which is providing this service to the Commission. Since there is no such committee, the Commission would be better served if the ACNW studied the nuclear waste problem from cradle to grave. In fact, it is very short sighted of the Commission to narrow the charter without some means of covering those areas that may not be in the spotlight,

as is Yucca Mountain. It is more likely that something might be missed in less visible areas.

3. Interactions with NRC Staff. The Commission must understand that the decisions, rationale and information that comes from the Commission (in SECY papers) are, in fact, all prepared by the NRC staff. There is an inherent danger that the Commission may be blind to some subtle deleterious ramification without an independent group, with the Commission's best interest in mind, to give an objective and informed opinion of the basis, content and conclusions of a staff-prepared technical policy determination. The ACNW had this role for nuclear waste management. Through close and constant interactions with the NRC staff -- in an open environment -- the Committee can provide the Commission with an opportunity to observe the defensibility of the NRC staff position on technical and technical policy issues in advance of the time when the Commission needs to make a decision regarding the issue(s). The NRC staff also benefits from this "dry-run" exercise so as to serve the Commission's needs by providing a well-tested product for the Commission's consideration.

The advisory committees can also provide an illuminating function in those cases, where an issue is -- at first glance -- not considered to be a Commission-level item. If the Committee reviews an issue that would not otherwise be raised to the Commission level, the Commission and the NRC staff would not need to suffer undesirable regulatory consequences at a later time. The advisory committees provide a bridge for this institutional barrier separating the Commission from its staff. If the ACNW is limited to review only waste disposal areas or areas directly requested by the Commission, this obviates this prospective evaluation, which can identify trouble spots before they strike. Furthermore, a great saving can be had by individual ACNW Members interacting with appropriate NRC staff prior to conducting full committee investigations in areas not needing them or in areas where such open and disruptive formal reviews may be premature. Without such constant interactions, the NRC staff may be expending resources needlessly.

4. Mission of ACNW. Dr. Budnitz characterized the ACNW's mission as fundamentally technical. Furthermore, in those areas where technical considerations spill over into policy, the ACNW should have a role as well. He reminded the Committee that the Commissioners were not necessarily selected for their technical competence. The

Commission deals with the Congress and the NRC on a broad range of administrative and policy questions, so that they cannot constantly focus on technical issues. The ACNW's mission is to review and evaluate technical activities and issues; this provides the Commission with the objective peer review of these activities and issues in an optimal manner -- a collegial body of technical experts.

5. Uniqueness of ACNW's Function. Dr. Pomeroy posed a hypothetical premise that the ACNW was needed, when it was created by the Commission (June 1988), because the NRC staff lacked the necessary expertise. Now with the advent of the Nuclear Waste Technical Review Board (NWTB) and the Center for Nuclear Waste Regulatory Analyses (CNWRA), the ACNW is no longer necessary. Dr. Budnitz replied that the ACNW provides a unique and very different level of advice. The ACNW examines the agency activities within the NRC structure. He cited ACRS's role in the late 1970's in clarifying the hamstrung and confusing condition of the Office of Nuclear Regulatory Research (RES). The ACRS's independence played a crucial role in defusing turf battles and conflicting agendas within RES. The Nuclear Safety Research Review Committee (NSRRC) also examines the technical competence of the agency -- mostly RES -- but not in terms of the regulatory mission of the agency. The ACNW has a retrospective and prospective approach to evaluating the technical issues and activities within a broader view of the regulatory framework. Dr. Budnitz noted that limitation of the ACNW's purview applied only to waste disposal facilities would tend to blur those attributes that make the ACNW unique and useful to the Commission.
6. Historical Perspective. There are many examples of the advisory committees providing a useful perspective. The Advisory Committees (ACRS and ACNW) often are in the forefront in identifying new ideas and critical problems, so that the agency could avoid pitfalls later on. The ACRS played a crucial role in encouraging the NRC staff to use risk assessment in reactor regulation. Likewise, the ACNW helped the NRC staff identify and wrestle with the inconsistency between the NRC's 10 CFR Part 60 and the EPA's 40 CFR Part 191 regulatory positions. The NRC staff is in more of a political and negotiatory posture and is really not as independent as the ACNW can be.
7. Who Should be Out in Front? The ACNW has been accused of this "failing." The NRC staff has been very sensitive to the fact that the ACNW has been out in front of the

staff and that this is somehow detrimental. When there is a crucial policy issue under contested consideration, the ACNW provides a perfect venue to help resolve the issue and bring about consensus in a neutral forum; yet still within the NRC regulatory structure. As mentioned above, the ACNW provided such a service when it helped focus the attention of the NRC staff and EPA participants on the inconsistencies between 10 CFR Part 60 and 40 CFR Part 191.

Dr. Budnitz returned to the level of commitment on the part of the ACNW individual members. He acknowledged that a substantial amount of time and effort must be expended by the ACNW in its reviews. Unquestionably, this time commitment may limit the number of candidates for membership, especially those of significant stature. It may be worthwhile reconsidering the "work load," in case the Committee cannot attract the quality membership it has enjoyed in the past. The term length and reappointment limitations also present barriers to attracting the desired membership. Dr. Budnitz suggested that, in the case that term limitations and reappointment limitations are adopted, the effect of departures should be minimized by staggering the turnover to one member in any one year. Rapid turnover flies in the face of effectiveness, not only in the loss of experience, but also in terms of the delay in active participation due to learning curve effects. In negotiating with the Commission for ACNW independence and operational effectiveness, the Committee needs to rely on its friends to assist in convincing the Commission that the proposed charter limitations should be reconsidered.

IV. DISCUSSIONS WITH THE DIRECTOR, NRC OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS (NMSS) AND SENIOR STAFF (Open)

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

Mr. Robert Bernero, Director, NMSS, introduced the two members of his senior staff accompanying him, Mr. B. Joe Youngblood, Director, HLWM, and Mr. Paul Lohaus, Deputy Director, LLWM. He noted recent relevant management changes such as Mr. Richard Bangart's assignment as Director, Office of State Programs (replaced as Director, LLWM, by Mr. John Greeves) and Mr. Lohaus' promotion from a Branch Chief position in LLWM.

Mr. Youngblood noted that his authorized staffing for FY 1994 is 49 full time employees (FTE) (vice a projection a year ago of 60 FTE). Mr. Youngblood discussed his perspectives on ACNW/Staff interactions. He noted the following four points:

1. ACNW review and comment on HLWM technical staff work had been extremely useful.
2. DOE and other outside organizations appear not to understand that ACNW is an advisory committee to the Commission. This, he believes, has resulted in groups requesting comments directly from the ACNW, thereby effectively bypassing the NRC staff. In addition, he noted that such a lack of understanding could lead others, such as DOE, to believe improperly that a briefing to the ACNW provides sufficient interaction with the staff.
3. NRC technical staff should work with ACNW staff to keep ACNW informed with regard to technical exchanges and interactions. Attendance by the ACNW staff permits them to report to the Committee, but not as a party to the interactions. Meeting minutes prepared by the staff are available to the ACNW. Should feedback indicate that the preceding is insufficient, then some form of briefing could be arranged wherein the additional requested information is provided.
4. Communications between the NRC staff and ACNW can be enhanced. The staff finds it helpful when both the ACNW and the NRC staff focus tracks the various HLWM plans (i.e., Management, Operations, and draft Five-Year Plans). It is essential to recognize that occasionally imposed deadlines will not allow for scheduling formal interactions. Conference calls and informal discussions during the evolution of long-term projects have been used to successfully enhance communications.

Mr. Youngblood also questioned the role of the NSRRC insofar as waste issues, indicating that he believed review by the ACNW might be more effective. Drs. Moeller and Hinze stated their belief that the NSRRC does not adequately cover the entire spectrum of waste research issues insofar as providing information that will withstand the trial of the licensing effort. (Mr. Bernero later observed that the NSRRC looks at whether the research is being properly conducted, not whether it is relevant to the NRC regulatory responsibilities.)

Various HLWM technical issues were briefly discussed such as the recent engineered barrier systems (EBS) meeting held on August 24, 1993 (summary provided by Mr. Gnugnoli, ACNW Senior Staff Scientist, who observed that no resolution was reached at the meeting and that it was obvious that important major inconsistencies

between various parties existed); the undetermined impact (if any) of Greater-than-Class C wastes upon the repository, etc. Recent questions related to the current exploratory studies facility (ESF) program were discussed by Mr. Bernero, who indicated that the State of Nevada questioned how the NRC can permit DOE to proceed ahead when the M & O quality assessment program has not yet been approved.

Mr. Youngblood noted that the current HLWM Management Plan does not yet possess sufficient detail but such will be provided in the HLWM Operations Plan, which should be out by the first of next year. The impact of the projected research plan is to be "backed into" the Management Plan.

Dr. Steindler asked what the staff envisioned as the major HLW issues it anticipated bringing to the Commission in the next 3-6 months? Mr. Bernero stated that it is a difficult projection to make since the overall program is not being managed by one group but is rather reactive to the activities of the DOE, EPA and NRC. He proposed that perhaps this was one reason why the program is so costly. Another factor that makes the program more complex is that it is both reactive and proactive.

Mr. Lohaus discussed low-level radioactive waste (LLW), noting that, while the staff considered the review of the Standard Review Plan (SRP) a worthwhile process, it questions whether it was necessary for the Committee to be "walked" through a briefing as opposed to the Committee just asking questions of the staff. Dr. Steindler noted that such a decision probably will be on a case-by-case basis since, although the Committee may completely understand the proposed changes, it is necessary for it to know the rationale behind the rule change. He also stated that it is important for the Committee to be involved in decisions that may consist of both technical, as well as policy, implications. Most issues, when raised to the Commission level, did have such a duality.

Mr. Bernero noted that there is a delicate line between the NRC and EPA regarding the EPA LLW standard. He explained that this is typical of several areas that are interagency/intergovernmental in nature and require Commission approval.

In response to a comment from Dr. Moeller, Mr. Lohaus stated that indications by state representatives at the recent Compatibility Workshop furthered the perspective that changes to Part 61 could slow LLW disposal facility site development. Some discussion ensued as to the logic behind the recent Pennsylvania and Illinois decisions that permitted those states to impose standards lower than those applied at the Federal level. Dr. Steindler asked, given that these were questions with both technical and policy/political impact, whether it would be wrong for the ACNW to

comment in the future should additional states adopt the Pennsylvania/Illinois position? Mr. Bernero stated that, in his opinion, it would be correct for the Committee to provide its advice to the Commission since it was necessary for the Commission to make decisions on such public policy issues. (He later emphasized that it was proper for the ACNW to focus on regulatory positions of the NRC even though it is recognized that such reviews may cross into the policy arena.)

Dr. Moeller queried whether a systematic regulatory analysis (SRA), similar to the one conducted for HLW, would be performed for LLW. Mr. Bernero stated that the SRA was yet to be completed for HLW and had not been scheduled for LLW.

Dr. Budnitz asked if there was a role for the ACNW in a re-evaluation of Part 60. Mr. Bernero noted that the real flaw with Part 60 is that it was made to comply with an EPA standard that was based on technology. Addressing the question, however, he opined that it was proper for the ACNW to comment.

In response to Dr. Steindler's comments and questions regarding ACNW review of analytical codes and models, Mr. Bernero believed that the Committee could look at what was being performed and the robustness of such work.

Dr. Pomeroy stated that the ACNW wanted to follow LLW Performance Assessment (PA) efforts. Mr. Lohaus indicated that such participation was welcome, but that attendees must recognize that these are working sessions and that the final results are not yet available.

Mr. Lohaus indicated that the major LLW issues that would be coming to the Commission were:

1. Land ownership of LLW disposal sites - an issue relevant to both Utah and Nebraska.
2. Uniform manifest - states desire to track all radioactive materials and waste shipments, including material shipments to/from waste processors (an activity that usually results in a waste form change).
3. On-site storage for LLW - although the NRC is not in favor of on-site storage, the current reality of LLW disposal site development is such that it is probable that on-site storage must be an option for some finite period.

In addition, he anticipated that the Committee would desire to review the LLW Management plan.

The ACNW Members asked Mr. Bernero whether he had advice as to when it should address its correspondence to the Commission and when it should write to him. Although indicating that he could not provide a definitive answer, he would suppose that, for pure science and technical issues, the addressee should be NMSS, whereas policy issues should be addressed to the Commission. He cautioned, however, that on many issues that had been sent to the Commission at their request (such as the EPA standards), ACNW responses were reviewed/commented upon by his staff.

Dr. Hinze stated that the Working Group (WG) concept is an important one to the ACNW and queried how it could be improved. Consistent with his belief that it was not proper for the Committee to "get out in front of the staff" on issues, Mr. Bernero noted that, if the purpose of a WG is to develop information, he viewed that objective as being beyond the Committee's charter. If the purpose of a WG was to inform, he perceived that outcome as permissible. The Carbon-14 WG was cited as a good example of eliciting information. Mr. Bernero noted that WG topics/discussions may be used, perhaps improperly, by others as forums for their positions.

After the departure of Messrs. Lohaus and Youngblood, a working lunch was shared. During that period, Mr. Bernero provided his opinions on several aspects of the recent SRM and proposed charter, notably:

1. Proposed terms for members seem unduly short;
2. The emphasis during a systems engineering study should be on the interfaces;
3. In recruiting new candidates, the "experts" must be carefully selected and should be persons with a broad perspective (the ACNW, by virtue of its size -- four members -- cannot afford the luxury of members with severely restricted expertise);
4. Part 72 responsibilities are struck. Therefore the ACNW should not review facilities such as the MRS, the decommissioning and decontamination of the Palisades Nuclear Power Plant, VEPCO spent fuel dry storage, et al.;
5. The term "facilities" should be interpreted as meaning activities associated with a systems engineering approach. To go beyond the system is "stretching" the charter;

6. Review of the Multi-Purpose Canister concept would be relevant for the Committee to undertake but review of a dual purpose cask would not. (Elaborating upon that distinction: since the latter is not part of a "facility," but is a part of the storage and transportation effort, its review would not fall under the charter.)
7. There are many unresolved questions related to LLW disposal sites, such as: in-situ disposal, Enviro-care, use of mill tailing impoundments, etc.

As a final observation, he noted that the statement that the Committee could not undertake studies under its own initiative meant that the Committee would therefore operate in a reactive mode.

Dr. Moeller asked if Mr. Bernero would identify those key issues, which in his judgment, represented the main technical issues that the Committee should address in the near term. He stated that the questions related to the ESF were significant, and, unfortunately, were changing daily. He also indicated that the "hot hole" theory was important to address and evaluate. He noted that the system requirement that the repository be a 70,000 MTU repository, should be reviewed as perhaps Yucca Mountain has a limited capacity and may only be able to handle, for example, 38,000 MTU. Rather than abandon the project, perhaps a location with a lesser HLW disposal capacity still represented a meaningful facility for this nation.

In closing, he noted that it was important for the DOE Yucca Mountain project to proceed in a carefully planned manner that recognizes the impact of current scientific investigations upon subsequent ones. For example, in the zealous pursuit of current progress one could proceed in a manner that results in the loss of data needed in the future due to unnecessarily destructive investigative practices.

The Committee thanked Mr. Bernero for his candor, and that of his staff earlier, and indicated its intention to continue improving communications between the ACNW and NMSS through exchanges such as this.

V. PREPARATION FOR DISCUSSION WITH COMMISSIONERS ROGERS AND DE PLANQUE

[Note: Ms. Lynn Deering was the Designated Federal Official for this portion of the meeting.]

Drs. Moeller and Steindler summarized their individual meeting with Commissioners Rogers and de Planque on August 24, 1993.

Highlights from their meetings include:

- The Commissioners apologized for the way the revised charter had been submitted to the Committee and for the associated disruptive impacts on Committee members.
- Dr. Moeller sought feedback on the white paper and clarification on how to identify issues for ACNW review. Commissioners Rogers and de Planque indicated they do not want a litany of issues to choose from; rather, the ACNW should identify the issues they believe should be addressed, and then select priorities. The point was that ACNW should use their own judgment in selecting the issues.
- Dr. Steindler noted that the ACNW has been functioning like scientists and giving the Commission technical reports on technical issues, and perhaps this is not what they want or need. He noted that the Commission is not as interested in technology and science at the same level as is the ACNW.
- Dr. Steindler noted that the white paper should explicitly discuss the issue of the Committee's independence. Regarding independence, the Commissioners noted that the committee can look at anything it wants to, inside the scope of the charter, and does not need to seek permission.
- There is an adversarial environment between the NRC staff and the Commission, therefore the Commission needs advice to help understand the issues.
- Commissioner de Planque suggested that if the Committee does not receive a satisfactory response from the EDO on any of its letters, that it is up to the ACNW to bring this concern to the Commission's attention.
- Commissioners Rogers and de Planque are to serve as liaison to the ACNW and guide the ACNW through its transition.

In addition to the summary of the meetings with the Commissioners, other highlights from this session to prepare for discussion with Commissioners de Planque and Rogers include:

- Dr. Budnitz inquired about the intent of the Commission, in revising the charter, to cross out the word, "on its own initiative." He noted that the white paper must acknowledge that this is incorrect, and that the committee can look at anything it wants to inside its charter and mandate, and does not need to seek permission from the Commissioners to do so.
- Dr. Hinze asked how the ACNW might reassert its stature and reputation, given the way the ACNW has been treated by the Commission in the recent SRM and charter. Based on the results of an informal poll taken by Dr. Budnitz, he felt that the ACNW has not lost any stature; only that it could be hard to recruit members with the reduced scope of the charter.
- Dr. Steindler suggested that the White Paper be prepared as three separate documents. The first, a generic document describing process, the second describing issues, and justification of issues, to be submitted periodically, and the third describing resource needs.
- The members discussed the white paper, and whether it should highlight the role of liaison with the public served by the Committee. Dr. Budnitz suggested that this is not the function of this committee.
- Several potential priority issues were discussed, such as the ESF, and issue resolution, and criteria to establish priorities, such as importance to public health and safety, and degree of importance to the Commission. The members agreed that Dr. Steindler would summarize the plans for the three part paper, Dr. Hinze would explore how to evaluate staff capability and how to report this information, and Dr. Moeller would summarize some tentative priority issues for LLW, including Part 61, performance assessment, the LLW management plan, and on-site storage.

VI. DISCUSSION WITH COMMISSIONER ROGERS AND DE PLANQUE (Open)

[Note: Mr. Richard Major was the Designated Federal Official for this portion of the meeting.]

Commissioner Rogers began the session with a brief statement. He said that the Commission is grateful for the contributions made by the Committee. The Committee is a valuable addition to the Commission's resources. Each member is held in the highest regard by the Commission. Commissioner de Planque supported the introduction by

Commissioner Rogers and explained that they wanted to facilitate communications between the Commission and the Committee and would act as a liaison to the Commission.

The Committee subsequently discussed three topical areas with the Commissioners. Dr. Hinze discussed the revised ACNW charter and Commissioner Rogers' earlier discussions on evaluating the NRC staff's performance. Dr. Steindler discussed progress on the ACNW White Paper requested by Commissioners Rogers and de Planque in July. Dr. Moeller discussed issues for priority consideration by the ACNW.

Dr. Hinze raised a concern over how to communicate to the Commission the results of an ACNW review of an NRC staff program. The concern was essentially focused on how to send negative findings. Commissioner Rogers explained that such information is vital to the Commission. The Committee's reports should focus on the program and whether it has the right orientation (not on the performance of individuals). Issues such as inadequate funding should be highlighted as should issues, such as when advanced technology is being ignored. Commissioner de Planque thought that the Committee should encourage the staff to attend the right conferences and in general to maintain technical competence.

Both Drs. Hinze and Pomeroy raised concerns over the revised ACNW charter. Specifically, the revised charter may not set the right tone to attract to the Committee scientists with appropriate stature. The new charter appears to remove the aspect of independence from the Committee's operations; this, again, could make membership less desirable. Commissioner Rogers drew a sharp distinction between independence and scope. The Commission's intent was to have the Committee apply its resources in selected areas -- those areas that would be of most value to the Commission. Within its scope the Committee is free to decide how far to pursue an issue, how broad or how deep. As long as there is a clear connection to nuclear waste facilities, the Committee is free to follow issues it believes are important. For issues that are not clearly within the Committee's scope, guidance from the Commission should be sought. The charter may be tight to begin with, but as experience dictates, it will broaden.

Dr. Budnitz expressed a personal view that he would object to serving under such a restrictive charter. The Commissioners stressed that the meaning of the charter will be defined and clarified by how the Committee operates and the advice it produces. The White Paper should aid the Committee in defining its current role.

Dr. Steindler described the Committee's deliberations on the White Paper. The current plan is to produce three modest-size documents.

The first paper would outline the protocols for ACNW operation. The paper would state the Committee's mission. Preferably, such a paper would be concurred in by the Commission and could be given to potential members as background information.

The second document would be a topics paper. It would not be a long litany of issues, but rather a list of topics the ACNW believes is important to the Commission. For each topic, a rationale will be written justifying its placement as an ACNW priority item.

A third paper would focus on resource requirements for the ACNW. This document would be based on the topics paper. It would describe the impact on Committee operations that various levels of resources (more, less, current) would have.

The Commissioners reminded the Committee that resources are always limited. The exercise of writing the White Paper should help the Committee place issues in their proper place. It was stressed that timing is important. Issues must be addressed so that advice can be given to the Commission prior to its deliberations on a particular issue. The ACNW should be constantly trying to identify holes or weakness in the programs associated with waste management facilities. The Committee should realize that the Commission will focus on different issues and that these issues will change each six to nine months. The Committee should attempt to put itself in the Commission's position and suggest issues it believes the Commission should address.

Dr. Moeller discussed issues that the Committee might potentially address. In the LLW arena several issues were suggested. Changes to NRC's LLW disposal regulations (10 CFR Part 61) is a possible candidate. Part 61 issues would include compatibility between NRC and agreement state regulations. Does 10 CFR Part 61 contain adequate groundwater protection criteria for LLW facilities? A careful review of Part 61, similar to the systematic regulatory analysis for Part 60, could be performed to correct inconsistencies in the regulations. Issues associated with LLW performance assessment evaluations are ripe for review. The issue of on-site storage of LLW could be a review topic. The issue of land ownership of an LLW facility site (federal vs. state) is another potential review area, along with the NRC LLW management plan.

The Commissioners suggested that the ACNW needs a better means to stay abreast of the issues facing the Commission. Tracking a list of pending SECY papers and NRC's HLW and LLW management plans would be helpful. Having the ACNW technical staff sit in on meetings between the Commissioner's technical assistants is another approach to track issues facing the Commission.

Dr. Moeller listed the high-level radioactive waste (HLW) management issues that are potential review items for the ACNW. They include:

- Monitoring the NRC staff's development of HLW performance assessment tools
- Confronting issues that deal with the Exploratory Studies Facility such as its construction and testing
- Studying issues associated with the possible development of a multi-purpose canister
- Reviewing the process through which issues are resolved, including phased licensing
- Tracking projects managed under research and technical assistance contracts, including activities at the Center for Nuclear Waste Regulatory Analyses.

Commissioner Rogers expressed a concern over the HLW program; it appears to be fragmented with no single organization integrating the various programs. Items such as canister placement and repository design temperature seem as if they are headed down different tracks at different speeds. There is a need for some group to apply a systems approach to the HLW effort and ensure the overall project framework is adequate.

Dr. Budnitz thought that some issues raised by the Committee are never addressed by the NRC staff or anyone else. Commissioner de Planque believed that it is the Committee's responsibility to pursue issues and call inaction to the Commission's attention if necessary.

Commissioner Rogers made a few closing remarks, including: (1) the ACNW should pick its own list of review topics, (2) the ACNW is free to set its own priorities, and (3) the ACNW should run its own operation, and can reject requests it believes are of lesser importance to the Commission. The ACNW has the necessary backing and will be held accountable for its performance.

VII. APPOINTMENT OF NEW MEMBERS (Closed)

[Note: Mr. Richard Major was the Designated Federal Official for this portion of the meeting. This session was held on August 26, 1993, from 1:00 to 2:45 p.m. This portion of the meeting was closed to public attendance pursuant to 5 U.S.C. 552b(c)(2) to discuss matters that relate solely to internal personnel rules and practices of this Advisory Committee and pursuant to 5 U.S.C.

552b(c) (6), to discuss information of a personal nature the release of which would constitute a clearly unwarranted invasion of personal privacy.]

The members reviewed and discussed possible candidates for Committee membership. Among the potential candidates, the Committee identified three that may have conflicts of interest. Dr. Larkins was asked to inquire into their acceptability with the Commissioners and report back to the Committee.

The meeting was recessed on Wednesday at 6:30 p.m. The meeting was reconvened on Thursday at 8:30 a.m.

VIII. EXECUTIVE SESSION (Open)

[Note: Mr. Richard K. Major was the Designated Federal Official for this part of the meeting.]

A. White Paper

Dr. Moeller addressed the Committee's efforts in preparing the White Paper. Specifically, he identified the White Paper as characterizing the ACNW's role regarding the regulation of HLW and LLW. He also mentioned that the Committee would be considering potential candidates for membership in the ACNW starting with the next calendar year.

Drs. Pomeroy and Moeller discussed the usefulness of performing a systems analysis to identify important and priority items/issues for the Committee's study and consideration. In doing such an analysis, it is important to set criteria for identification and selection of these priority issues. Dr. Moeller cited the Commission's Principles of Good Regulation as aids in setting these criteria. The Committee could set a safety goal for the management and control of LLW and HLW. Dr. Moeller acknowledged that additional principles would be needed to set the necessary criteria for identifying and ranking issues. The process was originally laid out as:

NRC Safety Goals + Principles of Good Regulation + Other Principles



Criteria for Selecting Issues



Systems Analysis of Waste Program (From NRC's Perspective)



Criteria for Ranking Issues



Rationale/Justification for Analysis of Issues

Dr. Budnitz recommended first setting the criteria for identifying and selecting the priority issues for ACNW consideration. Dr. Hinze identified one criterion as the limitations of expertise of the members. Dr. Steindler reminded the Committee that it was told by the Commissioners to find whatever expertise it needed -- consultants. For that reason, the Committee needs generalists. Members should be individuals who are generalists with a feel for the whole picture.

Dr. Steindler noticed that the Commissioners keep asking the Committee to look for the big holes; they must be suspicious that something is being missed. Dr. Steindler noted that the systems analysis report (December 1, 1992 letter to Chairman Selin on Significant Issues in the HLW Repository Program) was directed to DOE; perhaps it should have been focused on the NRC. One problem in performing a systems analysis is that one needs to know what the system looks like, before one can analyze it. Since NRC's licensing process is not yet established, some reliance must be placed on systematic analogues; e.g., emergency core cooling systems for power reactors. In any case, the Committee will need to speculate on the licensing process of the NRC. Dr. Moeller suggested that the systematic regulatory analysis (SRA) was a systems analysis of the regulatory process. Dr. Pomeroy observed that Commissioner Rogers had asked that the ACNW evaluate the SRA for its adequacy.

Dr. Budnitz stated that it is unlikely that this Committee will find large holes. The Commission is really interested in answers to such questions, such as, "Do we have the capability to analyze a highly technical issue, like metallurgy?". Staff competence is the type of hole that they are interested in, as well as whether the staff has the right kinds of tools (e.g., computer codes). The Commission is not interested in procedural problems, but is interested in problems in competence, capabilities, resources and guidance. The systems analysis that Dr. Budnitz envisions will be similar to the ACRS identification of digital instrumentation and control resource deficiency. In the area of ACNW concerns, Dr. Budnitz predicted that any changes in Part 191 will affect dose and risk. Mr. Bernero's staff does not appear to be taking steps to anticipate this event.

Dr. Budnitz indicated that a key focus of any ACNW systems analysis would need to include the NRC staff's reviewing capabilities. Dr. Steindler insisted that the absence of a license application review plan compromised the validity of any ACNW systems analysis of the NRC's licensing process for HLW. Dr. Budnitz pointed out that -- up to now -- the NRC staff has focused on containment from the accessible environment (the complementary cumulative distribution function [CCDF]); the National Academy of Sciences (NAS) will be looking at the methodology of estimating dose, probabilities and risk. The NRC staff has not made significant progress in this aspect. Even in the CCDF estimation procedure, the NAS may influence the revised EPA Standards to a degree that present NRC PA capabilities will need to be vastly overhauled.

Dr. Hinze observed that concern for PA is high on Commissioner Rogers' list. Dr. Hinze inquired about the HLW PA strategy plan. Dr. Budnitz indicated that the ACNW can evaluate the NRC's PA capabilities with regard to the 10 CFR Part 60 subsystem performance requirements (SPR), but that was only part of the puzzle. Since 40 CFR Part 191 will change, the NRC staff's capabilities in PA are presently incomplete.

Dr. Moeller suggested that the Committee stress the issue of nexus or conflict between the EPA and NRC regulations (i.e., 40 CFR Part 191 and 10 CFR Part 60). Dr. Budnitz agreed that a nexus between the EPA and NRC regulations with respect to the performance of the repository is an extremely important issue for the ACNW's considerations.

Dr. Steindler raised the issue of the conflict between Table 1 in 40 CFR Part 191 and the NRC's subsystem annual radionuclide release limit of 10^{-5} . He was uncertain whether the interpretation of this uncertainty will turn into a significant problem for compliance purposes. Dr. Steindler noted that former Commissioner Curtiss believed that there should be a single regulation; Dr. Steindler observed that he could not see his rationale. There may be a strong argument that says the revised 40 CFR Part 191 will now be cast in concrete; 10 CFR Part 60 would then have to conform to the NAS-driven revision. Dr. Moeller observed that the Part 60 conformance should remove any lack of nexus.

In like manner, Dr. Hinze suggested groundwater travel time (GWTT) in an unsaturated system may not be demonstrable. Ms. Lynn Deering, ACNW staff, indicated that NRC guidance was being developed for GWTT compliance as part of the SRA.

Dr. Budnitz raised the possibility of the NAS forcing a dose risk standard. He speculated that a critical group/dose probability limit approach would be recommended. His concern was that there would be numerous ways to achieve that limit; either by reliance on EBS or with or without canisters, etc. Forcing containment requirements may restrict strategies that would otherwise be acceptable with a revised dose/probability compliance regime. That is, the problems associated with the lack of a nexus would be increased. The ACNW should focus on this and help provide the Commission flexibility to make cost/benefit decisions in HLW licensing. Dr. Budnitz reminded the Committee that the Part 60 subsystem performance requirements (SPRs) were instituted in the early 1980s because the NRC was skeptical of EPA's regulatory strategy; the SPRs provided defense-in-depth, in case the EPA standards were too unfocused. The Committee should be looking out for the Commissioners with regard to Part 60 in order to determine what changes are needed because of changes in Part 191.

The participants began to discuss the importance of identifying the holes or pitfalls that the ACNW might identify by systems analysis. Many specific topics and suggestions were raised, such as the role of SRA and PA capabilities. Dr. Moeller thought that a brief list of the important issues could be brought before Commissioners Rogers and de Planque to determine whether the ACNW was heading in the most helpful way for the Commissioners' needs. Dr. Pomeroy insisted that the Committee should begin to focus on its criteria for identifying/selecting and ranking issues. The following suggestions were brought up as criteria:

- Importance to Commissioners
- Timeliness for Commissioners' Needs -- both short- and long-term
- Identification of a Void or Regulatory/Technical Pitfall Through Systems Analysis
- NRC's Principles of Good Regulation
- Other Agency Activities and Decisions (e.g., DOE and EPA)

Dr. Steindler criticized the list. He indicated that timeliness is necessary, but not sufficient. Although he agrees that other agencies are important to the reactions by the Commission, he stressed that these other agencies' activities must be examined in terms of whether the NRC can adequately react to what they do. Dr. Steindler observed the Committee does not have much experience with the Department of Transportation (DOT) regulations, memoranda of understandings, or other types of interactions. Other criticisms of the above list of criteria included:

The NRC's Principles of Good Regulation do not constitute criteria for selection; rather they are a basis for regulations. These should be included with resource discussions. They could be listed as sources for concerns that should be brought to the attention of the Commission; e.g., clarity - if a regulation is misinterpreted, is there necessarily a safety concern?

Dr. Budnitz suggested that, within the list of criteria, the Committee should establish a resource limitation with an associated priority. The Committee decided that there should be a list of criteria for issue selection and a separate list of criteria for setting issue priorities.

After a number of reversals and revisions, the Committee fashioned the following list of criteria for identifying (selection of) critical issues:

1. A nuclear waste disposal issue is health or safety related.
2. The issue is important to the Commission.
3. The issue corresponds to a void/hole in the regulatory process and/or regulator's capability.
4. The issue is considered to be timely per the NRC's Principles of Good Regulation.
5. The issue has a significant technical component.

The second list of priority setting criteria to be used together with the above list, as well as available resources would consist of:

1. Timeliness - A decision is needed soon by the Commission and/or staff, as appropriately designated.
 - Timeliness due to the Commission's agenda
 - Timeliness on a broader scale; e.g., NAS milestone for input or NRC staff milestone for response
2. Benefit, value and cost considerations -- Given resource levels, the ACNW would need to segregate those issues which it could address and those that, within the given time frames, resources, and capabilities, would be referred to others.

3. Necessity to assure effective regulation; specifically with respect to emerging issues. Reference was made to the Committee's June 30, 1993 letter report on appointments and charter revisions.
4. Reliance on judgment by the Committee, NRC staff and the Commission; this would involve interface with NRC and Commission staff to ensure that there is consistency between the Committee's judgment and the Commission's intent.

Both of the above lists would be dealing with issues within the scope of the Committee.

Dr. Steindler suggested that the criteria should not be too tight, otherwise they would preclude selecting items on which the Committee might want to be updated, such as carbon-14. Dr. Budnitz noted that, if an issue is purely legal -- not technical or scientific -- it might not be selected by use of the above criteria.

Having ascertained a strawman list of selection and prioritization criteria the Committee set about to draft issues in the LLW and HLW areas, which would conform to the criteria. Dr. Moeller reviewed the list of issues, starting with LLW. These included:

1. Land ownership
2. Uniform manifest
3. On-site storage

Dr. Moeller argued that on-site storage is the most important because it is timely. Dr. Steindler noted that none of above three have any large technical issues, they are mostly legal or political. Dr. Steindler discussed the LLW inventory of long-lived nuclides and the impact on the uniform manifest system. Dr. Pomeroy agreed with Dr. Steindler and noted that the uniform manifest had been decided and was no longer an "issue." Dr. Pomeroy believes that groundwater needs to be looked at in great detail, including the state compatibility issues. The members agreed that Part 61 needs review. Dr. Budnitz pointed out that the Committee's role is evaluation.

Following this discussion, the Committee composed the following list of LLW issues:

1. Revisions to 10 CFR Part 61.
Sub-items falling under this issue would include:
 - Ground-water protection
 - Alternate disposal methods - Baseline guidance for compacts
 - Compatibility of LLW regulations; agreement states
2. Performance assessment.
3. Risk Management.
This would include impacts from underestimating the risk of I-129 or Tc-99, defining what is back-ground, on-site storage, and acceptable decontamination and decommissioning levels.
4. NRC's LLW Management Plan - may provide the means to identify other voids.

There is no need to rank the three major issues under LLW (items 1, 2 and 3 above). Dr. Hinze observed that the Committee will be actively involved in some of these issues and for others its role will primarily be monitoring. Dr. Budnitz recommended that the Committee focus on technical considerations and let the Commission deal with the politics.

Following a break, Dr. Moeller discussed the White Paper assignments regarding the ACNW's revised working modus operandi. Per Dr. Steindler's suggestion, the White Paper is to be partitioned into three papers; these would consist of:

1. An introductory paper on the administrative framework will address the protocols and processes by which the Committee's conducts its business. The ACNW staff has the lead in preparing this paper.
2. The second paper addresses the technical framework within which the Committee will focus on the major issues for its consideration. Each member will prepare a justification for the issues that have been proposed.
3. The third paper will address the resources needed to accomplish the Committee's mission and goals, as established in the issues paper.

The ACNW staff should have the protocol paper completed in draft by September 17, 1993. The ACNW members should have their issues and justifications completed by September 10,

1993 for transmitting to each other through the bulletin board system. Dr. Moeller volunteered to spend a day in the ACNW office to review and work on the drafts. In addition, the ACNW staff will write the introductory portion of the issues paper. It was suggested that the resource paper will follow from the first two. When the Committee has established its level of effort, the corresponding level of effort will fall into place.

[Moeller left the meeting at 2:45 p.m. Dr. Steindler chaired the remaining portion of the meeting.]

The members turned to priority issues in the HLW arena. The major issues of importance for HLW activities were established as follows:

1. 10 CFR Part 60 Regulation

- The value of the Systematic Regulatory Analysis (SRA)
- Substantially Complete Containment (SCC)
- Subsystem Performance Requirements of Part 60
- Nexus with 40 CFR Part 191 (present and proposed)
- NAS/EPA developments for HLW standards

It was noted that Commissioner Rogers asked the ACNW to examine the SRA and its underlying rationale.

2. Engineered Barrier System. The major area of contention is in the trade-off question. A sub-issue that should be treated almost separately is:

- The multi-purpose container (MPC) -- the main question being whether the disposal aspects of the MPC have been compromised, as a result of the exclusive focus on storage and transportation considerations. Specifically, the justification for the MPC must be separated from that of the EBS, because the MPC has to interface with the transportation and on-site storage issues.

3. Site characterization activities. The sub-issues consist of:

- Coordination/justification (of specific site studies)

- The exploratory studies facility; problems underlying
- Interfaces with PA, research, source term (EBS), etc.
- Issue resolution
- Integration of study plans; integration monitoring

The rationale for considering the integration of the study plans for the ESF is that it is a quality assurance question. If this is off-limits to the ACNW, why is the NRC spending so many resources on it? The orderly process and systematic flexibility for the construction of the ESF should reflect on what is to be expected at Yucca Mountain. Dr. Pomeroy noted that NRC staff is dissatisfied, because it was left out of the loop in the DOE's design modification process. Dr. Steindler questioned what the focus of the ESF really was. Dr. Hinze asked Ms. Deering to set up a meeting with Mr. Joseph Holonich and Ms. Charlotte Abrams, NMSS, on the design changes at the ESF. Dr. Steindler cautioned that the Committee should be clear that these are NRC subjects, not DOE subjects.

4. Repository design. Sub-issues would include:

- ESF
- Thermal loading
- International efforts
- Program management and implementation

Dr. Hinze reminded the Committee of Commissioner Rogers' concern on how everything fits together in the HLW program; integration is one of his key interests.

Dr. Steindler raised questions regarding the rationale of the Commission and why it assigns the ACNW certain tasks, such as elucidating the DOE's HLW program. He suggested questioning the Commission's Technical Assistants regarding the extent to which the Commissioned is focused on the DOE's side of the HLW program. Some uncertainty was voiced regarding whether the NRC staff would recognize an integrated program when presented to them.

Dr. Hinze strongly encouraged concentrating on the integration issue. He stated that the DOE has formed the Geophysics Integration Group, which is a

step in the right direction. NRC will see better science because of this. Dr. Hinze thought that a better research program will result from this effort. If DOE comes in with better science, it will be easier for NRC to decide. He indicated that this Group understood the concern in the site characterization effort with respect to integration. Dr. Pomeroy commented that the ACNW has provided assistance in this area, however, the assistance helped DOE, not NRC. Dr. Steindler stated that we cannot evaluate the DOE program in order to help the NRC. Pomeroy believes we should not stop criticizing the DOE program, but we must evaluate the program through scrutiny of the NRC staff's overall capability.

5. Phased licensing and issue resolution. Sub-issues involved in this area include:

- Electric Power Research Institute (EPRI) and Nuclear Management and Resource Council (NUMARC) proposals
- Alternative strategies for disposal
- Rulemaking strategies for phased licensing (regulatory negotiation)
- Program management and implementation

6. Research. Sub-issues include:

- Relevance
- Duplication
- How much is sufficient?
- Competence of research/researcher(s)
- Minimum verification requirements
- Timeliness
- Nexus with the HLW technical assistance program
- Center for Nuclear Waste Regulatory Analyses
- Quality
- International efforts

It was noted that the Nuclear Safety Research Review Committee (NSRRC) modus operandi precluded detailed investigation of the adequacy or quality of the NRC's HLW research program.

7. Performance Assessment. Sub-issues include:

- Evaluating NRC staff's capabilities
- The status of the NRC staff's PA capabilities

- Second generation growth planning (continuity and transition); the PA engineers at the time of licensing will not be the same individuals.
- Development of models; the evolution of models -- at the time of licensing models may be significantly different.
- Will NRC's independent modeling capability keep up with model evolution?
- Tools/resources for PA -- equipment, upgrading, software development
- Interfaces of PA with other areas; e.g., site characterization activities, research, technical assistance
- Partitioning of PA capability (in-house vs. contracted); appropriate allocation to CNWRA and to NRC staff
- Natural analogs and role in PA program; validation, verification, NSRRC support, applicable analogs
- International PA efforts

Dr. Hinze suggested that natural analogs should be considered, specifically natural analogs that are applicable and relevant. Dr. Pomeroy mentioned Commissioner de Planque's interest in looking at foreign research. Dr. Hinze recommended that comments on foreign research be placed in an umbrella statement.

8. NRC Program Integration (Architecture and Integration). This would include:
- HLW Management Plan
 - License application review plan (LARP)
 - Systematic Regulatory Analysis (SRA)
 - Periodic functional analysis

There was a suggestion that the most recent 5-year plan be reviewed for both LLW and HLW forecasts.

B. Future Committee Activities (Open)

- In a letter to the ACNW Chairman, dated July 30, 1993, the Associate Director for the U.S. Department of Energy Program for Systems and Compliance suggested that the DOE and ACNW jointly plan a more systematic scheduling of interactions on key HLW related issues. The specific proposal is that DOE provide summary briefings on key issues to the ACNW approximately 60 days after the DOE has briefed the NRC staff on the same issue. The

Committee agreed to respond -- taking into consideration advice received on this subject during the earlier meeting with the NMSS senior managers.

- The Committee will continue to prepare the three part "White Paper" during the 57th and 58th ACNW meetings. The Committee further agreed to submit an early draft to Commissioners Rogers and de Planque for review, perhaps in mid-October, prior to the 58th ACNW meeting.
- The Committee discussed plans for a tutorial conducted by the NRC staff (NMSS and RES) to examine the methodologies involved in calculating a complementary cumulative distribution function (CCDF). The ACNW staff has been asked to schedule the training session on or about October 1, 1993.
- The Committee discussed its plan to hold the 58th ACNW meeting in Las Vegas, Nevada, on October 27-28, 1993. Current plans are to work on the White Paper, discuss anticipated and proposed Committee activities, future meeting agenda, and organizational matters on the 27th of October, have a technical exchange with representatives of the DOE Yucca Mountain Project Office on the 28th, and tour the Yucca Mountain site on the 29th of October. Dr. Pomeroy requested that reproduction support be provided to the Committee during the full committee meeting.
- The Committee agreed to include the recommendations proposed by Dr. Moeller in his draft reports on "Analysis and Commentary on Subsystem Performance Requirements, and "Compatibility of Agreement State Programs" in future Committee initiatives.
- The Committee agreed to reschedule for November 18, 1993, the Working Group meeting on Characterization of the Unsaturated Zone Flow and Transport Properties. It will be held in Bethesda, Maryland.
- The Committee agreed to schedule a working group meeting on LLW PA on December 14, 1993, and a working group meeting on HLW PA on December 17, 1993.
- The Committee agreed to propose that the frequency of meetings with the Commission be reduced from every 3-4 months to semiannually.
- The Committee agreed to advance the dates for its November meeting by one week to November 15-16, 1993,

thereby minimizing conflicts with several other activities of interest to the members.

C. Future Meeting Agenda

Appendix IV summarizes the proposed items endorsed by the Committee for the 57th ACNW Meeting, September 29-30, 1993, and future Working Group meetings.

The meeting was adjourned at 4:40 p.m., Thursday, August 26, 1993.

Representatives of the industry will participate, as appropriate.

C. Proposed Resolution of Generic Issue 143, "Availability of Chilled Water Systems and Room Cooling"—Review and comment on the NRC staff's proposed resolution of Generic Issue 143. Representatives of the NRC staff will participate.

D. Advanced Light Water Reactor Policy Issue on Emergency Planning—Review and comment on a draft Commission paper related to emergency planning for Advanced Light Water Reactors. Representatives of the NRC staff will participate.

E. Meeting with Chairman Selin—Hold discussions with NRC Chairman Selin on items of mutual interest.

F. Resolution of ACRS Comments and Recommendations—Discuss responses from the NRC Executive Director for Operations to recent ACRS comments and recommendations.

G. Prioritization of Generic Issues—Discuss proposed assignments for reviewing the priority rankings proposed by the NRC staff for a group of generic issues.

***H. ACRS Subcommittee Activities**—Hear reports and hold discussions regarding the status of ACRS subcommittee activities, including reports from the Subcommittees on Thermal Hydraulic Phenomena and Advanced Boiling Water Reactors. Portions of this session may be closed to discuss information deemed proprietary by the Westinghouse Electric Corporation per 5 U.S.C. 552b(c)(4).

***I. Planning and Procedures Subcommittee Report**—Hear a report of the Planning and Procedures Subcommittee involving matters related to the status of appointment of new members and organizational and personnel matters relating to ACRS staff members. A portion of this session may be closed to public attendance pursuant to 5 U.S.C. 552b(c)(2) and (6) to discuss organizational and personnel matters that relate solely to internal personnel rules and practices of ACRS and matters the release of which would represent a clearly unwarranted invasion of personal privacy.

J. Future ACRS Activities—Discuss topics proposed for consideration by the full Committee during future meetings.

K. Miscellaneous—Discuss miscellaneous matters related to the conduct of Committee activities and complete discussion of matters and specific issues that were not completed during previous meetings as time and availability of information permit.

401st ACRS Meeting, September 9–11, 1993, Bethesda, MD. Agenda to be announced.

402nd ACRS Meeting, October 7–9, 1993, Bethesda, MD. Agenda to be announced.

403rd ACRS Meeting, November 4–6, 1993, Bethesda, MD. Agenda to be announced.

404th ACRS Meeting, December 9–11, 1993, Bethesda, MD. Agenda to be announced.

ACNW Full Committee and Working Group Meetings

56th ACNW Meeting, August 25–26, 1993, Holiday Inn, Bethesda, MD.

During this meeting, the Committee plans to consider the following:

*A. The Committee will meet in executive session to discuss a strategy for implementing recent direction from the Commission on the ACNW charter and renewal of appointment for members. Methods for ACNW operation, candidates for appointment to the Committee, and topical areas for ACNW review will form the central focus of this meeting.

*B. **Committee Activities**—Discuss anticipated and proposed Committee activities, future meeting agenda, and organizational and personnel matters.

C. Miscellaneous—Discuss miscellaneous matters related to the conduct of Committee activities and complete discussion of topics that were not completed during previous meetings as time and availability of information permit.

This meeting will be closed to the extent it discusses organizational and personnel matters that relate solely to the internal personnel rules and practices of this advisory committee and the release of which would represent a clearly unwarranted invasion of personal privacy per 5 U.S.C. 552b(c)(2) and (6).

57th ACNW Meeting, September 29–30, 1993, Bethesda, MD. Agenda to be announced.

ACNW Working Group on Characterization of the Unsaturated Zone Flow and Transport Properties Fracture vs. Matrix Flow, October 26, 1993, Las Vegas, NV. The Working Group will examine the relationships between precipitation, recharge, and flux through the unsaturated zone at the proposed Yucca Mountain site, and the adequacy of ongoing field studies to ascertain these relationships. Emphasis will be placed on the modeling of flow in the unsaturated zone, alternative conceptual models of fracture versus matrix flow, and conditions under which fracture flow can be shown to predominate. The Working Group will

also focus on the recharge term in hydrogeologic models, alternative conceptual models for how and where regional recharge occurs, and the effect of assumptions about recharge on model results.

58th ACNW Meeting, October 27–28, 1993, Las Vegas, NV. Agenda to be announced.

59th ACNW Meeting, November 22–23, 1993, Bethesda, MD. Agenda to be announced.

60th ACNW Meeting, December 15–16, 1993, Bethesda, MD. Agenda to be announced.

Dated: July 16, 1993.

John C. Hoyle,

Advisory Committee Management Officer.

(FR Doc. 93-17341 Filed 7-21-93; 8:45 am)

BILLING CODE 7550-01-M

[Docket No. 50-318]

Baltimore Gas & Electric Co.; Consideration of Issuance of Amendment to Facility Operating License, Proposed No Significant Hazards Consideration Determination, and Opportunity for a Hearing

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DRP-69, issued to Baltimore Gas & Electric Company (the licensee), for operation of the Calvert Cliffs Nuclear Power Plant, Unit No. 2 located in Calvert County, Maryland.

The proposed amendment would revise Technical Specifications (TS) 3/4.2, "Power Distribution Limits," and 3/4.3, "Instrumentation," to relax the requirements for the number and distribution of operable incore detectors. The incore detectors are required to verify that the core power distribution is consistent with the safety assumptions used in the safety analyses and to protect the current power distribution TS limits. The proposed changes would also apply penalties to the values measured by the incore detectors prior to their comparison with TS limits to assure that the TS limits monitored by the incore detectors will continue to be valid.

Specifically, footnotes will be added to the following TS and will be applicable for only the remainder of the Calvert Cliffs Nuclear Power Plant, Unit 1, Operating Cycle 11, as follows:

TS 3.2.2.1, Total Planar Radial Peaking Factor, Limiting Condition for Operation (LCO), 3.2.3, Total Integrated Radial Peaking Factor LCO; and 4.2.1.4.b.1, Surveillance Requirements for Incore Detector Monitoring System



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

REVISED: August 19, 1993

SCHEDULE AND OUTLINE FOR DISCUSSION
56TH ACNW MEETING
AUGUST 25-26, 1993

Wednesday, August 25, 1993, Maryland Room, Holiday Inn, 8120 Wisconsin Avenue, Bethesda, Md.

- 9:40
1) 8:30 - ~~9:00~~ a.m. Opening Remarks by ACNW Chairman (Open)

The ACNW Chairman will make opening remarks regarding conduct of the meeting and the matters to be discussed. Interested members of the public will be offered an opportunity to comment at this time.

- 2) ~~9:00~~ - ~~10:00~~a.m. Preparation for Discussions with Commissioners Rogers and de Planque (Open/Closed)

The Committee will discuss matters in preparation for the scheduled discussions with Commissioners Rogers and de Planque. Included in these discussions will be matters related to the appointment of new Members, ACNW resources, and organizational and personnel matters relating to ACNW Members and ACNW staff.

[Note: Portions of this session may be closed to public attendance to discuss matters that relate solely to internal personnel rules and practices of this advisory committee pursuant to 5 U.S.C. 552b(c)(2) and to discuss matters the release of which would represent a clearly unwarranted invasion of personal privacy pursuant to 5 U.S.C. 552b(c)(6).]

- 3) ~~10:00-11:00~~ a.m. Preparation for Discussions with the NRC Staff (Open/Closed)

The Committee will discuss matters in preparation for the scheduled discussions with senior members of the NRC staff. Included in these discussions will be matters related to the appointment of new members, ACNW resources, and organization and personnel matters relating to ACNW Members and ACNW staff.

[Note: Portions of this session may be closed to public attendance to discuss matters that relate solely to internal personnel rules and practices of this advisory committee pursuant to 5 U.S.C. 552b(c)(2) and to discuss matters the release of which would represent a clearly unwarranted invasion of personal privacy pursuant to 5 U.S.C. 552b(c)(6).]

- 2:15
4) 11:00- ~~1:30~~ P.M. Discussions with the Director of the NRC Office of Nuclear Material Safety and Safeguards (Open)
The Committee will meet with the Director of the NRC Office of Nuclear Material Safety and Safeguards and his senior staff to discuss issues related to the ACNW role in the regulatory review process including matters related to the future activities of the ACNW.
- 1:10
None - 1:30 p.m. * * * L U N C H * * *
- 9:40 10:40 a.
5) ~~1:30~~ - ~~2:30~~ p.m. Discussions with R. Budnitz (Open)
The Committee will discuss with Dr. Budnitz his perspective on presentations/discussions thus far as well as his recommendations for future Committee activities and improved protocols.
- 2:15
6) ~~2:30~~-4:30 p.m. Preparation for Discussions with Commissioners Rogers and de Planque (Open/~~Closed~~)
The Committee will continue to discuss matters in preparation for the scheduled discussions with Commissioners Rogers and de Planque. Included in these discussions will be matters related to the appointment of new Members, ACNW resources, and organizational and personnel matters relating to ACNW Members and ACNW staff.
[Note: Portions of this session may be closed to public attendance to discuss matters that relate solely to internal personnel rules and practices of this advisory committee pursuant to 5 U.S.C. 552b(c)(2) and to discuss matters the release of which would represent a clearly unwarranted invasion of personal privacy pursuant to 5 U.S.C. 552b(c)(6).]
- 45 35
7) 4:30-6:00 p.m. Discussions with Commissioners Rogers and de Planque (Open/Closed)
The Committee will meet with Commissioners Rogers and de Planque to discuss issues related to the past performance of the ACNW and the future role of the ACNW in the NRC regulatory process, including 1) a revised ACNW charter, 2) ACNW resources, 3) the future activities of the ACNW, and 4) organizational and personnel matters relating to ACRS Members and ACNW staff.
[Note: Portions of this session may be closed to public attendance to discuss matters that relate solely to internal personnel rules and practices of this advisory committee pursuant to 5 U.S.C. 552b(c)(2) and to discuss matters the release of which would represent a clearly unwarranted invasion of personal privacy pursuant to 5 U.S.C. 552b(c)(6).]

8) 6:00-7:00 p.m.

Executive Session (Open/Closed)

The Committee will discuss what it has learned from its discussions with Commissioners Rogers and de Planque and the NMSS staff, including matters related to a) the appointment of new members, b) ACNW resources, c) revisions to the ACNW charter, d) the future activities of the ACNW, and e) organizational and personnel matters related to ACNW and NRC staff.

[Note: Portions of this session may be closed to public attendance to discuss matters that relate solely to internal personnel rules and practices of this advisory committee pursuant to 5 U.S.C. 552b(c)(2) and to discuss matters the release of which would represent a clearly unwarranted invasion of personal privacy pursuant to 5 U.S.C. 552b(c)(6).]

6:35

~~7:00~~ p.m.

* * * RECESS * * *

Thursday, August 26, 1993, Maryland Room, Holiday Inn, 8120 Wisconsin Avenue, Bethesda, Md.

9) 8:30-10:30 a.m.

Executive Session (Open/Closed)

The Committee will continue its discussion of matters related to implementation plans for the future activities of the ACNW, including matters related to revisions to the ACNW charter, ACNW resources, the appointment of new Members, and organizational and personnel matters related to the ACNW Members and ACNW staff. The Committee will also work on the preparation of a report which discusses its conclusions and recommendations on these matters.

[Note: Portions of this session may be closed to public attendance to discuss matters that relate solely to internal personnel rules and practices of this advisory committee pursuant to 5 U.S.C. 552b(c)(2) and to discuss matters the release of which would represent a clearly unwarranted invasion of personal privacy pursuant to 5 U.S.C. 552b(c)(6).]

11:50

10) 10:30-Noon

Future ACNW Activities (Open)

- 12.1 Agenda for September meeting
- 12.2 Finalize October Las Vegas trip (and preceding Working Group [WG] meeting on characterization of the unsaturated zone flow and transport properties)
- 12.3 Establish full Committee and WG meeting schedule for remainder CY 1993

11:50

Noon - 1:00 p.m.

* * * L U N C H * * *

- 2:45 4:40
11) ~~3:00-3:00~~ p.m. Executive Session (Open/~~Closed~~)
The Committee will continue its discussion of matters related to implementation plans for the future activities of the ACNW, including matters related to revisions to the ACNW charter, ACNW resources, the appointment of new Members, and organizational and personnel matters related to the ACNW Members and ACNW staff. The Committee will also continue preparation of a report which discusses its conclusions and recommendations on these matters.
[Note: Portions of this session may be closed to public attendance to discuss matters that relate solely to internal personnel rules and practices of this advisory committee pursuant to 5 U.S.C. 552b(c)(2) and to discuss matters the release of which would represent a clearly unwarranted invasion of personal privacy pursuant to 5 U.S.C. 552b(c)(6).]

- 1:00 2:45
12) ~~3:00-5:00~~ p.m. Appointment of New Members (Open/Closed)
The Committee will discuss the qualifications of potential candidates for nomination to ACNW membership.
[Note: Portions of this session may be closed to public attendance to discuss matters the release of which would represent a clearly unwarranted invasion of personal privacy pursuant to 5 U.S.C. 552b(c)(6).]

4:40
5:00 p.m.

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APPENDIX III: MEETING ATTENDEES

**56TH ACNW MEETING
AUGUST 25-26, 1993**

<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. Paul W. Pomeroy	<u> X </u>	<u> X </u>
Dr. Martin J. Steindler	<u> X </u>	<u> X </u>

<u>ACNW CONSULTANT</u>	<u>1st Day</u>	<u>2nd Day</u>
Dr. Robert Budnitz	<u> X </u>	<u> X </u>

<u>ACNW STAFF</u>	<u>1st Day</u>	<u>2nd Day</u>
Ms. Lynn F. Deering	<u> X </u>	<u> X </u>
Mr. Giorgio N. Gnugnoli	<u> X </u>	<u> X </u>
Dr. John T. Larkins	<u> X </u>	<u> X </u>
Mr. Howard J. Larson	<u> X </u>	<u> X </u>
Mr. Richard K. Major	<u> X </u>	<u> X </u>
Dr. Richard P. Savio	<u> X </u>	<u> X </u>
Mr. H. Stanley Schofer	<u> X </u>	<u> X </u>

NRC COMMISSIONERS AND STAFF

Commissioner de Planque	
Commissioner Rogers	
Robert M. Bernero	NMSS/DO
Seth Coplan	OCM/KR
Elizabeth Doolittle	OCM/FR
Paul Lohaus	NMSS/LLWB
Kay Whitfield	OCM/GD
B. Joe Youngblood	NMSS/HLWM

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

Steve Frishman
Sharon Skuchko

State of Nevada
Department of Energy, Hq.

APPENDIX IV: FUTURE AGENDA

57th ACNW Committee Meeting September 29-30, 1993 (Tentative Schedule)

Preparation of the "White Paper" (Open) - The Committee will continue its work on the preparation of a three part "White Paper" that addresses Committee protocols, major topical issues for ACNW review, and resource management.

Potential Candidates for Committee Members (Closed) - The Committee will discuss potential candidates for nomination for appointment to the Committee.

Committee Activities (Open/Closed) - The Committee will discuss anticipated and proposed Committee activities, future meeting agenda, and organizational matters, as appropriate. Also, the members will discuss matters and specific issues that were not completed during previous meetings.

Working Group Meetings

Characterization of the Unsaturated Zone Flow and Transport Properties, November 18, 1993, Bethesda, Maryland, (Lynn Deering) - The Working Group will examine the current understanding of processes controlling matrix and fracture-flow in the unsaturated zone at Yucca Mountain, existing approaches to model or bound fracture flow in the unsaturated zone, insights gained from performance assessment activities regarding the sensitivity of infiltration and other parameters and assumptions, on-going site characterization studies, the relationship between performance assessment and site characterization activities, and significant data gaps.

Low-Level Radioactive Waste Performance Assessment, December 14, 1993, Bethesda, Maryland, (Lynn Deering) - The Working Group will review the overall low-level waste performance assessment program, with emphasis on the status of the draft Branch Technical Position, and with the NRC staff's performance assessment capability. Issues to be examined include on-going and planned activities, milestones and schedules, results of on-going test case analyses, and role of NRC in evaluating Agreement State's performance assessment programs.

NRC Staff Capabilities in Performance Assessment and Computer Modeling of High-Level Waste Disposal Facilities, December 17, 1993, Bethesda, Maryland (Giorgio Gnugnoli) - The Working Group will review progress in the NRC's Iterative Performance Assessment (PA) Program, the NRC staff's completion of an expert elicitation exercise, and progress made in the execution of the NRC's modular

computer model. These reviews will be performed periodically to determine the degree of in-house and contractor-supported PA capability, the coordination and integration between data analyst and computer modelers, revisions to the High-Level Radioactive Waste Management PA Strategy Plan, and future plans for PA development.

APPENDIX V
LIST OF DOCUMENTS PROVIDED TO THE COMMITTEE

MEETING HANDOUTS

AGENDA

DOCUMENTS

ITEM NO.

- 1 Chairman's Report
 1. Items of Possible Interest to ACNW Members and Staff, dated August 21, 1993, Prepared by Dade Moeller

- 4 Discussion with the Director of the NRC Office of Nuclear Material Safety and Safeguards (Open)
 2. Issues, undated
 3. ACNW/Staff Interactions, undated, prepared by B. Joe Youngblood
 4. Possible Areas for ACNW Review Dealing with LLW Disposal Technical and Program Issues, undated, prepared by Paul Lohaus

- 12 Appointment of New Members (Closed)
 5. Nominees for 1994 ACNW Vacancies, dated August 24, 1993 [Official Use Only]