ACNW-0123

MINUTES OF THE 102ND ACNW MEETING
JULY 20–22, 1998

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APPENDICES

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BY B. JOHN GARRICK

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MINUTES OF THE 102ND MEETING OF THE
ADVISORY COMMITTEE ON NUCLEAR WASTE
JULY 20–22, 1998
ROCKVILLE, MARYLAND

The Advisory Committee on Nuclear Waste (ACNW) held its 102nd meeting July 20–22, 1998, at Two White Flint North, Room T-2B3, 11545 Rockville Pike, Rockville, Maryland. The ACNW met to discuss and take appropriate action on the items listed in the attached agenda. The entire meeting was open to public attendance.

A transcript of selected portions of the meeting is available in the U.S. Nuclear Regulatory Commission (NRC) Public Document Room at the Gelman Building, 2120 L Street, NW., Washington, DC. Copies of the transcript are available for purchase from Ann Riley & Associates, Ltd., 1250 I Street, NW., Suite 300, Washington, DC 20005. Transcripts are also available for downloading from, or reviewing on, the Internet at http://www.nrc.gov/ ACRSACNW.

Dr. B. John Garrick, ACNW Chairman, convened the meeting at 8:30 a.m. and explained the purpose of this session. ACNW members Drs. Charles Fairhurst, Raymond G. Wymer, and George M. Hornberger were also present. For a list of other attendees, see Appendix III. **[Note: Drs. Fairhurst and Wymer did not attend the meeting on July 22, 1998.]**

I. <u>Chairman's Report</u> (Open)

[Mr. Howard J. Larson was the Designated Federal Official for this part of the meeting.]

Dr. Garrick noted a number of items that he believed to be of interest, including the following:

- Mr. Michael F. Weber has been selected to succeed Margaret V. Federline as Deputy Director, Division of Waste Management (DWM), Office of Nuclear Material Safety and Safeguards (NMSS). Mr. Weber assumed this position on July 5, 1998.

- An IAEA panel evaluating the radiological impact from French weapons testing in French Micronesia has produced a "clean bill of health" for Mururoa and Fangataufa. On this basis, the panel concluded that there would be no significant health impact, and therefore, no need for further environmental monitoring. The panel was chaired by former NRC Commissioner Gail de Planque.

- Commissioner Dicus' reappointment to serve a 5-year term on the Commission may be delayed until the Clinton administration recommends a Republican candidate to fill the commission seat that has been vacant since Kenneth Rogers left last June. She cannot continue to perform her responsibilities until the Senate approves her nomination.

Currently, she has taken a short-term job with the Defense Nuclear Facilities Safety Board in hopes that her nomination to serve a second term at the NRC will be acted on quickly in the Senate.

- President Clinton selected Bill Richardson to be Secretary of Energy. However, the Senate's review of Bill Richardson as Energy Secretary may be prolonged by Senators' concerns over DOE's failure to begin accepting nuclear waste from electric utilities. Deputy Secretary Elizabeth Moler has been acting Secretary since Mr. Peña's departure on June 30, 1998. She is expected to serve until a new secretary is confirmed, at which time, she is expected to depart from her position.

- Two administrative law judges recommend that the Texas Natural Resource Conservation Commission (TNRCC) deny the Low-Level Radioactive Waste (LLW) Disposal Authority's application for a license to construct and operate a disposal facility. The TNRCC may elect to license the Authority or else remand the proposal for additional study. The basis of this "rejection" hinged on the characterization of the fault beneath the site and on potential negative socioeconomic impacts. Any decision may be appealed to the state district court.

- The NRC has decided to grant a petition to amend its emergency planning regulations. The change would require that, as each state develops the range of protective actions, consideration be given, as a supplement to evacuation and sheltering, to the use of potassium iodide, as appropriate.

- The NRC staff held a workshop on July 22nd in Bethesda, Maryland, to discuss the status of efforts to improve the safety oversight of commercial nuclear power plants. The workshop addressed how the NRC considers risk in a more comprehensive manner to focus regulatory attention on those areas of nuclear operations most important to protecting public health and safety.

II. Generic Low-Level Waste Post-Disposal Criticality Issues (Open)

[Mr. Howard J. Larson was the Designated Federal Official for this part of the meeting.]

The NRC staff discussed the likelihood and types of consequences associated with criticality scenarios at LLW disposal facilities. The specific focus is on possible reconcentration of radioactive material driven by hydrogeochemical processes. The Commission has directed the NRC staff to consult with the Advisory Committee Nuclear Waste (ACNW) before proceeding with technical investigations to quantify the likelihood of such criticality events.

The staff discussed some experiments to characterize the effects of such criticality events. The discussion noted differences between criticality resulting from improper placement and criticality resulting from hydrogeochemical transport of plumes containing fissile material. The natural analog at Oklo was considered; however, the respective time scales complicated comparison.

The staff indicated that consequence could result in doses on the order of 160 rem (direct exposure) to 200 mrem at the at the edge of the facility. With these possible consequences, the likelihood plays a significant role. The NRC staff is in the process of preparing the procurement to elicit contract proposals, should the Commission so direct.

A discussion ensued on the impact of reducing conditions and the presence of moderating substances in the soil matrix. It was noted that the presence of elements such as boron, beryllium, carbon, and cadmium could mitigate the criticality potential. The reconcentration parameters act as a possible surrogate for criticality. The NRC staff observed that past analyses ranged from rough scoping analyses assuming no poisons for suppressing criticality to analyses accounting for natural moderators.

Some of the ACNW expressed skepticism about the cost/benefit of a research effort focused on quantifying the possibility of a remote occurrence. The NRC staff noted that the suggestion to pursue quantification of this type of quantification originated in NRC management's uncertainty about this phenomenon.

The ACNW agreed to consider a letter on this topic.

III. Development of a Standard Review Plan for Decommissioning (Open)

[Mr. Howard J. Larson was the Designated Federal Official for this part of the meeting.]

Mr. D. A. Orlando, Project Manager, DWM, NMSS, after giving a brief history of decommissioning regulations from July 1988, outlined the major sections of the regulatory guide. He noted that in the Commission's SRM of July 8, 1998, on the license termination rule, the Commission accepted many of the ACNW's earlier comments and directed the staff to consult with the ACNW during the development of the Standard Review Plan (SRP). He outlined the proposed SRP, stating that the SRP is intended to cover all regulatory requirements relevant to the license termination issue and will be completed during the next 2 years.

In response to a question, Mr. Orlando indicated that the development of the SRP will be performed by staff work groups comprising staff from the Office of Nuclear Regulatory Research, the Division of Fuel Cycle Safety and Safeguards and the Division of Waste Management from NMSS, and the NRC regional offices. Additional work groups may be convened to facilitate the development of the SRP.

Mr. Orlando then introduced Mr. B. Eid, whose presentation focused on the dose modeling module of the SRP. Mr. Eid discussed the currently perceived issues, stating that resolving the issues identified thus far is a major technical challenge. To assist in this effort, the staff intends to interact with, and receive input from, licensees and other interested parties on dose modeling at real sites. He closed his presentation by noting the forthcoming internal workshop on

parameter selection for the DandD code and the development of a default table by August 15, 1998, to replace Regulatory Guide 1.86.

IV. Meeting With the Director, Division of Waste Management, Office of Nuclear Material Safety and Safeguards (NMSS) (Open)

[Mr. Howard J. Larson was the Designated Federal Official for this part of the meeting.]

The Committee heard from J. Greeves, Director, DWM, and M. Bell, Acting Chief, Performance Assessment and High-Level Waste Integration Branch, DWM, NMSS.

Among the topics discussed were the following:

1. an update of DOE/NRC Yucca Mountain-related activities,

2. a discussion of the recent ACNW report to the Commission on research,

3. an update on the status of the Trojan reactor vessel shipment,

4. a brief discussion of current Committee on-going review topics (e.g., the SRP on license termination and the Envirocare criticality report), and

5. other topics of mutual interest.

Mr. Greeves noted that the staff had scheduled several activities relevant to the license termination activity and invited ACNW staff to attend the forthcoming internal technical working group on the DandD code parameter selection. He also commented on several of the issues discussed during the Committee's July 21, 1998, public meeting with the Commission and thanked Dr. Hornberger for his participation in the July 8 meeting with the French delegation in Las Vegas, Nevada.

V. Yucca Mountain Regulatory Framework (Open)

[Ms. Lynn G. Deering was the Designated Federal Official for this part of the meeting.]

1. Introduction

The DWM staff presented its draft regulatory framework for geologic disposal of high-level waste at Yucca Mountain. K. McConnell provided an introduction and overview; T. McCartin presented the development of draft 10 CFR Part 63; and C. Lui presented the Total System Performance Assessment (TSPA) Issue Resolution Status Report (IRSR). Specific presentations on the framework included an overview of the site-specific implementing rule for HLW disposal, the TSPA IRSR, and the draft methodology for presenting important aspects of the repository system.

In his introduction, Mr. McConnell noted that the staff has already used and continues to use the TSPA IRSR and insights gained from TPA code to evaluate the DOE's approach to model abstraction in the TSPA Viability Assessment, to focus the NRC program on issues most important to performance, and to develop 10 CFR Part 63.

2. Staff Development of Technical Criteria for a Yucca Mountain Specific HLW Rule (Part 63)

T. McCartin discussed the background for the rule, direction provided by the Commission, National Academy of Sciences (NAS) recommendations, technical criteria, and status. The staff plans to submit the draft rule to the Commission by September 30, 1998.

The technical criteria of the rule were developed taking into consideration Commission direction, legislative direction, NAS recommendations, and the forthcoming Environmental Protection Agency standard. In response to a question from the ACNW regarding whether the staff expected a letter from the Committee before September 30, the staff indicated that it would be difficult to factor in ACNW comments on the draft rule before it went to other divisions and to the Commission, but that the staff would work with the Committee informally to accommodate the Committee's concerns.

The Commission directed the staff to develop a separate regulation applicable to Yucca Mountain, and to specify an annual dose limit in the range of 25 to 30 mrem based on an all-pathways standard. The Commission approved the staff's strategy to develop 10 CFR Part 63, involving an overall performance measure for compliance, specification of the reference biosphere critical group, and a stylized calculation for human intrusion.

Legislative history includes the Nuclear Waste Policy Act of 1982 (NWPA) and the Energy Policy Act of 1992 (EnPA). The NWPA requires that the regulation provide for a system of multiple barriers and retrievability. The EnPA required that the standard prescribe the maximum annual dose equivalent to the individual members of the public and that the Commission requirements shall assume postclosure oversight consistent with the NAS findings and recommendations.

The NAS recommendations included limiting risk to the average member of the critical group, defining "reference biosphere" and "critical group" in the rule, evaluating consequences of human intrusion separately, avoiding subsystem requirements, and assessing the time of peak risk. The NAS did recognize that there is no scientific basis to limit the time period.

The rule's postclosure criteria include (1) an individual dose limit of 25 mrem/year, (2) a compliance period of 10,000 years, and (3) a geologic repository that includes a system of multiple barriers. The rule requires that a compliance demonstration uses performance assessment (PA) to demonstrate compliance. The rule defines the reference

biosphere and critical group used in PA. Human intrusion is evaluated using a stylized calculation. The 25mrem/yr dose limit is the only quantitative limit; the rule does not contain subsystem requirements for individual barriers or a separate limit for groundwater. The expected annual dose (mean dose to an individual) is calculated for each year and displayed as a curve of expected annual dose versus time after closure. The calculation accounts for probability of scenarios and probability of the parameters. Each point on the curve represents a sum of the doses from a family of dose curves at any time t, weighted by the probability. Mr. McCartin indicated that the dose at any time on the curve is representative of the risk at that time to an average individual member of the critical group.

Dr. Hornberger asked whether the NRC sees a difference between risk today versus calculated risk in the future. Mr. McCartin responded that the approach protects future individuals to the same level we would today. Discounting is not considered because there would be little justification to protect individuals beyond 8,000 years or so. J. Kotra, DWM, clarified that there is an international pledge to protect future individuals to comparable levels but that the NRC may invoke different tools or metrics to evaluate the risk to future individuals.

Regarding the compliance period of 10,000 years, NRC recognizes that the peak dose is likely to occur some time beyond 10,000 years, but believes that the uncertainties of the analysis extended beyond that time frame call into question the usefulness of the results. The staff has confidence that, in the event the peak dose occurs beyond 10, 000 years, the use of multiple barriers will serve to ensure that the peak dose is not significantly greater than doses observed during the 10,000-year period.

Regarding the requirement to use multiple barriers, the rule allows the Department of Energy (DOE) flexibility in presenting evidence for multiple barriers. For example, this demonstration could include providing results to intermediate PA calculations, continuing PA calculations beyond the engineered barrier system lifetime, describing the capability of individual barriers to preclude doses, and/or conducting separate calculations such as sensitivity analyses.

To ensure that DOE's PA is defensible, the rule requires that DOE's PA account for uncertainties, consider alternative models, and provide the basis for the models used, among other requirements. To ensure that the PA is transparent, NRC will use the single dose versus time curve as the basis for decision making, and DOE is required to explain how the estimated performance is achieved.

The critical group is assumed to be located 20 km from the site, based on present knowledge and conditions. This is based on the assumption that farming would not be likely or would not be viable in areas where the depth to water table is below 100 meters. Land use, lifestyle, diet, human physiology, and metabolics are assumed constant over the time of compliance.

Human intrusion is to be evaluated based on a "stylized" scenario assuming a single vertical borehole that penetrates one waste package and creates a pathway to the saturated zone, which is consistent with the NAS recommendations.

After describing preclosure requirements, Mr. McCartin concluded his talk, noting that the parallel development of 10 CFR Part 63 with the TSPA IRSR methodology allows a tie between the acceptance criteria in the IRSR and the regulatory requirements, and establishes a framework for the Yucca Mountain Review Plan. In addition, the NRC staff continues to meet with EPA to discuss attributes of the forthcoming HLW standard.

a. Questions and Comments

- In response to questions about how the rule implements multiple barriers and defense in depth, Mr. McCartin explained that the rule requires DOE to use multiple barriers, both engineered and natural, and to explain how this has been achieved. The rule does not specify that DOE must quantify the contribution of each barrier. The staff indicated that the SRP will contain the details of what NRC expects to see from DOE with respect to multiple barriers. In addition, NRC may use importance analyses to satisfy itself that the multiple-barrier requirement has been achieved. The staff believes that the regulation should not contain too much specificity, as codes, capabilities, etc. will continue to evolve.

- Dr. Garrick remarked that he was pleased to see that the rule is moving toward performance-based regulation. He questioned, however, whether the goal of transparency can be achieved without specifying in the rule that DOE must quantify the contribution of each barrier. He also noted that real transparency should expose the impact each barrier has on dose. He also noted that although ACNW agrees that progress has been made, the staff needs to ensure that the methods and techniques are evolving and being developed to ensure transparency. Further, the staff must ensure that the review methods, technical basis, and acceptance criteria in the SRP do, in fact, ensure transparency.

- Dr. Hornberger complimented the staff on its progress and indicated that he felt it is consistent with what the ACNW has written about in related issues.

2. Total System Performance Assessment Methodology Issues Resolution Status Report (Revision 0)

C. Liu discussed the background of the TSPA IRSR, subissues of the TSPA methodology IRSR, the acceptance criteria and review methods, the relationship with other key performance assessment products, and future directions.

The objectives of the TSPA IRSR are to describe an acceptable methodology for conducting assessments of repository performance and to conduct issue resolution in PA. The focus of the staff's review is to understand the contribution of various assumptions, models, and input data in DOE's TSPA to system performance and to ensure that the degree of technical support for models and data used in TSPA is commensurate with the contribution to risk.

The TSPA methodology IRSR provides the framework and context for other key technical issue (KTI) IRSRs. The TSPA IRSR delineates the staff's systematic approach for determining compliance with an overall performance objective.

Subissues in the TSPA methodology IRSR include model abstractions (covered in Revision 0) , scenario analysis (Revision 1) , and transparency and traceability of the analysis (Revision 2).

The model abstraction section of the Revision 0 IRSR (Section 4.1) is organized around the TSPA flow diagram. The acceptance criteria and review methods are formulated by the key elements of the subsystem abstractions (KESAs), shown in the diagram. KESAs are integrated features, events, and processes that could impact system performance and should be modeled in the TSPA.

The staff will use the TPA code to review and selectively probe DOE's TSPAs to judge if DOE has met the acceptance criteria for issue resolution. It will also use the code to assess the impact of new site information and design features on post-closure performance to close existing open items and identify new items as appropriate.

The two overarching programmatic acceptance criteria and review methods are quality assurance and expert elicitation. The five technical acceptance criteria and review methods are data and model justification, data uncertainty and verification, model uncertainty, model verification, and integration.

Ms. Liu also showed a diagram depicting the relationships and interdependence between the subsystem abstractions, and described the relationship of the TSPA IRSR to the TPA code and the sensitivity and uncertainty analysis report.

Ms. Liu concluded with a discussion of future plans. Plans include formulating acceptance criteria and review methods for the remaining two subissues; completing Revision

1 (which will address scenario analysis) by the end of fiscal year (FY) 1998; completing Revision 2 (which will address the subissue of transparency and traceability) in FY 1999; continuing integration with the rest of the HLW program; continuing issue resolution (including reviewing DOE's TSPA-VA, using Revision 1 of the TSPA IRSR to rebaseline open items in the areas of model abstraction and scenario analysis); improving sensitivity and uncertainty analysis techniques and importance measures; revising the TSPA IRSR, as needed, to be consistent with 10 CFR Part 63; and using the TSPA IRSR to establish the framework for the Yucca Mountain Review Plan.

a. **Questions and Comments**

- Dr. Hornberger asked how the KTIs related to the KESAs. The staff responded that the key KTI subissues that will contribute to particular KESAs are identified in the TSPA IRSR, and that the staff fully expects that the information that comes from the subissues will support a performance assessment in the particular KESA area.

- The Committee noted that it is concerned that the acceptance criteria in the IRSRs do not contain enough detail for a reviewer to determine how much information is sufficient to make a finding or for DOE to know what will be sufficient. Ms. Liu indicated that IRSRs provide the framework and that the technical exchange meetings with DOE provide much of the detailed technical information . Ms. Liu also explained that the more important a particular assumption is to performance, the more it will be scrutinized by the NRC staff. Further, some detail is provided in the review methods and technical basis section of the report.

- Dr. Hornberger asked how the staff would use the simpler TPA code to probe more complex 2 or 3 dimensional process level codes. Ms. Liu explained that first the NRC will review DOE's document to follow the logic trail from how DOE has gone from 3-D to 2-D and then from mountain scale to drift scale and vice versa. Then, the Center for Nuclear Waste Regulatory Analyses' (CNWRA's) code, MULTIFLO, can be used to probe the multidimensional models, or to develop corresponding input values from DOE's analysis to use in the TPA code.

- Dr. Garrick noted that the staff has an opportunity in the IRSR to specify the form in which issues are resolved to ensure that they are compatible with a TSPA format. Ms. Lui responded that the staff is working on that and that the sensitivity analyses are helping to determine whether the subissues are complete or need to be modified.

- Dr. Garrick asked whether the TPA code has is sufficiently detailed to allow the NRC staff to probe the TSPA. Ms. Liu responded that the code

continues to evolve and each iteration allows for greater flexibility and capability to evaluate alternative situations and models.

- Finally, in response to a question from the Committee regarding how the staff will ensure that the IRSR is compatible with 10 CFR Part 63, the staff indicated that the acceptance criteria in the IRSR are used as the starting point to develop the technical criteria in 10 CFR Part 63.

VI. Importance Measures (Open)

[Dr. Andrew C. Campbell was the Designated Federal Official for this part of the meeting.]

Dr. N. Eisenberg, DWM, and Dr. B. Sagar, CNWRA, briefed the Committee on importance measures and their application to nuclear waste regulation. Dr. Eisenberg began the presentations by saying that he would describe importance analysis, discuss its basic concepts, provide definitions, and illustrate some examples of its use. He noted the following caveats: this is a work in progress, regulatory applications are not yet determined, and significant questions still exist about implementing regulatory uses of importance measures. He said that there are a variety of tools to identify important system components, including sensitivity, uncertainty, and importance analyses. He stated that these analytical tools can be used for identifying model vulnerabilities, identifying where models can be improved, and providing help in allocating resources. He provided definitions for components, processes, events, and parameters. He discussed the purposes and objectives of sensitivity, uncertainty, and importance analyses. Dr. Eisenberg said that the staff's development of importance analysis methods is intended to address, in part, the Committee's concerns with developing a probabilistic PA approach to waste PA. He also described the differences between importance analyses and sensitivity analyses.

Dr. Eisenberg discussed "neutralizing" a component's performance by removing the component or subsystem from the system via mathematical procedures. He said that all system components can be described by a matrix and that "neutralization" consists of defining a transformation matrix that is the identity matrix for a component's performance. He said that the importance "measure" is the ratio of modified performance (i.e., without a specific component) to nominal performance (i.e., with all components present). Dr. Eisenberg described different importance measures such as Birnbaum, Fussell-Vessely, risk achievement worth, and risk increase ratio. He noted that in probabilistic risk assessment (PRA), reactor system component failure is treated in a binary fashion. However, he said that waste systems have continuous behavior, not binary behavior. Dr. Eisenberg said that the expected value of dose, which is the performance measure that the staff wishes to implement in the HLW rule, represents both probabilities and performance measures (i.e., dose) in waste systems. He contrasted this situation with reactor PRA analyses. He described the two importance measures they have developed for waste systems. One is the risk increase ratio to nominal performance and the other is the risk increase ratio to the regulatory (dose) limit. He described how they take into account uncertainties in both sensitivity and importance measures.

He also discussed some concerns raised about the approach, including the following: neutralization is physically unrealistic; neutralization is binary, not continuous; and the approach is too conservative and represents a worst-case scenario. He discussed using upper and lower limits for parameter ranges rather than neutralizing the parameter. He also noted that there was some debate about whether to use the expected value of the risk increase ratio rather than using the risk increase ratio of the expected values, for nominal performance and for performance absent a component.

The next speaker was B. Sagar, who provided three examples for applying the approach. One example was a simple shielding system that is completely passive. He described the system process and the model parameters and showed a diagram of the system. He described a simple mathematical model of the system, defined parameter values for the system, and compared sensitivity relative to importance analysis results for the system. He noted that the importance measure for the most important component was larger than the sensitivity coefficient for the same component. He discussed the problem of identifying the individual contributions to safety for different components. He noted that one is not partitioning the performance measure itself, but rather partitioning the contribution of that component to achieve the systems function. He described the results for a probabilistic approach for the analysis that used the expected values for the parameters. He discussed some of the differences with the deterministic model. He described the effects of variability and uncertainty on the analysis and how this distinction is made for this simple system. Dr. Hornberger asked for an intuitive explanation of the differences of the two results. Drs. Sagar and Eisenberg discussed the impact of greater uncertainty on the importance measure.

Dr. Sagar stated that the second example was a model of a hazardous liquid storage tank with both active and passive components. He described the problem and presented an event tree formulation of the problem. He described active and passive system performance measures for the tank system. He described the effects of a failure of an indicator light, failure of a pressure relief valve, and failure of a retention dike. Dr. Eisenberg discussed how failure of passive and active components are being combined in this analysis.

Dr. Sagar then described the third example. He said that they used the NRC TPA code, Version 3.1.4, for analyses. He discussed application of the code to the models. He noted that the system was modeled with alloy 625, not alloy C-22, for the inner waste container; did not employ backfill in the drifts; and did not consider disruptive scenarios. He described how the importance analyses were implemented within the TPA code and possible applications to repository systems. Dr. Sagar also described the resulting complementary cumulative distribution functions (CCDFs) for the model analyses. With Dr. Hornberger, he discussed the importance of infiltration and "neutralizing" evapotransporation in the topsoil zone. He noted that this is an example of a problem of treating a real system as not being there. He compared the results of removing the natural system components and the results of removing the container. He said that the conclusion for this particular example was that the natural system is more important, but he added that this is very dependent on the conceptual model employed in the analyses. Dr. Sagar then provided his conclusions.

Dr. Garrick said that importance ranking of components might be driven by uncertainty more than anything else. He discussed other ways of doing this type of analysis. He noted that generally it is a linear problem, but that one needs to consider the nonlinear aspects of the problem. He discussed ways of structuring inputs and outputs according to rank importance. He said that one can use such an approach to evaluate the engineered barrier system. For example, one could input water of different chemistries to the EBS and evaluate the effects on dose. With such an approach, he said that one could evaluate the impact of different engineered systems such as materials, waste package configurations, and backfills on performance. Dr. Garrick stated that one could represent the importance function itself as a probability distribution function (PDF). Dr. Eisenberg opined that the expected value is the point of interest. Dr. Garrick replied that one needs to look at both and discussed why knowing the importance of uncertainty can help in choosing a component or subsystem. Dr. Hornberger discussed sensitivity and asked about the nominal case.

Dr. Eisenberg then discussed sensitivity and the importance of the nominal case and described what portion of parameter space is being evaluated in these different approaches. Dr. Garrick discussed importance ranking of components versus ranking of scenarios. Dr. Hornberger contrasted NRC's total system sensitivity analysis relative to these studies. He expressed a concern that the importance measure decreased for the shielding example when the uncertainty (i.e., the standard deviation) increased. Dr. Eisenberg said that they need to look at normalization techniques. He also noted that a sensitivity analysis for a component with lower uncertainty might conclude it is not important.

1. <u>Discussion Concerning 10 CFR Part 63 Rulemaking:</u>

At that point Dr. Garrick opened up the discussion to the audience and video conference participants. S. Frishman, State of Nevada, asked why the NRC staff is setting a standard in 10 CFR Part 63, which is EPA's role. He also asked about the NRC staff's assumptions for the analysis of 25 mrem at 20km. He said that in a 10,000-year period the water table will be much shallower (essentially at the ground surface), so a well could be much closer to the repository. K. McConnell said that DOE wants to have an implementing regulation in place by 2000, so there is a need to start early. He added that the Commission directed the staff to proceed with the regulation even without a standard in place and then conform later to any EPA standard that may be produced. J. Kotra said that they had to start ahead of time to be able to have a regulation in place 1 year after the EPA sets a standard. T. McCartin said that they expect some climate change to occur in the 10,000 year time frame and there is some debate about how high the water table might rise. He discussed NRC's expert elicitation on climate change. Mr. Frishman said that the selection of 20 km was done in an arbitrary fashion and was based upon an incorrect assumption about how deep people will drill a well. Mr. McCartin discussed the rationale of the NRC approach and noted that during the rulemaking process the issue will go to the public for comment.

VII. Executive Session (Open)

[Mr. Howard J. Larson was the Designated Federal Official for this part of the meeting.]

A. Future Meeting Agenda (Open)

Appendix IV summarizes the proposed items endorsed by the Committee for the 103rd ACNW Meeting, August 27–28, 1998.

B. Future Committee Activities (Open)

The ACNW will meet with the Reaktorsicherheit-Kommission (Reactor Safety Commission, Germany) during the week of September 14–18, 1998. In addition, the Committee will tour the Konrad, Morsleben, and Gorleben facilities during its visit to Germany.

SNC has committed to complete final implementation of Thermo-Lag 330–1 fire barriers corrective actions at both Hatch units by startup of Unit 2 from the fall 1998 refueling outage. The NRC staff has concluded that this schedule is reasonable based on the amount of installed Thermo-Lag and the complexity of the plant-specific fire barrier configurations and issues. In order to remove compensatory measures, such as fire watches, it has been determined the resolution of the Thermo-Lag corrective actions by SNC must be completed in accordance with the current SNC schedule. By letter dated April 29, 1998, the NRC staff notified SNC of its plan to incorporate SNC's schedule commitment into a requirement by issuance of an order and requested consent from the licensee. By letter dated June 2, 1998, the licensee provided its consent to issuance of a Confirmatory Order.

III

The licensee's commitment as set forth in its letter of June 2, 1998, is acceptable and is necessary for the NRC to conclude that public health and safety are reasonably assured. To preclude any schedule slippage and to assure public health and safety, the NRC staff has determined that the licensee's commitment in its June 2, 1998, letter be confirmed by this Order. The licensee has agreed to this action. Based on the above, and the licensee's consent, this Order is immediately effective upon issuance.

IV

Accordingly, pursuant to Sections 103, 161b, 161i, 161o, 182, and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Part 50, *It is hereby ordered*, effective immediately, that:

SNC shall complete final implementation of Thermo-Lag 330–1 fire barrier corrective actions at Plant Hatch Units 1 and 2, described in the SNC submittal to the NRC dated December 13, 1994, March 28, 1995, and May 11, 1998 (HL–5632), by startup of Unit 2 from the fall 1998 refueling outage.

The Director, Office of Nuclear Reactor Regulation, may relax or rescind, in writing, any provisions of this Confirmatory Order upon a showing by the licensee of good cause.

V

Any person adversely affected by this Confirmatory Order, other than the licensee, may request a hearing within days of its issuance. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time must be made in writing to the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, and include a statement of good cause for the extension. Any request for a hearing shall be submitted to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Attention: Rulemaking and Adjudications Staff, Washington, DC 20555–0001. Copies of the hearing request shall also be sent to the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, to the Deputy Assistant General Counsel for Enforcement at the same address, to the Regional Administrator, NRC Region II, P.O. Box 2257, Atlanta, Georgia 30303–3415, and to the licensee. If such a person requests a hearing, that person shall set forth with particularity the manner in which his/her interest is adversely affected by this Order and shall address criteria set forth in 10 CFR 2.714(d).

If a hearing is requested by a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any such hearing. If a hearing is held, the issue to be considered at such hearing shall be whether this Confirmatory Order should be sustained.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section IV above shall be final 20 days from the date of this Order without further order or proceedings. If an extension of time for requesting a hearing has been approved, the provisions specified in Section IV shall be final when the extension expires if a hearing request has not been received. An answer or a request for hearing shall not stay the immediate effectiveness of this Order.

Dated at Rockville, Maryland, this 24th day of June 1998.

For the Nuclear Regulatory Commission.

Samuel J. Collins,

Director, Office of Nuclear Reactor Regulation.

[FR Doc. 98–17351 Filed 6–29–98; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

Advisory Committee on Nuclear Waste; Notice of Meeting

The Advisory Committee on Nuclear Waste (ACNW) will hold its 102nd meeting on July 20–22, 1998, Room T–2B3, 11545 Rockville Pike, Rockville, Maryland.

The entire meeting will be open to public attendance.

The schedule for this meeting is as follows:

Monday, July 20, 1998—8:30 A.M. until 6:00 p.m.

Tuesday, July 21, 1998—8:30 A.M. until 6:00 p.m.

Wednesday, July 22, 1998—8:30 A.M. until 4:00 p.m.

A. Planning For and Meeting With the Nuclear Regulatory Commission

The Committee will prepare for and meet with the Commission to discuss items of mutual interest. Topics will include the ACRS Plans and Priorities list and past Committee reports on the interim guidance in support of the final rule on radiological criteria for license termination, NRC waste-related research, and risk-informed, performance-based regulation. Observations will also be presented on the recent two-day working group discussions on the near-field environment and the performance of engineered barriers in the Yucca Mountain Repository. The Committee is currently scheduled to meet with the Commission on July 21, 1998 at 1:30 p.m.

B. Yucca Mountain Regulatory Framework

The Committee will be briefed by the staff on the status and content of the site-specific regulatory framework to be used to judge the acceptability of DOE's license application for disposal of high-level waste at the proposed Yucca Mountain, NV site. Topics might include a discussion of the proposed relevant 10 CFR Part 63, the Issue Resolution Status Report (IRSR) on Total System Performance Assessment (TSPA) and a description of important measures developed by the staff for application to the proposed repository as well as other waste disposal facilities.

C. Generic LLW Disposal Facility Criticality Issues

The Committee will review recent staff papers on the potential for criticality and the need to continue research on post-disposal criticality at low-level radioactive waste disposal facilities.

D. Development of a Standard Review Plan (SRP) for Decommissioning

The Committee will be briefed by the staff on its plans to develop an SRP for use by the NRC in reviewing and evaluating nuclear facility decommissioning plans.

E. Meeting With NRC's Director, Division of Waste Management, Office of Nuclear Material Safety and Safeguards

The Committee will meet with the Director to discuss recent developments within the division such as developments at the Yucca Mountain project, rules and guidance under development, available resources, and other items of mutual interest.

F. Preparation of ACNW Reports

The Committee will discuss planned reports, including risk-informed, performance-based regulation, waste related research, regulatory guides dealing with decommissioning, and other topics discussed during this and previous meetings as the need arises.

G. Committee Activities/Future Agenda

The Committee will consider topics proposed for future consideration by the full Committee and Working Groups. The Committee will discuss ACNW-related activities of individual members.

H. Miscellaneous

The Committee will discuss miscellaneous matters related to the conduct of Committee activities and organizational activities and complete discussion of matters and specific issues that were not completed during previous meetings, as time and availability of information permit.

Procedures for the conduct of and participation in ACNW meetings was published in the Federal Register on September 2, 1997 (62 FR 46382). In accordance with these procedures, oral or written statements may be presented by members of the public, electronic recordings will be permitted only during those portions of the meeting that are open to the public, and questions may be asked only by members of the Committee, its consultants, and staff. Persons desiring to make oral statements should notify the Acting Chief, Nuclear Waste Branch, Mr. Howard J. Larson, as far in advance as practicable so that appropriate arrangements can be made to schedule the necessary time during the meeting for such statements. Use of still, motion picture, and television cameras during this meeting will be limited to selected portions of the meeting as determined by the ACNW Chairman. Information regarding the time to be set aside for taking pictures may be obtained by contacting the Acting Chief, Nuclear Waste Branch, prior to the meeting. In view of the possibility that the schedule for ACNW meetings may be adjusted by the Chairman as necessary to facilitate the conduct of the meeting, persons planning to attend should notify Mr. Larson as to their particular needs.

Further information regarding topics to be discussed, whether the meeting has been canceled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by contacting Mr. Howard J. Larson, Acting Chief, Nuclear Waste Branch (telephone 301/415-6805), between 8:00 a.m. and 5:00 p.m. EDT.

ACNW meeting notices, meeting transcripts, and letter reports are now available for downloading or reviewing on the internet at http://www.nrc.gov/ACRSACNW.

Dated: June 24, 1998.

Andrew L. Bates,

Advisory Committee Management Officer.

[FR Doc. 98-17355 Filed 6-29-98; 8:45 am]

BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

Sunshine Act Meeting

AGENCY HOLDING THE MEETING: Nuclear Regulatory Commission.

DATE: Weeks of June 29, July 6, 13, and 20, 1998.

PLACE: Commissioner's Conference Room 11555 Rockville Pike, Rockville, Maryland.

STATUS: Public and Closed.

MATTERS TO BE CONSIDERED:

Week of June 29

Tuesday, June 30

10:00 a.m

Meeting with Commonwealth Edison (Public Meeting) (Contact: Stewart Richards, 301-415-1395)

11:30 a.m.

Affirmation Session (Public Meeting) (if needed)

2:00 p.m.

Briefing on Performance Assessment Progress in HLW, LLW, and SDMP (Public Meeting) (Contact: Norman Eisenberg, 301-415-7285)

Week of July 6—Tentative

Thursday, July 9

11:30 a.m.

Affirmation Session (Public Meeting) (if needed)

Week of July 13—Tentative

Friday, July 17

11:30 a.m.

Affirmation Section (Public Meeting) (if needed)

Week of July 20—Tentative

Tuesday, July 21

1:30 p.m.

Meeting with Advisory Committee on Nuclear Waste (ACNW) (Public Meeting) (Contact: John Larkins, 301-415-7360)

3:00 a.m.

Affirmation Session (Public Meeting) (if needed)

The schedule for Commission meetings is subject to change on short notice. To verify the status of meetings call (recording)—(301) 415-1292.

CONTACT PERSON FOR MORE INFORMATION: Bill Hill (301) 415-1661.

The NRC Commission Meeting Schedule can be found on the Internet at: http://www.nrc.gov.SECY.smj.schedule.htm.

* * * * *

This notice is distributed by mail to several hundred subscribers; if you no longer wish to receive it, or would like to be added to it, please contact the Office of the Secretary, Attn: Operations Branch, Washington, D.C. 20555 (301-415-1661). In addition, distribution of this meeting notice over the Internet system is available. If you are interested in receiving this Commission meeting schedule electronically, please send an electronic message to wmh@nrc.gov or dkw@nrc.gov.

* * * * *

Dated: June 25, 1998.

William M. Hill, Jr.,

SECY Tracking Officer, Office of the Secretary.

[FR Doc. 98-17534 Filed 6-26-98; 1:51 pm]

BILLING CODE 7590-01-M

NUCLEAR REGULATORY COMMISSION

Governors' Designees Receiving Advance Notification of Transportation of Nuclear Waste

On January 6, 1982 (47 FR 596 and 47 FR 600), the Nuclear Regulatory Commission (NRC) published in the Federal Register final amendments to 10 CFR parts 71 and 73 (effective July 6, 1982), that require advance notification to Governors or their designees by NRC licensees prior to transportation of certain shipments of nuclear waste and spent fuel. The advance notification covered in part 73 is for spent nuclear reactor fuel shipments and the notification for part 71 is for large quantity shipments of radioactive waste (and of spent nuclear reactor fuel not covered under the final amendment to 10 CFR part 73).

APPENDIX II

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

Revised: July 9, 1998

SCHEDULE AND OUTLINE FOR DISCUSSION
102ND ACNW MEETING
JULY 20-22, 1998

Monday, July 20, 1998, Two White Flint North, Room T-2B3, 11545 Rockville Pike, Rockville, Maryland

1) 8:30 - 8:40 A.M. Opening Remarks by the ACNW Chairman (Open)
- 1.1) Opening Statement (BJG/HJL)
- 1.2) Items of current interest (BJG/HJL)

2) 8:40 - ~~9:40~~ 9:35 A.M. Generic Low-Level Waste Post-Disposal Criticality Issues (Open)
Review recent staff papers on the potential for criticality and the need to continue research on post-disposal criticality at low-level radioactive waste disposal facilities (CF/GNG)

3) ~~9:40~~ 9:35 - ~~11:00~~ 12:20 A.M. Prepare for next meeting with the Commission (Open) (BJG/GNG)
Discuss topics and presentations for the next meeting with the Commission on July 21, 1998 from 1:30 -3:00 p.m., topics include:
- 3.1) Risk-informed, performance-based regulation
- 3.2) Decommissioning (license termination rule and regulatory guide)
- 3.3) NRC Research (ACNW input to ACRS letter)
- 3.4) Near-Field/EBS - June 10-11, 1998 working group meeting report (work in progress)
- 3.5) ACNW Plans and Priorities - progress report

~~11:00~~ 10:55 - 11:10 A.M. **BREAK**

4) ~~11:10~~ 12:30 - ~~12:30~~ 1:35 P.M. Preparation of ACNW Reports (Open)
Discuss a possible report on the following topics:
- 4.1) Total Systems Sensitivity Analyses (BJG/ACC)
- 4.2) Near-Field Environment/Engineered Barrier System Performance (RGW/ACC)
- 4.3) LLW Disposal Facility Post-Disposal Criticality Issues (CF/GNG)

12:30 - ~~1:30~~ 1:35 P.M. **LUNCH**

] = Denotes transcribed portions.

5)	1:35 2:25 ~~1:30~~ - ~~2:30~~ P.M.	Development of a Standard Review Plan (SRP) for Decommissioning (Open) (RGW/HJL) Briefing by the staff on its plans to develop an SRP for use by the NRC in reviewing and evaluating nuclear facility decommissioning plans
6)	2:25 ~~2:30~~ - 5:30 P.M.	Continue preparation of ACNW Reports as noted in item 4 plus potential report on SRP for Decommissioning (item 5 above) (Open)
	4:10 4:20 ~~3:30~~ - ~~3:45~~ P.M.	**BREAK**
	6:00 ~~5:30~~ P.M.	**RECESS**

Tuesday, July 21, 1998, Conference Room 2B3, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland

7)	8:30 - 8:45 A.M.	Opening Remarks by ACNW Chairman (Open) (BJG/HJL)
8)	8:45 - 9:45 ~~10:00~~ A.M.	Committee Activities/Future Agenda (Open) (BJG/HJL) 8.1) Set agenda for 103rd ACNW Meeting, (August 27-28, 1998) and the 104th ACNW Meeting, October 19-22, 1998 8.2) Review topics for out months 8.3) Review EDO response to recent Committee letters 8.4) Recent and planned attendance at outside meetings (including trip/visit reports)
	9:55 – 11:10 ~~10:00~~ - ~~10:15~~ A.M.	**BREAK**
9)	11:10 11:45 ~~10:15~~ - ~~12:00~~ NOON	Continue preparation for meeting with the Commission (Open) Continue preparation of those topics listed in item 3
	11:45 ~~12:00~~ - 1:00 P.M.	**LUNCH**
	1:00 - 1:30 P.M.	Break and walk to Commission's Conference Room located in the OWFN Building
10)	1:36 3:14 ~~1:30~~ - ~~3:00~~ P.M.	Meeting with the Nuclear Regulatory Commission (Open) Discussion topics are listed in item 3
	3:14 3:30 ~~3:00~~ - ~~3:30~~ P.M.	Return from Commission's Conference Room
	3:30 - 3:50	Follow-up to Commission Mtg.
11)	~~3:30~~ - 5:00 P.M. 3:50 4:50	Complete preparation of ACNW Reports (Open) Continue preparation of ACNW reports as noted in item 6
	5:00 P.M.	**RECESS**

Wednesday, July 22, 1998, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland

12) ~~8:30~~ 8:33 - 8:35 A.M. Opening Remarks by ACNW Chairman (Open) (BJG/HJL)

13) 8:35 - ~~9:30~~ 9:25 A.M. Meeting with the Director, NRC's Division of Waste Management, NMSS (Open) (BJG/HJL)

A current events session with the Director, topics might include:

13.1) Status of Yucca Mountain specific standards and regulations

13.2) Status of the Yucca Mountain Project

13.3) Update on the Pilot Program for the regulation of certain DOE facilities

13.4) Other topics

14) ~~9:30~~ 9:25 - ~~12:30~~ 11:45 P.M. Yucca Mountain Regulatory Framework (Open) (BJG/LGD)

Briefing by the staff on the status and content of the site-specific regulatory framework used to judge the acceptability of DOE's license application for the proposed Yucca Mountain repository

~~10:15~~ 10:30 - ~~10:30~~ 10:50 A.M. **BREAK**

~~12:30~~ 11:45 - 1:00 P.M. **LUNCH**

15) ~~1:00~~ 1:05 - ~~3:00~~ 2:45 P.M. Importance Measures (Open) (BJG/ACC)

Briefing by the staff on considerations in developing importance measures, the proposed importance measures, and a discussion on implementing such measures in a multiple-barrier approach for a repository

~~3:00~~ 2:45 P.M. **ADJOURN**

- Presentation time should not exceed 50 percent of the total time allocated for a specific item. The remaining 50 percent of the time is reserved for discussion.
- Number of copies of the presentation materials to be provided to the ACNW - 35.

APPENDIX III: MEETING ATTENDEES

102ND ACNW MEETING
JULY 20–22, 1998

ACNW STAFF	1st Day	2nd Day	3rd Day
Dr. Andrew Campbell	X	X	X
Ms. Lynn Deering	X	X	X
Ms. Michele Kelton	X	X	X
Dr. John Larkins	X	X	X
Mr. Howard Larson	X	X	X
Dr. Gail Marcus			X

ATTENDEES FROM THE NUCLEAR REGULATORY COMMISSION

JULY 20, 1998

R. Nelson	NMSS
J. Bradbury	NMSS
J. Kotra	NMSS
K. Stablein	NMSS
D. Orlando	NMSS
C. Trottier	RES
C. Daily	RES
S. McGuire	RES
C. McKenney	NMSS
D. Fauver	NMSS
R. Jolly	NRR
K. Campbell	NRR
C. Sochor	NRR
B. Leslie	NMSS
M. Bell	NMSS

ATTENDEES FROM THE NUCLEAR REGULATORY COMMISSION (CONT'D)

JULY 22, 1998

T. Harris	NMSS
T. McCartin	NMSS
T. Ahn	NMSS
B. Ibrahim	NMSS
S. Wastler	NMSS
C. Lui	NMSS
R. Jolly	NRR
K. Campbell	NRR
J. Trapp	NMSS
M. Bell	NMSS
P. Justus	NMSS
J. Kotra	NMSS
B. Leslie	NMSS
M. Comar	NMSS
J. Davis	NMSS
J. Firth	NMSS
M. Nataraja	NMSS
C. Prichard	NMSS
J. Pohle	NMSS
M. Lee	NMSS
D. Brooks	NMSS
L. Hamdan	NMSS
K. Chang	NMSS
C. Mckenney	NMSS

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

JULY 20, 1998

R. Wallace, Jr.	U.S. Geological Survey
C. Hanlon	DOE
P. Phibbs	Nuclear Waste News
J. Russell	CNWRA
J. Carter	Envirocare of Utah
M. Ledoux	Envirocare of Utah
P. LaPlante	CNWRA
T. Holly	Exchange Monitor

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC (CONT'D)

JULY 21, 1998

C. Hanlon	DOE
M. Scott	DOE

JULY 22, 1998

Ray Wallace	USGS/HQ
D. Marshall	Scientech, Inc.
J. Bartlett	EPA
J. Russell	CNWRA
J. York	Booz Allen & Hamilton
D. Fenster	M&O/woodward - Clyde
M. Michewicz	DOE
B. Sagar	CNWRA
G. Wittmeyer	CNWRA
S. Mohanty	CNWRA
J. Carter	Envirocare
T. Fabian	Nuclear Waste News
M. Scott	DOE (Duke Engineering & Services)
G. Roseboom	USGS (retired)

ATTENDEES LIST via VIDEO LINK, LAS VEGAS, NV

JULY 22, 1998

A. Gil	DOE - Yucca Mountain Project
C. Newbury	DOE - Yucca Mountain Project
K. Knapp	M&O
J. Treichel	
M. Lugo	M&O
S. Frishman	State of NV
T. Gunter	DOE
E. Von Tiesenhausen	Clark County
K. Ashe	M&O

APPENDIX IV: FUTURE AGENDA

The Committee agreed to consider the following during the 103rd ACNW Meeting, August 27–28, 1998:

Development of a Standard Review Plan for Decommissioning — The Committee will continue monitoring progress on this subject and will be briefed on recent staff activities related to parameter selection for the DandD code and the development of a default table.

- **Meeting With NRC's Director, Division of Waste Management, Office of Nuclear Material Safety and Safeguards** — The Committee will meet with the Director of DWM to discuss recent developments within the division such as developments at the Yucca Mountain project, rules and guidance being developed, available resources, and other items of mutual interest.

- **Preparation of ACNW Reports** — The Committee will discuss planned reports, including the report on the recent working group meeting on the near-field environment and the performance of the engineered barrier system for the proposed Yucca Mountain repository; potential regulations for licensing the Yucca Mountain repository; proposed importance measures for evaluating nuclear waste repository performance; issues related to the regulatory guides and to the SRP for decommissioning; and other topics discussed at this and previous meetings.

APPENDIX V
LIST OF DOCUMENTS PROVIDED TO THE COMMITTEE

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

MEETING HANDOUTS

AGENDA ITEM NO.	DOCUMENTS
2	**Generic Low-Level Waste Post-Disposal Criticality Issues**
	1. "Potential for Special Nuclear Material to Reconcentrate at Low-Level Waste Facilities," presented by T. Harris, NMSS, dated July 20, 1998**[Viewgraphs]**
	2. Memorandum from A. Campbell, ACNW Staff, to ACNW Members, Subject, "Lessons Learned From Parks Township Draft Environmental Impact Statement," dated January 8, 1998 **[Agenda Item 2, Handout No. 2-1]**
3	**Development of a Standard Review Plan for Decommissioning**
	3. "Overview of the Staff's Plans to Develop a Standard Review Plan for Evaluating Decommissioning Plans and Other Information Submitted to Support the Decommissioning of Nuclear Facilities," presented by D. Orlando, NMSS, undated **[Viewgraphs]**
	4. "Decommissioning Standard Review Plan - Dose Modeling Module," presented by B. Eid, NMSS, undated **[Viewgraphs]**
5	**Yucca Mountain Regulatory Framework**
	5. "NRC Draft Regulatory Framework for Geologic Disposal of High-Level Waste at Yucca Mountain, Nevada," presented by K. McConnell, NMSS, dated July 22, 1998 **[Viewgraphs]**

MEETING HANDOUTS (CONT'D)

AGENDA ITEM NO.	DOCUMENTS
5 (cont'd)	Yucca Mountain Regulatory Framework (Cont'd)
	6. "Staff Development of Technical Criteria for a Yucca Mountain Specific HLW Rule (Part 63)," presented by T. McCartin, NMSS, dated July 22, 1998 **[Viewgraphs]**
	7. "Total System Performance Assessment Methodology Issue Resolution Status Report (Rev. 0)," presented by C. Lui, NMSS, dated July 22, 1998 **[Viewgraphs]**
6	Importance Measures
	8. "Importance Measures for High-Level Nuclear Waste Repositories," presented by N. Eisenberg, NMSS, and B. Sagar, NMSS, dated July 22, 1998 **[Viewgraphs]**
	[Note: The following was handed out for information purposes only.]
	9. "Criticality Safety Analysis for the Clive Site, Operated by Envirocare of Utah," by N. Pruvost, Galaxy Computer Services, Inc.,

MEETING NOTEBOOK CONTENTS

TAB NUMBER	DOCUMENTS
	Opening Remarks by ACNW Chairman
	1. Schedule and Outline for Discussion, Revised July 9, 1998
	2. Introductory Statement by the ACNW Chairman, undated
	3. Items of Current Interest, undated
	4. Introductory Statement by the ACNW Chairman, Second Day, undated
	5. Introductory Statement by the ACNW Chairman, Third Day, undated
2	**Generic Low-Level Waste Post-Disposal Criticality Issues**
	6. Status Report
	7. Enclosures
	a. "The Potential for Criticality Following Disposal of Uranium at LLW Facilities, Volume 1: Uranium Blended With Soil," NUREG/CR-6505, June 1997
	b. Letter dated September 19, 1997, from John T. Greeves, Director, DWM, NMSS, to Joseph A. Murphy, Director, Division of Regulatory Applications, RES, Subject: User Need -- Generic Issue Concerning Post Disposal Criticality in Low-Level Waste
	c. Letter dated June 27, 1998, from John T. Greeves, Director, DWM, NMSS, to Joseph A. Murphy, Director, Division of Regulatory Applications, RES, Subject: User Need -- Generic Issue Concerning Criticality in Low-Level Waste
	d. Update of Generic Issue Management Control Information, Item Number NMSS-0006, "Criticality Concerns With Unusual Moderators in Low-Level Waste"
	e. Letter dated April 21, 1998, from J. E. Dyer, Region IV, NRC, to Charles A. Judd, President, Envirocare of Utah, Inc., Subject: NRC Inspection Report 99990004/97-04, Investigation Report 4-97-038, and Demand for Information
	f. Statement of Work, Project Title: Criticality Concerns With Unusual Moderations, Office of Nuclear Regulatory Research, Division of Regulatory Applications, Job Code: W6979, Work Period 1/1/98 - 12/1/00
	g. OE Weekly Summary 98-19, May 8, 1998 - 5/14/98

MEETING NOTEBOOK CONTENTS (CONT'D)

TAB NUMBER	DOCUMENTS

2 (cont'd) Generic Low-Level Waste Post-Disposal Criticality Issues

h. Memorandum dated April 29, 1998, from John C. Hoyle, Secretary, NRC, to L. Joseph Callan, Executive Director for Operations, NRC, and Anthony J. Galante, Chief Information Officer, NRC, Subject: Staff Requirements - SECY-98-010 - Petition for Envirocare of Utah to Possess Special Nuclear Material in Excess of Current Regulatory Limits

i. NRC Information Notice 96-28: Suggested Guidance Relating to Development and Implementation of Corrective Action, dated May 1, 1996

j. Letter dated July 21, 1997, from Virgil Goode and Doc Hastings, Members of Congress, to The Honorable Shirley Anne Jackson, Chairman, NRC, re nuclear cleanup sites, fuel fabrication, or processing operations that are affected by NRC interpretation of a rule that limits the possession of quantities of special nuclear material to 350 grams to avoid criticality concerns

k. Letter dated December 19, 1997, from Stephan J. Brocoum, Assistant Manager for Licensing, DOE, to Newton K. Stablein, Acting Chief, Engineering and Geosciences Branch, DWM, NMSS, re Disposal Criticality Analysis Methodology Technical Report

l. Letter dated August 7, 1995, from Carl J. Paperiello, Director, NMSS, to Mr. Lake Barrett, Deputy Director, Office of Civilian Radioactive Waste Management, DOE, Subject: Review of Potential for Underground Autocatalytic Criticality

5 Development of a Standard Review Plan for Decommissioning

8. Status Report
9. Enclosures
   a. Memorandum dated July 2, 1998, from H. J. Larson, ACNW Staff, to ACNW Members, Subject: SECY-98-155, "Transition From Site Decommissioning Management Plan (SDMP) to Comprehensive Decommissioning Program," June 30, 1998
   b. Memorandum dated June 30, 1998, from Annette L. Vietti-Cook, Assistant Secretary, NRC, to Chairman Jackson et al, Subject: Staff Requirements Memorandum

MEETING NOTEBOOK CONTENTS (CONT'D)

TAB NUMBER	DOCUMENTS
8	**Committee Activities/Future Agenda**
	10. Set Agenda for the 103rd ACNW Meeting, August 27–28, 1998
	11. Set Agenda for the 104th ACNW Meeting, October 19–22, 1998
	12. Set Agenda for Out Months Through December 1998
	13. Discuss Topics for Technical Exchange With RSK
	14. EDO's List of Future Meeting Topics
	15. DWM and SFPO List of Proposed Commission Briefings and Papers
	16. Reconciliation of EDO Responses to ACNW Reports
	17. NWTRB/OCRWM/M&O Meeting List and ACNW 1998 Calendar
	18. Discuss Attendance at Past Outside Meetings and Plans to Attend Future Meetings (French Standing Group, DOE Quarterly Technical Exchange, etc.)
10	**Meeting With the Nuclear Regulatory Commission**
	19. Status Report
	20. Presentation Slides From Which ACNW Will Conduct the Briefing
13	**Meeting With the Director, Division of Waste Management, NMSS**
	21. Status Report
14	**Yucca Mountain Regulatory Framework**
Part 1	22. Status Report (Issue Resolution Status Report: Key Technical Issue: Total System Performance Assessment and Integration
	23. Enclosures
	a. Minutes from the 97th ACNW Meeting, Section on High-Level Waste Issue Resolution Status Reports and Acceptance Criteria
	b. FY 1997-1998 Tracking Tool, Record #5, NRC High-Level Waste Issue Resolution Process and Issue Resolution Status Reports, March 6, 1998
	c. Figure 1 from the TSPA Issue Resolution Status Report, Flow Down Diagram for TSPA showing Key Elements of Subsystem Abstraction

MEETING NOTEBOOK CONTENTS

TAB NUMBER	DOCUMENTS
14	**Yucca Mountain Regulatory Framework** (Cont'd)
Part 1 (cont'd)	d. Memorandum dated June 6, 1998, from Michael, Chief, Performance Assessment and High-Level Waste Integration Branch, DWM, NMSS, to Stephan J. Brocoum, Assistant Manager for Licensing, DOE, Subject: U.S. Department of Energy's April 28, 1998 Comments on U.S. Nuclear Regulatory Commission's Issue Resolution Status Reports
	e. Letter dated April 28, 1998, Stephan Brocoum, Assistant Manager for Licensing, DOE, to Newton K. Stablein, Acting Chief, Engineering and Geosciences Branch, DWM, NMSS, re U.S. Department of Energy (DOE) Comments on U.S. Nuclear Regulatory Commission (NRC) Issue Resolution Status Reports (IRSRs)
	f. Letter dated May 12, 1998, Stephan Brocoum, Assistant Manager for Licensing, DOE, to Newton K. Stablein, Acting Chief, Engineering and Geosciences Branch, DWM, NMSS, re U.S. Department of Energy Response to U.S. Nuclear Regulatory Commission to Issue Resolution Status Report (Key Technical Issue Containment Life and Source Term)
Part 2	24. Status Report (Draft 10 CFR Part 63)
	a. 10 CFR Part 63, Draft No. 1 **[Predecisional]**
15	**Importance Measures**
	25. Status Report
	26. Attachments
	a. Draft of paper on "Importance Measures for Nuclear Waste Repositories," by Norman A. Eisenburg and Budhi Sagar, NRC, to be presented at the Probabilistic Safety Assessment Methods - 4 (PSAM-4) Conference in New York, September 13-18, 1998
	b. Cheok, M. C., Parry, G. W., and Sherry, R. R. (1998), "Use of Importance Measures in Risk-Informed Regulatory Applications, Reliability Engineering and System Safety, 60, pp. 213-226

MEETING NOTEBOOK CONTENTS (CONT'D)

TAB NUMBER	DOCUMENTS
15 (cont'd)	**Importance Measures** (Cont'd)

c. Siu, Nathan O., and Kelly, D. L. (1997), "On the Use of Importance Measures for Prioritizing Systems, Structures and Components," at 5th International Topical Meeting on Nuclear Thermal Hydraulics, Operations and Safety, Beijing, China, April 14-18, 1997, pp 14-1 thru 14-16

d. Vesely, W. E. (1996), "The Use of Risk Importances for Risk-Based Applications and Risk-Based Regulations," PSA-96, Moving Towards Risk-Based Regulation, Park City, Utah, September 29 - October 3, 1996, Proceedings, Volume III, pp. 1623-1631

e. Vesely, W. E., Davis, T. C., Denning, R. S., Saltos, N (1983), "Measures of Risk Importance and Their Applications," NUREG/CR-3385, U. S. Nuclear Regulatory Commission, Washington, DC

f. **Predecisional Draft - Internal NRC Working Document** - Eisenberg, Norman A. and Sagar, Budhi (June 1998), "Importance Measures for Nuclear Waste Repositories

MEETING NOTEBOOK CONTENTS
MEETING WITH U.S. NUCLEAR REGULATORY COMMISSION

TAB NUMBER	DOCUMENTS
	Memorandum dated July 10, 1998, from John T. Larkins, Executive Director, ACNW, to ACNW Members and Staff, Subject: Advisory Committee on Nuclear Waste Meeting With the U.S. Nuclear Regulatory Commission, July 21, 1998 — Schedule and Background Information
1	Presentation Slides, ACNW, Risk-Informed, Performance-Based Regulations, Dr. B. John Garrick, Chairman, ACNW
2	Presentation Slides, ACNW, Interim Guidance in Support of the Final Rule on Radiological Criteria for License Termination, Dr. Charles Fairhurst, ACNW
3	Presentation Slides, ACNW, Risk-Informed, NRC Waste-Related Research Program, Dr. George M. Hornberger, ACNW
4	Presentation Slides, ACNW, Near-Field Environment and the Performance of Engineered Barriers, Dr. Raymond G. Wymer, ACNW
5	Presentation Slides, ACNW, Plans, Priorities, and Accomplishments for FY98 and FY99, Dr. B. John Garrick, Chairman, ACNW