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

October 10, 2003

MEMORANDUM TO: ACNW Members
ACNW Staff

FROM: Michele S. Kelton
Technical Secretary, ACNW

SUBJECT: CERTIFIED MINUTES OF THE 144TH MEETING OF THE ADVISORY COMMITTEE ON NUCLEAR WASTE (ACNW) JULY 29–31, 2003

The proposed minutes of the subject meeting have been certified as the official record of the proceedings for that meeting.

Attachment:
Certified Minutes of the144th
Meeting, July 29–31, 2003

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CERTIFIED
10/9/03
By B. JOHN GARRICK

Issued: 10/8/03

CERTIFIED MINUTES OF THE 144TH MEETING OF THE ADVISORY COMMITTEE ON NUCLEAR WASTE JULY 29–31, 2003

The U.S. Nuclear Regulatory Commission (NRC) Advisory Committee on Nuclear Waste (ACNW or the Committee) held its 144th meeting on July 29–31, 2003, at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland. The ACNW published a notice of this meeting in the *Federal Register* (68 FR 43238) on July 21, 2003 (Appendix A). This meeting served as a forum for attendees to discuss and take appropriate action on the items listed in the agenda (Appendix B). The entire meeting was open to the public.

A transcript of selected portions of the meeting is available in the NRC's Public Document Room at One White Flint North, Room 1F19, 11555 Rockville Pike, Rockville, Maryland. Copies of the transcript are available for purchase from Neal R. Gross and Co., Inc., 1323 Rhode Island Avenue, NW., Washington, DC 20005. Transcripts may also be downloaded from, or reviewed on, the Internet at http://www.nrc.gov/reading-rm/doc-collections/acnw/tr/ at no cost.

ACNW Members who attended this meeting were, Dr. B. John Garrick, Chairman, Dr. George M. Hornberger, Mr. Milton Levenson, and Dr. Michael T. Ryan. For a list of other attendees, see Appendix C.

I. CHAIRMAN'S REPORT (OPEN)

[Dr. John T. Larkins was the Designated Federal Official for this portion of the meeting.]

Dr. B. John Garrick, ACNW Chairman, convened the meeting at 10:00 a.m. and briefly reviewed the agenda. He also stated that the meeting was being conducted in conformance with the Federal Advisory Committee Act. In addition, Dr. Garrick asked members of the public who were present and had something to contribute to the meeting to inform the ACNW staff so that time could be allocated for them to speak. He concluded his report by noting the following items of interest.

- On July 14, 2003, Dr. Bhagwat Jain and Mr. Marvin Sykes joined the ACRS/ACNW staff as senior staff engineers. They will both be working principally on ACRS issues.

  Dr. Jain has been with the NRC for 5 years. Currently he is a Project Manager in the Office of Nuclear Regulatory Research (RES), Division of Engineering Technology. Prior to joining NRC, Dr. Jain worked at Carolina Power & Light Company, AES Corporation, and Sargent & Lundy Engineers.

Mr. Sykes has been with the NRC for 12 years. He is currently working in Office of Nuclear Reactor Regulation (NRR), Division of Inspection Program Management. Prior to joining NRC Headquarter's staff, Mr. Sykes worked in Region II and for Alabama Power.

- Ms. Sonary Chey has been selected as ACRS/ACNW staff secretary, replacing Barbara Whitaker. Ms. Chey has approximately 13 years experience with the NRC, having last supported the activities in the NRR Directorate of License Renewal and Environmental Impacts.

- Ms. Gilena Monroe joined the ACRS staff on June 16, 2003, as a summer intern. Currently, Gilena is a full-time Graduate student attending North Carlina A&T State University. She has a B.S. degree in Computer Science and is presently majoring in Industrial and Systems Engineering with a concentration in Human-Machine Systems/Human Factors. Ms. Monroe is working with the ACRS as a Student Engineer on topics of Human Factors Engineering and Human Reliability.

- The Office of Nuclear Security and Incident Response (NSIR) announced the selection of Dr. Cynthia G. Jones as the Senior Technical Advisor for Nuclear Security. She will be advise on a comprehensive range of radiation protection and nuclear safety issues related to homeland protection and incident response.

- On July 18, 2003, the White House announced that the President intends to nominate John Joseph Grossenbacher of Illinois, to be a Member of the Nuclear Regulatory Commission for the remainder of a 5-year term expiring June 30, 2004. Upon confirmation, the President intends to designate him to be Chairman of the Nuclear Regulatory Commission. Vice Admiral Grossenbacher served in the U.S. Navy since 1970 and currently serves as Commander of the U.S. Submarine Forces in the Atlantic.

Other selected items of interest provided in a separate handout.

II. WORKING GROUP ON PERFORMANCE CONFIRMATION PLANS FOR THE PROPOSED YUCCA MOUNTAIN HIGH-LEVEL WASTE REPOSITORY (OPEN)

[Mr. Neil Coleman was the Designated Federal Official for this portion of the meeting.]

The purposes of the working group were (1) to increase ACNW's technical knowledge of plans to develop and conduct performance confirmation (PC) work for the proposed Yucca Mountain repository, (2) to understand NRC staff expectations for PC, (3) to review examples of PC work being planned, (4) to identify aspects of PC that may warrant further study, and (5) to complement the previous working group session on performance assessment (PA).

A. Keynote Presentation: What Should Be Measured During Performance Confirmation? How Will These Measurements Enhance Confidence by Confirming Predicted Repository Behavior?

Chris Whipple (ICF/Kaiser) gave a keynote talk titled "Performance Confirmation for Yucca Mountain." He began by cautioning that the term "confirmation" might not convey the right idea. It may indicate overconfidence, or even suggest that deviations from predictions are

failures. Dr. Whipple noted that a good program should be flexible, iterative, risk-informed, and connected to high-level performance goals and should involve the public and increase confidence at each stage. He questioned the extent to which performance confirmation will be needed for conditions and systems that do not bear on compliance. Dr. Whipple noted "traps" to be avoided in a performance confirmation program:

- agreeing to do things that can't be done
- agreeing to measure things that don't affect performance
- claiming safety based on monitoring that is too limited in duration or extent
- requiring unnecessary accuracy or precision in measurements
- failing to establish and apply a system to periodically reconsider performance confirmation requirements

He proposed several criteria for selecting program activities, such as having a threshold of importance that is based on total system performance assessment (TSPA) results and sensitivity studies. It is important to address issues of public concern even if they are not seen as valid by technical experts. However, this should not be an excuse for doing otherwise low-valued work. Dr. Whipple noted that important lessons can be learned from the licensing of the Waste Isolation Pilot Project (WIPP) at Carlsbad, New Mexico. Performance confirmation should not be used to put off awkward key technical issues. It is important to plan for periodic review of requirements, given that they could change as data become available.

From a practical point of view, Dr. Whipple noted that environmental monitoring of groundwater may provide public confidence but is unlikely to detect early waste package failures. Monitoring of ventilation gases could do so more directly and reliably. Thermal hydrologic predictions can readily be tested under performance confirmation. However, given that compliance and long-term performance are insensitive to such factors in TSPA models, it isn't clear how this information would be used or whether it could contribute to safety.

Dr. Whipple sees value in continuing corrosion experiments in a way that addresses source term models and parameters. He felt it is unclear whether measurements of the critical metals will confirm or refute the corrosion models, but considers it is important to keep trying. He noted that Joe Payer (Case Western Reserve University) keeps saying that the uncertainty in corrosion is the uncertainty in the environment. It might be possible 5 years into operations to send in a robot to get dust swipes from a waste package canister to determine the chemical starting point for such dust mixtures and whether they differ from the normal desert dust mixed with ground-up Yucca Mountain rock. That might be a creative performance confirmation idea worth doing.

On the subject of contentious scientific issues, Dr. Whipple mentioned the Szymanski hypothesis. In the end, the amount of work that was done helped give people confidence that this differing view wasn't buried by "political muscle." U. S. Department of Energy's (DOE's) recent funding of work at the University of Nevada at Las Vegas on fluid inclusions was a very helpful step in establishing whether Szymanski was right or wrong. In general, it is important to evaluate whether work done to date measures up against the prevailing standards of good science in a particular technical arena. It's not reasonable in any

technical arena to say, "Let's wait until 2050 because, undoubtedly, the science will be better then." Has the work been of credible technical content weighed against prevailing standards of good science?

B. Introduction to Performance Confirmation (NRC's Expectations Regarding Content of PC Plans in a License Application)

Jeff Pohle (NRC staff) gave a talk titled "Performance Confirmation Program, Subpart F of 10 CFR Part 63." This talk was a brief summary of requirements under NRC's site-specific rule. Pohle reviewed general requirements for performance confirmation, including confirmation of geotechnical and design parameters, design testing, monitoring and testing of waste packages, and other requirements. Performance confirmation must start during site characterization and continue until permanent closure.

C. Introduction to Performance Confirmation

Deborah Barr (DOE staff) gave a talk titled "Overview of Performance Confirmation." She described how performance confirmation focuses on activities designed to confirm the technical basis for the licensing decision. The program should demonstrate that the system and barriers are operating as predicted. DOE has updated its Performance Confirmation Plan for the following reasons:

- to address the requirements in 10 CFR Part 63
- to reflect the barriers that are important to waste isolation
- to use a risk-informed performance-based approach to determine how to confirm each barrier's performance
- to ensure that the program is consistent and compatible with repository operations

In DOE's new vision of performance confirmation, a risk-informed and performance-based approach will be used to determine the complexity, extent, and number of activities to include for testing the effect of a parameter on total system performance or a particular barrier. The program is designed to confirm operations rather than impose substantial design requirements, and it is intended to support an eventual license amendment for repository closure.

DOE has conducted a formal multiattribute utility analysis to determine the relative value of proposed performance confirmation activities. This analysis combined technical judgments with management "value" judgments on the importance of different goals. This multiattribute utility analysis is currently undergoing DOE review and will be released this calendar year in Revision 2 of the Performance Confirmation Plan. Revision 3 of the plan is scheduled for release in the spring of 2004. Revision 3 will:

- define activities
- provide a "crosswalk" to current and previous testing
- establish the expected baseline for performance confirmation activities
- describe management and administration of the program
- identify needed test plans

- define the process for reporting variances from baseline and describe the appropriate corrective actions

D. Decision Analysis Process Used to Develop a Performance Confirmation Program

Karen Jenni (DOE) described how DOE selected the "portfolio" of tests that will constitute the performance confirmation program. DOE used a formal multi-attribute utility analysis to provide a consistent, logical, and defensible basis to compare activities being considered for inclusion in the program. Three criteria were developed to evaluate activities (and measured parameters) being considered for inclusion in a performance confirmation program:

- barrier capability and system performance sensitivity to the parameter
- confidence in the current understanding of the parameter
- accuracy with which the proposed activity measures or estimates the parameter

Technical judgments about sensitivity, confidence, and accuracy were made by the technical experts who were most familiar with the topics. A "core" team of technical experts independently assigned "utility scores" as a consistency check. Where large differences existed in the scores of the technical experts and the "core" team, the scores were discussed and reconciled until differences were small. The few differences that could not be resolved through discussions were reviewed and resolved by a knowledgeable senior manager. Costs of various activities were also considered in developing test portfolios. DOE initially received 237 parameters and 360 activities for possible inclusion in portfolios.

Altogether, DOE developed 11 portfolios, of which 6 were evaluated in detail. The portfolio designated as "C" has been selected by DOE's BSC (Bechtel SAIC Company) Manager of Projects and senior advisors as a starting point for the performance confirmation program. This program was considered to be cost-effective and captures 82 percent of the "total potential utility." Portfolio C underwent further review by BSC senior management. Of the original 99 activities, 26 were removed because they were more logical candidates for other testing programs, 3 activities were combined with other activities in the program, 3 were retained in principle but modified in scope, and 2 new activities were added. BSC then proposed the resulting modified portfolio to DOE.

E. Elements of a Performance Confirmation Program — A Presentation of DOE's Selected Program and Its Components

James Blink (Bechtel SAIC Company) reviewed the elements of the proposed performance confirmation program. He caveated the presentation by noting that some changes may occur during DOE's acceptance review and as the activities are developed for a license application. Blink noted that Phase 1 of the decision analysis was risk-based because it relied on performance assessment calculations. It was performance-based because it considered performance of the individual barriers and the total system. Phases 2 and 3 are considered risk-informed because they consider other factors such as relationships among activities, feasibility, operability, and cost.

The decision analysis focused the performance confirmation activities on the areas of highest risk. Three main groups (or classes) were identified:

- Disruptive scenario classes—igneous activity and seismic activity scenarios
- Biosphere-related activities—applicable to multiple scenarios
- Nominal scenario class (lower risk than the disruptive scenarios)—waste package and drip shield, pre-emplacement environment, land surface characteristics and the unsaturated zone below and above the proposed repository, coupled thermal processes, saturated zone, and cladding/waste form/invert

Igneous activity is the largest single contributor to the probability-weighted annual dose to the reasonably maximally exposed individual. The approximately 13 related performance confirmation activities will be designed to confirm the assumptions, data, and analyses of igneous events. Specific work may include:

- drilling of aeromagnetic anomalies to investigate possible buried volcanoes
- an updated expert elicitation on the probability of an igneous event
- further analyses of igneous consequences
- monitoring of regional extensional tectonics

Twenty-two activities have been proposed for performance confirmation of the waste package and drip shield. These will investigate mechanistic details of waste package and drip shield corrosion, and will perform lab tests on mockups to confirm stress sources as consequences of rockfalls and seismic activity. The near-field environments will be studied in thermally accelerated drifts using drift-end instruments, in-drift sampling, and the remotely operated vehicle. Parameters to measure will likely include temperature, humidity, dust and gas composition, pressure, radiolysis effects, condensate chemistry, thin film chemistry, and microbial activity. Radionuclides will be monitored in exhaust air to detect any waste package breach. The pressure seal of all waste packages can be measured with the remotely operated vehicle. This vehicle can also inspect emplacement drifts for ground support integrity and "shape."

Other performance confirmation activities will relate to seismic activity (3), the biosphere (6), the pre-emplacement environment (8), coupled thermal processes (~12), and elements of unsaturated and saturated hydrology and chemistry (~13).

F. Documentation and Further Development of the Performance Confirmation Program — A Presentation on Possible Changes in the Next Revision of DOE's Performance Confirmation Plan

Deborah Barr (DOE) described how the PC program will likely evolve. Revision 3 of the Performance Confirmation Plan is scheduled for spring of 2004. This revision will include specific details about the plans, including:

- specific activities (what, when, where, and how)
- baseline established for PC
- bounds and tolerances for parameters
- management and administration of the PC program

- test plans
- the process for reporting variances and appropriate corrective actions

Some of the proposed PC activities will require feasibility evaluation or even the development of new technology.

G. NRC's Risk Insights Initiative and its Impact on Review of Performance Confirmation Plans

Timothy McCartin (NRC) gave a talk titled "Risk-Informing Performance Confirmation." DOE is required to identify and describe repository barriers. Under a risk-informed approach, DOE would identify the relative risk significance of each barrier. Mr. McCartin described the approach as an iterative one in which risk significance is described, a quantitative basis is provided, uncertainties are considered, important parameters and assumptions are identified, and confirmatory evidence is considered.

Mr. McCartin gave a hypothetical example indicating that retardation in alluvial deposits is risk significant. Alluvium has the potential to delay the movement of most radionuclides for very long time periods. There is little uncertainty about the retardation of I-129 or Tc-99. These radionuclides are highly mobile and move with the water. Am-241 and Pu-240 tend to be relatively immobile under most circumstances. However, the retardation factor for Np-237 is highly variable such that this radionuclide could be retarded for a few centuries or more than 100,000 years.

Mr. McCartin noted that risk insights identify areas to be considered for performance confirmation. An NRC risk insights report is now being prepared that is based on a risk baseline, provides quantitative bases for relative risk, and identifies further calculations that may be needed. The risk insights report will be updated in the future as needed.

H. NRC's Acceptance Criteria in the Yucca Mountain Review Plan (YMRP) for Review of Performance Confirmation

Jeff Pohle (NRC) gave a talk titled "Performance Confirmation Program - Section 2.4 of the Yucca Mountain Review Plan." He noted that the review plan has four primary review areas. The first area addresses the general requirements, including the objectives to acquire data to indicate whether subsurface conditions are within assumed limits and whether barriers are functioning as anticipated. This first area also addresses schedules, provision of baseline information, and the monitoring and analysis of possible deviations from baseline.

The second area of review deals with the confirmation of geotechnical and design parameters, such as the *in-situ* monitoring of the thermomechanical response of the underground facility until permanent closure. The third review area addresses design testing, including, for example, tests of borehole or shaft seals and drip shields and the evaluation of thermal interactions of engineered barriers with the natural environment. The fourth review area concerns the monitoring and testing of waste packages.

Mr. Pohle noted that to achieve an adequate review of performance confirmation, NRC reviewers will need to be familiar with:

- barriers important to waste isolation and any unresolved NRC concerns
- DOE's description of the capability of each barrier to isolate waste
- DOE's information on uncertainties related to parameters, processes, models, etc., for each barrier
- DOE risk evaluations and NRC's risk insights baseline
- CNWRA support to enhance independent review capability.

Mr. Pohle stated that NRC needs an educated staff that is knowledgeable about DOE's identification what the barriers are, what the capabilities for the barriers are, the outstanding concerns in these areas, information about uncertainties, the evidence related to these parameters, and information from NRC-generated risk evaluations. Support from NRC's technical assistance contractor, the Center for Nuclear Waste Regulatory Analyses (CNWRA) will be needed to help enhance NRC's capability to independently review performance confirmation. CNWRA is currently doing work in the area of instrumentation, looking ahead at the types of testing activities DOE may propose to do and the instrumentation required. CNWRA is also looking at longer-term tasks on software requirements for future changes in computer codes, particularly thermohydrologic codes.

John Kessler, Electric Power Research Institute (EPRI), observed that there seems to be a disconnect between what NRC is emphasizing in performance confirmation and "almost everything else." He heard from NRC speakers an emphasis on every barrier, regardless of its individual contribution to overall performance. If DOE calls something a barrier, it appears NRC is going to ask them to defend it equally, whether it is the waste package or whether it is the saturated zone. Dr. Kessler noted that DOE considers the saturated zone to be relatively unimportant, but NRC considers it to be important. It appears that the two organizations are taking fundamentally different approaches, and this relates not only to performance confirmation but to the whole license application.

Mr. McCartin responded that NRC is looking at the potential to contribute to overall risk. For example, neptunium tends to be the largest dose contributor. In the natural system, the alluvium has the potential to significantly retard the most important radionuclide for overall risk. And that's why, with regard to neptunium, the saturated zone, and specifically alluvium, is important.

I. Presentations by Representatives of the State of Nevada, Several Affected Counties, the Las Vegas Paiutes, and the Electric Power Research Institute

Les Bradshaw (Nye County, Nevada) gave a talk titled "Nye County's Views on Performance Confirmation and Related Topics." He noted that PC is a critical program element because it will show whether the repository will perform in a way that protects health and safety in Nye County. Mr. Bradshaw was concerned that no approved program appeared to be in place. He expressed concern that DOE suspended monitoring of several unsaturated zone boreholes in 2001, feeling that this monitoring should have been a part of a PC program.

Mr. Bradshaw considers that a comprehensive PC program should have been in place long ago and that Nye County, Nevada, and other stakeholders should have had a chance to review it. PC should include significant participation by qualified groups from outside of DOE. PC will be more acceptable to the public if some of the work is done by qualified independent groups. The following PC tasks could be undertaken by independent entities: (1) technical review of plans, data, and analyses; (2) establishment of baseline data for water, air, rock and soil, and biota; (3) post-emplacement monitoring of the environment; and (4) storage and dissemination of PC data. Nye County is already participating in PC work that will be related to Nye County's Early Warning Drilling Program. DOE has approved funding for expansion of this work through 2007.

John Walton (University of Texas at El Paso, consultant to Nye County) gave a talk titled "Some observations on performance confirmation and performance assessment." Nye County has several areas of concern, including the anticipated impacts of a repository on Nye County resources and potential unresolved performance assessment issues. Dr. Walton suggested that the future heating up of the mountain will cause the top of the mountain to become warmer and wetter, resulting in possible changes in flora and fauna. These changes could take place in tens to hundreds of years. Therefore, soil conditions and vegetation changes should be monitored over time. A baseline of vegetation communities should be obtained before a repository is built.

Dr. Walton observed that tunnel roof collapse remains an unresolved question, because rubble would act as insulation and change conditions assumed in coupled thermo-hydrologic modeling. Backfill may be needed to provide a predictable environment. Dr. Walton was concerned that the natural ventilation of the mountain may not be fully accounted for in DOE models. This is important for heat, moisture, and chemistry modeling. He also stated that DOE's models mix spatial and temporal variability with uncertainty, which can unrealistically spread projected risk and reduce peaks in mean projected doses. Dr. Walton wonders if this mixing of variability and uncertainty is conservative or nonconservative in the context of Yucca Mountain.

Dr. Walton gave an example of a simplified "pseudo" performance assessment that included four processes: corrosion, release rate, transport lag time, and an unspecified event that fails the remaining waste containers when it occurs. He compared two simulations. In one simulation he took the mean dose representing 1,000 Monte Carlo realizations. The results are compared to a second simulation, where the standard deviation is increased for one parameter, which increases the uncertainty range. Contrary to expectation, in this latter case the risk is actually reduced because it is measured as the peak of the mean of the realizations. What happens is, sometimes when you modify a parameter, each of the 1,000 realizations will have its peak occur at different points in time. That is, the peaks of the individual realizations will be spread in time. So when the mean is calculated, it broadens and flattens relative to the curve with less variance. The projected risk is lower, and performance has actually been improved by ignorance. This is not a general conclusion, because if different parameters are changed, sometimes the risk increases. The results depend on which parameter is broadened. It's complicated and not obvious what the result will be. Therefore, in performance assessments for Yucca Mountain, when are so-called "one-off" and "one-on" analyses conservative or nonconservative? Dr. Walton described a scenario in which a DOE manager is asked to

fund a study on the (sorption coefficient K_d) of neptunium. Will the manager really want to fund it if credit is being taken for the fact that the K_d isn't well known? In conclusion, Dr. Walton noted that local involvement is crucial to performance confirmation because otherwise the work is the product of an internal "group think" and doesn't produce as many ideas. Dr. Walton stated that Nye County should be involved.

Engelbrecht von Tiesenhausen (consultant to Clark County, Nevada) spoke on the topic "Performance Confirmation, what does it really mean?" He discussed the general requirements and definitions of PC that are described in NRC's Part 63 regulation. Mr. von Tiesenhausen noted that there are several challenges to PC, such as estimating temperature effects in a repository, and the idea that even in a dedicated drift for PC conditions are unlikely to reproduce those found in a repository. Clark County considers waste package performance to be the most critical performance issue. Long-term corrosion data in a representative environment is "most likely impossible" to collect before a repository would be closed. Mr. von Tiesenhausen stated that PC should not be used to put off the resolution of issues that are part of a license application. PC should confirm results but not be a primary source of data. Any license application that relies on PC and formal "requests for additional information" "should be looked at very critically." Mr. von Tiesenhausen suggested that PC studies can help us better understand the natural system in several ways. For example, such work can improve the understanding of the role of the Calico Hills geologic formation on waste isolation. It can help to better interpret where and how fast water travels in the natural system. And finally, PC studies can improve the understanding of current and future geochemical processes.

Atef Elzeftawy (consultant) presented remarks to the Committee on behalf of the Las Vegas Paiute Tribe. He discussed a number of topics, including the need for regulators to be tenacious in finding out how DOE plans to do the work. He had discovered years earlier that DOE was planning to drill unsaturated zone holes using drilling mud. That wouldn't have worked and DOE changed its methods. He emphasized the importance of unsaturated zone hydraulic parameters. Mr. Elzeftawy also suggested that the tribe had a concern that funding for things like PC might initially grow, but later dwindle to almost nothing. He submitted to the Committee an article about the golf resort owned by the tribe. This article has been placed in the formal record of the meeting.

Dr. Kessler gave a talk titled "The role of performance confirmation in Yucca Mountain development." He described differences between performance confirmation and long-term research and development. PC is specifically designed to evaluate the technical bases for the licensing decision. EPRI has performed several activities related to PC, including evaluation of DOE's draft 2000 report, convening of a PC panel to make recommendations, hosting of a PC workshop in 2001, and documentation of the above in a December 2001 EPRI report. Dr. Kessler recommended that NRC and DOE start now to develop a shared understanding of how both PC and long-term monitoring will be carried out. A flexible plan is needed, with work activities to be prioritized using risk-informed judgment. He noted that NRC and DOE have made a commendable start, NRC with its risk-informed regulation and DOE with an initial PC Plan.

Dr. Kessler described possible criteria for prioritizing activities, such as (1) risk-informed; (2) timing of the need for data, (3) cost of an activity, (4) interference with other activities, (5) stakeholder agreements, and stakeholder concerns, (6) health effects to workers and the public, and (7) ability to define the activity in such a way that "confidence" would be enhanced. Traps to be avoided include agreeing to measure things that do not affect performance, agreeing to do things that can't be done, requiring unnecessary accuracy or precision, monitoring for too short a time, assigning excessive levels of conservatism, and neglecting the need to maintain technical capabilities.

Dr. Kessler suggested a number of options to address important FEPs (features, events, and processes) that are not amenable to PC testing. These options are to (1) use reasonably bounding values based on expert elicitations, (2) leave a reasonable margin, (3) use natural analogues, and (4) add or modify engineered features to reduce the importance of the FEPs. These types of FEPs should be identified early.

Dr. Kessler advised that meaningful tolerance bands need to be established now, that a clear beginning and end must be defined for PC activities, that appropriate "baseline" information must be collected at the right times, and finally, that activities should be prioritized in case of limited funding or time.

J. Working Group Roundtable Panel Discussion on Performance Confirmation

Dr. Whipple noted that Part 63 requires PC for all barriers that are classified as important to safety and that the PC work must be practicable. He considers there is potential conflict between the two requirements, and he thinks there is a possibility that DOE has not prioritized well and has failed to see the downside to classifying so many things as important to safety. Mr. McCartin (NRC) responded that DOE has some flexibility in deciding which barriers it will rely on. There is no numerical value given to describe the significance of barriers, but NRC would expect the DOE to look at the most significant barriers and apply most of the technical basis in DOE's safety case. In looking at PC, DOE would also be looking at the barriers it is relying on most. Dr. Whipple wondered what NRC would do if DOE identified a larger number of barriers than a reasonable person might technically believe are important. Would NRC rescue DOE from its own folly? Mr. McCartin replied that NRC is not there to "rescue" DOE. He referred to NRC's review plan for post-closure performance and noted that it emphasizes up front the identification of barriers important to performance. The intent is to tailor the NRC review to closely examine the barriers that DOE relies on the most. Generally, an NRC review focuses on what hasn't been considered or has been left out.

Robert Bernero (NRC, retired) observed that this is a classic problem in nuclear licensing involving the NRC. The applicants for a license are chronically looking for a prescriptive formula, "Tell me what I need to do so I can do it and you'll therefore give me a license." And the staff is chronically trying to give a description, an approach, but the responsibility for the logic and the supporting programs is the applicant's. That's a common problem, and especially so for DOE because the DOE is not accustomed to conducting its affairs as a regulated licensee.

B. John Garrick (ACNW Chairman) stated that the issue of classifying something as safety- or nonsafety-related is reminiscent of an analog used in probabilistic risk assessments, i.e., the "rocks in the pond" example. You have a pond that has a lot of rocks sticking out, and when you remove the biggest rock, the pond level goes down a level and some more rocks surface, and finally you remove enough rocks and the remaining rocks are small enough now that the surface doesn't significantly change as they are removed. That's what the performance assessment is supposed to give you. The answer to the question of whether or not it's safety important is whether it makes any difference to the bottom line. If the performance assessment was competently prepared, there will be a road map that says "I'm not going to measure or worry about this particular rock because no matter what I do with it doesn't change the performance, it doesn't change the lake level of the "pond." If we have any confidence in our analysis at all, we have an inherent mechanism for classifying whether it's safety important or not, whether we need a particular barrier or not, whether it contributes to performance or not.

Steve Frishman (representing the State of Nevada) discussed, as an example, the parameter of matrix diffusion. Years ago the DOE had decided not to take credit for it because it was worth a relatively small percent of performance. It is also relatively unimportant in NRC's model. DOE seems to be reconsidering the potential contributions of such parameters.
Mr. Frishman supported the idea that if a parameter is not worth a lot to performance for an applicant, to avoid an onerous review process, don't take credit for the parameter in the first place.

Richard Parizek (Penn State and Nuclear Waste Technical Review Board) stated that he was speaking as a private citizen rather than as a board member. He mentioned that some very valuable lessons were learned at the WIPP, that there is a real program there. There's an opportunity to understand how that program worked and why those decisions were made to include or not include certain testing efforts. There's a lot to be said about what we need to know about a site and about the characteristics of the site. For instance, what is assumed about climate in the TSPA model? Look at the Death Valley area (California) and the Mohave River drainage basin and we see in 10,000 years four major lake level stands in the basins. There were several periods of alluvial fan development, which really requires big triggering mechanisms to flush sediments down to generate the fans. So there's something about this weather story and about monitoring that might then say, "I'd better start looking underground because maybe this is a time when fast paths will kick in and this may have something to do with repository behavior." Mr. Parizek noted that from a science understanding point of view and confidence building point of view, some people wouldn't care where the money came from as long as PC got done. He discussed a number of possible monitoring activities, such as the placement of a monitoring well to monitor water chemistry and groundwater elevations and the drilling of magnetic anomalies to try to detect buried basalt flows.

Mr. Bernero asked, "What shall the program pursue in performance confirmation testing?" He noted that barriers should be tested, but unimportant barriers may not be. They may be set aside, but important performance assessment models may call for resurrecting. The key thing is to test models and the performance assessment. The performance confirmation program, the entire safety analysis, has to be a living system, a living

document, learning and incorporating that learning and changing accordingly. It is important in any program to look at those things that provide important support for performance assessments, but I don't think that's quite all you want to do. What is needed is to go beyond trying to measure things that can confirm that performance, and look broadly enough to find any holes or differences in models or assumptions that may surround those models and techniques that you believe to be correct. Usually surprises come in findings things that we didn't expect, and PC as a tool ought to be broad enough to look for those kinds of things.

Wendell Weart (Sandia National Labs, Senior Fellow) spoke about his WIPP experiences, and noted that DOE sometimes promised to do things that they weren't able to do. He expressed hope that PC wouldn't become a "shopping basket," that work activities would be selected carefully based on what is really important. Mr. Weart noted that this is a program that's going to be long enough that early on there may be intense interest and funding for it, but in future funding may lag, making it a continuous struggle to implement the program. Regarding the use of conservative bounding arguments, Mr. Weart found from his WIPP experience that programs of long duration can be hurt by the fact that bounding conservatisms have been locked in, and are very hard to change after the fact. He advised not adopting these conservatisms unless it really is necessary.

Dr. Whipple also commented on the idea of avoiding bounding analyses and trying to be as realistic as one can be. Regulators find enormous comfort in being handed a bounding analysis with a lot of margin. There's little chance of that coming around and biting them. Dr. Whipple thinks this could similarly be true for a 9-million-page license application to the NRC. He noted that one aspect of a fully realistic analysis is it represents best understanding, best estimates with a kind of a 50-50 chance of being wrong in the non-conservative direction. This may be unacceptable in a politically charged, politically visible licensing process. As desirable as it would be to have a fully risk-informed approach through the licensing process, it would be a very risky strategy for an applicant to take. There is intellectual merit in a risk-informed approach, but the political reality of a licensing approach is the burden is on the applicant to prove that everything they say is either true or wrong in the safe direction. That is not fully compatible with being realistic and risk-informed.

Mr. Bernero responded that NRC, in its approach to a probabilistic risk analysis for reactor plants, made a concerted effort to be realistic, but approached realism from the conservative side of the field. There was simplification. For example, if conditions for adequate core cooling are lost, it was assumed that the core melted right away rather than try to mechanistically model the whole process. There was a very important reason why that could be done in a regulatory environment. Mr. Bernero noted that NRC consciously avoided regulating with a safety goal. It described a safety goal, one-tenth of 1 percent increment of background risk, etc., but did not regulate to the safety goal. It was intended for retrospective using performance assessments, or probabilistic risk assessments (PRAs), that were as realistic as they could be made. The big difference regarding high-level waste is the fundamental basis of the regulation is to regulate with the performance assessment. It's not a safety goal, it's a condition of acceptability. The real question is trying to understand the margin, trying to understand what confidence you can have in

those results, and trying to understand barriers that right now may not be very important, but if the principal barrier of the package, etc., fails, they become very important. Mr. Bernero considers there's a fundamental difference in NRC history in that regard.

Mr. Frishman responded that some people have suggested that performance assessment should be an exposure of what you know. It should be possible to accurately characterize and quantify what you don't know. On the other hand, a performance assessment has to be used for compliance because that's what the rule says. Mr. Frishman suggested there may be the need to develop an expectation for two kinds of performance assessments. One of them will meet the need required by the rule to demonstrate what you know, and the other will show compliance based on an assessment of a demonstration of what is known.

Mr. Weart commented that one can't always judge in which direction conservatism exists. And if you're smart enough to have thought of everything in advance and say, "I'm never going to have any surprises," then perhaps you're okay. But Mr. Weart advised that if you don't have to rely on bounding analyses, don't, but there are times when perhaps it's all right. But it can come back to haunt you.

Mr. Bernero commented on DOE's decision analysis for selecting the PC portfolio. He found the decision analysis process difficult to track but clear, and thought it was very well done, a logical process, clearly tracked, and producing a reasonable result. However, he found some of the characterization of portfolios A through K to be unclear. Portfolio A was identified as the minimum needed to satisfy the regulator. Mr. Bernero felt that wouldn't be right because that would be the minimum necessary. The applicant would be saying, "I know all I have to do is tell them this, and that's enough to satisfy them." He interpreted DOE's selected portfolio C "plus" as representing the best judgment of the applicant. It is DOE's responsibility to come up with the right performance confirmation, to show how they're going to satisfy the regulatory requirement. NRC would review that, and that sounds like the right way to choose a portfolio. Mr. Bernero commented that the NRC avoids, and should avoid, overly prescriptive regulation. NRC shouldn't give DOE a prescriptive description of what the performance assessment should be. But NRC should develop alternative models of their own. They should be giving descriptive analyses that say what the performance confirmation ought to be.

Dr. Garrick stated that the regulator is never the expert on the system being licensed that the operator-owner is. Never. No matter how many regulations, no matter how many lawyers the regulator has, the regulators do not know the system as well as the owner, operator, designer, builder, or whoever. The perspective should be that the most expert group in the world on that system is completely satisfied that the system is safe. They shouldn't even think compliance—they should think totally from the standpoint that it's safe, and then let the licensing people worry about whether they've complied with the regulations. Mr. Bernero agreed that the regulators are not the ultimate experts, and regulations cannot be so prescriptive as to have specific solutions to problems. But they can require a competent quality assurance (QA) program. He remembered signing a letter on July 31, 1989, to the Yucca Mountain program that said, "This won't wash. Your site characterization plan is—we have two objections to it. You don't have an adequate QA program, and you don't have an adequate design control process." NRC did not tell them

what those processes had to be. But DOE was told that what they had didn't "cut the mustard." The regulator can't pose as the expert, but the regulator can say, "You don't meet the standards or evidence. You don't show evidence of sufficient safety or competence in an area."

Dr. Kessler commented that, since Yucca Mountain is a first of a kind project, it's probably okay for there to be a bit more guidance from NRC, given that this is the first one out of the starting block. This doesn't mean a lot more specification, but perhaps some clarification of the relative importance of supporting the barrier analysis versus just supporting the overall performance criteria. Perhaps DOE needs to back up and add a little bit more on the realistic side to provide some insight on how much margin they're providing in their compliance-based assessment.

A number of participants discussed the manner in which NRC would review DOE's PC Plan, which would include discussions in public meetings about what is reasonable for the program to include. Dr. Kessler commented that this dialogue needs to begin now. Mr. Parizek commented that "it's not collusion, it's trying to be efficient with the use of everybody's time and getting to the end point. Mr. Frishman expressed the concern that it will be a very difficult situation if the applicant and the regulator are essentially negotiating the meaning of the regulation. He suggested that there is no real precedent for this. Dr. Frishman felt that to do the informal negotiation prior to licensing could be antithetical to an accountable regulatory system. Dr. Kessler responded that there seems to be plenty of precedent for the regulator and the applicant to have discussions on a generic basis. He gave examples of very quantitative, specific interim staff guidance that grew out of technical discussions in publicly noticed meetings where the applicants and the regulator sat down and talked about a technical detail. Dr. Kessler considers that this happens all the time, and it's done in public meetings with that kind of level of discussion.

K. Public Comments

Judy Treichel (Nevada Nuclear Waste Task Force) was very concerned that the PC program is not far better defined at this time. She said this is one reason that the site recommendation and sufficiency letter were premature. She considered Yucca Mountain to be a project forced on an unwilling host. These are people (Nevadans) who do not like the idea of being the host for the repository, and they really don't like DOE. These (anti-nuclear-testing) people killed us once; we're silly if we let them do it again. And Nevadans have been told for years and years, you don't have to like DOE, you don't have to trust DOE, because you've got NRC. And NRC is going to come in here—they will only license this thing if it's absolutely safe, and NRC will take charge of your safety, your health, and your well-being. So be clear about that. That's what has been told to Nevadans, and that's what their expectations are. And you've got people who are very nervous. We don't want to see compromises. You already know the lay of the land in Nevada. But don't let this thing become some sort of an excuse. She is eager to see what performance confirmation winds up being. But she doesn't want it to be something that just hangs over everybody's head.

Mr. Elzeftawy said that the performance confirmation program needs to be simple but beautiful for the people to have confidence that this program is on track and is applicable.

He noted that we, as scientists, discuss these issues but the public has some common sense and needs to understand the simplicity of performance confirmation. The NRC has the responsibility of looking at it. But NRC needs to come to a focal point, and the focal point is to make it simple and understandable to most people.

Mr. Elzeftawy said that, as a person who has left the program on a daily basis in 1990 and then saw a couple of things during the last year or year and a half, he is reminded of a saying, "The more things change, the more they stay the same." It seems that we are back into the discussions of 1982, 1983, 1984, when Mr. Elzeftawy joined the NRC. We are still more or less standing still. How much progress has been made? DOE may spend about $2 or $3 billion, which we spend now in less than 3 weeks. What do we have to show for it? You need to look at that point and make it public, because this is a public program. You also need to hold more meetings in Las Vegas. I don't think anybody in Las Vegas or in the State of Nevada will come up with $3,000 in his pocket to come here to attend your meeting and stand here and give you the public opinion. Hold many, many, meetings, as many as you can, not in the NRC building, and not over there. Come to the public in Nevada. Mr. Elzeftawy noted that Yucca Mountain is a very important program to the Nation, and that there's a lot of responsibility placed on the Department of Energy (DOE) and the NRC. He said that there will be a lot of political heat on the Commission, but some day they'll have to vote. So there's going to be a very tough political situation—and a hard decision to make. But NRC lays down the ground rules and the information that will be used by the people and the Congress and others.

III. RISK-INFORMED REGULATION FOR THE OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS: STATUS REPORT AND PLAN FOR FUTURE WORK (OPEN)

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

After introductory comments from Christiana Lui of the Office of Nuclear Material Safety and Safeguards (NMSS) Risk Task Group (RTG), Raeann Shane, from NMSS, and Alan Rubin, from the Office of Nuclear Regulatory Research (RES), briefed the Committee on the current status and proposed path forward for risk-informing the materials and waste areas.

Ms. Lui noted that the current effort commenced in 1999 with SECY-99-100 and the responding Commission's staff requirements memorandum. Ms. Shane next discussed the risk-informed decisionmaking process and the status of the risk-informed initiatives (e.g., the screening process, the regulatory framework and the risk guidelines). She discussed several successful uses of the risk-informed approach in NMSS, such as integrated safety analysis reviews, byproduct materials inspections, high-level radioactive waste, decommissioning, and spent fuel transportation and storage.

The presenters discussed ongoing and planned risk-informing efforts and outlined their plans for guidance development in several areas. They said that there have been eight pilot studies conducted thus far and that they intend to conduct additional pilot studies to test the guidance as it is developed. The staff will identify NMSS regulatory activities amenable to a risk-informed approach and will develop the necessary risk metrics, methods, data, and guidelines and guidance documents. It then will interact with the Agreement States, the public, licensees, and other relevant stakeholders. Staff training is also an integral part of the plan.

A schedule was unveiled with the following relevant dates:

ANTICIPATED DATE	MILESTONE
January 2004	issue guidance for internal comment
Spring 2004	brief ACRS/ACNW joint committee
Spring 2004	provide paper to Commission detailing technical progress, policy issues, recommendations and options
After receiving Commission direction	hold public workshops

The Committee interacted with the RTG representatives. Among the many questions were the number of licensees affected, the screening criteria, evaluation of the risks to the public and workers, implications of the transition to a risk-informed process, and the use of integrated safety assessments vs. PRAs.

The Committee indicated its interest in staff plans to risk-inform NMSS and is looking forward to further presentations as the applicability of the process becomes better defined, stakeholders "weigh in" on the ultimate proposal, and implementation is commenced. The Committee regards this effort as one that must be done carefully. The risks associated with the various licensees must be placed properly in perspective.

IV. SUMMER INTERN PROJECT (OPEN)

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

The ACNW summer intern updated the Committee on the status of her project titled "Assessing Model Uncertainty in Performance Assessment."

V. ACNW SEPTEMBER 2003 RETREAT (OPEN)

[Mr. Michael Lee was the Designated Federal Official for this portion of the meeting.]

ACNW staff and Members discussed the status of planning for the 2003 retreat. The retreat is scheduled for September 16 and 17, 2003, at NRC Headquarters in Rockville, Maryland. Previously, it was agreed that the focus of the 2003 retreat would be on the identification issues (including focused Working Groups) that the Committee intends to examine over the next 12 to 18 months. These issues would be consistent with the priorities defined in the ACNW's recently updated Action Plan (dated July 2003) as well as earlier Committee discussions with the Commission and NMSS management.

Two outside speakers had agreed to speak to the Members as part of the retreat deliberations. Dr. Garrick reported that the Dr. Kevin Crowley, Staff Director of the National Academies Board on Radioactive Waste Management, would present his personal views on emerging waste management issues that may be of potential interest to this advisory Committee. Dr. Philip

Justus, representing the Division of Waste Management, reported that Ms. Margaret Federline, NMSS Deputy Director, would be available to present NRC's waste management perspective concerning staff products and activities that might benefit from independent review by the Committee.

VI. COMMITTEE'S VISIT TO THE PROPOSED YUCCA MOUNTAIN REPOSITORY - NOVEMBER 2003 (OPEN)

[Mr. Michael Lee was the Designated Federal Official for this portion of the meeting.]

As part of its public outreach efforts, the ACNW schedules one meeting annually in southern Nevada. The Committee plans to visit the Yucca Mountain site as part of the 147th ACNW meeting on November 18, 2003. The focus of the tour will be to inspect geologic features in the exploratory studies facility (ESF) that may have a bearing on underground repository design and engineered barrier performance.

Following the underground tour, the Committee plans a bus excursion to the nearby community of Amargosa Valley. The local population there numbers about 1200, and they obtain their drinking water from a geologic aquifer that is down gradient from the proposed Yucca Mountain repository. The Committee hopes to learn more first hand about the characteristics and lifestyles of this rural farming area. The tour is also expected to contribute to the Members' knowledge base for the forthcoming ACNW Working Group meeting on biosphere dose calculations, currently scheduled for February 2004. As part of the tour, Members plan to visit the 5000-cow Ponderosa Dairy, an organic alfalfa farm, a clay-mining operation, and the Ash Meadows National Wildlife Refuge. Representatives of stakeholder organizations will be invited to accompany the Committee on this tour.

On November 19 and 20, 2003, the ACNW will conduct its 147th meeting. Potential briefing topics for this public were discussed. The preliminary agenda includes presentations by DOE representatives on the status of the repository design, progress in license application preparation, possible ESF/rock mechanics issues, developments in igneous activity consequence modeling, and ESF chlorine-36 characterization. The Committee also hopes to receive a briefing from representatives of Inyo County, California, on their drilling program intended to evaluate the regional carbonate aquifer in southern Nevada.

VII. PREPARATION FOR ACNW MEETING WITH THE NRC COMMISSIONERS (OPEN)

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

The Committee decided upon the topics it proposes to discuss with the Commission on October 23, 2003 as follows:

Chairman's Report

- ACNW Priorities and Future Review Plans
- Working Groups (Past and Future)
- Public Outreach Initiatives
- ACNW Role in the Yucca Mountain License Application

Presentations

- High-Level Waste Risk Insights
- TSPA/TPA Working Group
- Performance Confirmation Working Group
- Status of Key Technical Issue Resolution

VIII. RECONCILIATION OF ACNW COMMENTS AND RECOMMENDATIONS (OPEN)

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

During its Planning and Procedures meeting on July 29, 2003, the Committee considered the following reports from the NRC's Executive Director for Operations (EDO):

- EDO response dated July 17, 2003, to ACNW letter dated June 12, 2003, concerning the Total System Performance Assessment Working Group session held March 25–26, 2003.

  The Committee decided that it would further require status briefings on in-package chemistry/mineralogy, metal fabrication flaws, and realism of diffusive transport during the next 6 months.

- EDO response dated July 16, 2003, to ACNW letter dated June 4, 2003, concerning the Transportation Working Group meeting held April 2003.

  The Committee decided that it was satisfied with the EDO's response.

CFR 30.36), which requires licensees to decommission their facilities when licensed activities cease. The licensee does not plan to perform any activities with licensed materials at this location. Maintaining the area under a license would reduce options for future use of the property and cause Wittnauer Worldwide to continue leasing a building for which it has no more use.

The Affected Environment and Environmental Impacts

The Wittnauer building is a one story brick building. Work with radioactive materials was done on work benches located within several rooms in the building. Watch parts and finished watches were stored in a safe. The building is located within an industrial park.

The NRC staff has reviewed the surveys performed by Wittnauer Worldwide to demonstrate compliance with the 10 CFR 20.1402 license termination criteria and has performed a confirmatory survey. Based on its review and the results of the confirmatory survey, the staff has determined that the affected environment and environmental impacts associated with the decommissioning of the Wittnauer Worldwide facility are bounded by the impacts evaluated by the "Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Facilities" (NUREG–1496). The staff also finds that the proposed release for unrestricted use of the Wittnauer Worldwide facility is in compliance with 10 CFR 20.1402, "Radiological Criteria for Unrestricted Use." The NRC has found no other activities in the area that could result in cumulative impacts.

Agencies and Persons Contacted and Sources Used

This Environmental Assessment was prepared entirely by the NRC staff. The U.S. Fish and Wildlife Service was contacted for comment and responded by letter dated October 16, 2002, with no opposition to the action. The Puerto Rico State Historic Preservation Office was also contacted and responded by letter dated March 11, 2003, with no opposition.

Conclusion

Based on its review, the NRC staff has concluded that the proposed action complies with 10 CFR part 20. NRC has prepared this EA in support of the proposed license termination to release the Wittnauer Worldwide facility located at the Rincon Industrial Park, Road 735, Km. 2.3, in Cayey, Puerto Rico, for unrestricted use. On the basis of the EA, NRC has concluded that the environmental impacts from the proposed action are not expected to be significant and has determined that the preparation of an environmental impact statement for the proposed action is not required.

List of Preparers

Orysia Masnyk Bailey, Materials Licensing/Inspection Branch 1, Division of Nuclear Materials Safety, Health Physicist.

List of References

1. NRC License No. 52–19336–01 inspection and licensing records.

2. Wittnauer. "Termination of License" Letter from F. Pagan to NRC requesting license termination and transmittal of survey results, dated January 2, 2002 (ML020070510)

3. Radiation Safety & Control Services, Inc. "Remediation, Decontamination and Final Status Survey to Support Release of Facilities for Unrestricted Use and License Termination," Final status survey report prepared by Frederick P. Straccia, CHP, dated March 2003.

4. NRC Inspection Report No. 52–19336–01/2003–002, dated April 8, 2003. (ML031060565)

5. Title 10 Code of Federal Regulations part 20, subpart E, "Radiological Criteria for License Termination."

6. **Federal Register** notice, Volume 65, No. 114, page 37186, dated Tuesday, June 13, 2000, "Use of Screening Values to Demonstrate Compliance With The Federal Rule on Radiological Criteria for License Termination."

7. U. S. Fish and Wildlife Service. "Request for comments regarding endangered wildlife, plant, and marine life resources at a site in Puerto Rico" Letter from C. Diaz to NRC, dated October 16, 2002. (ML022950292)

8. Puerto Rico State Historic Preservation Office. "SHPO: 09–26–02–03 Wittnauer Worldwide, L.L.P., Rinco Industrial Park, PR #735, KM 2.3, Cayey, Puerto Rico" Letter from E. Torregrosa de la Rosa to NRC, dated January 24, 2003. (ML030350437)

III. Finding of No Significant Impact

Based upon the environmental assessment, the staff concludes that the proposed action will not have a significant impact on the quality of the human environment. Accordingly, the staff has determined that preparation of an environmental impact statement is not warranted.

IV. Further Information

The references listed above are available for public inspection and may also be copied for a fee at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852. These documents are also available for public review through ADAMS, the NRC's electronic reading room, at: *http://www.nrc.gov/reading-rm/adams.htlm.*

Any questions with respect to this action should be referred to Orysia Masnyk Bailey, Materials Licensing/Inspection Branch 1, Division of Nuclear Materials Safety, U.S. Nuclear Regulatory Commission, Region II, Suite 23T85, 61 Forsyth Street, SW., Atlanta, Georgia 30303–8931. Telephone 404–562–4739.

Dated at Atlanta, Georgia the 7th day of July, 2003.

For the U.S. Nuclear Regulatory Commission.

Douglas M. Collins,

Director, Division of Nuclear Materials Safety, Region II.

[FR Doc. 03–18411 Filed 7–18–03; 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 144th meeting on July 29–31, 2003, 11545 Rockville Pike, Rockville, Maryland.

The entire meeting will be open to public attendance.

The schedule for this meeting is as follows:

Tuesday, July 29, 2003, NRC Auditorium, Two White Flint North, Rockville, Maryland

9:30 a.m.–9:40 a.m.: Opening Statement (Open)—The Chairman will open the meeting and turn it over to the Working Group chairman who will state the Workshop objectives and provide a session overview.

Working Group on Performance Confirmation Plans for the Proposed Yucca Mountain High-Level Waste Repository (Open)

The purposes of the working group are (1) To increase ACNW's technical knowledge of plans to develop and conduct performance confirmation (PC) work for the proposed Yucca Mountain repository, (2) to understand NRC staff expectations for performance confirmation, (3) to review examples of performance confirmation work being planned, (4) to identify aspects of performance confirmation that may warrant further study, and (5) to complement the previous working group session on performance assessment.

9:40 a.m.–10:40 a.m.: Keynote Presentation: What Should Be Measured During Performance Confirmation? How Will These Measurements Enhance Confidence by Confirming Predicted Repository Behavior? (Open)—The Committee will hear views on performance confirmation by a distinguished expert.

10:55 a.m.–11:45 a.m.: Introduction to Performance Confirmation (NRC's Expectations Regarding Content of PC Plans in a License Application) (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC's Office of Nuclear Material Safety and Safeguards (NMSS), Division of Waste Management (DWM), regarding the content of Performance Confirmation Plans in a License Application.

11:45 a.m.–12:15 p.m.: Introduction to Performance Confirmation (Open)—The Committee will hear a presentation by a representative from DOE regarding the Performance Confirmation.

1:15 p.m.–2:45 p.m.: Decision Analysis Process Used to Develop a Performance Confirmation Program (Open)—The Committee will hear a presentation by a representative from DOE regarding the decision analysis process used to develop a Performance Confirmation Program.

3 p.m.–4:40 p.m.: Elements of a Performance Confirmation Program—A Presentation of DOE's Selected Program and Its Components (Open)—The Committee will hear a presentation by a representative from DOE regarding the elements of a Performance Confirmation Program.

4:55 p.m.–5:30 p.m.: Documentation and Further Development of the Performance Confirmation Program—A Presentation on Possible Changes in the Next Revision of DOE's PC Plan (Open)—The Committee will hear a presentation by a representative from DOE regarding possible changes in the next revision of DOE's Performance Confirmation Plan.

5:30 p.m.–6 p.m.: Public Comments (Open)—The Committee will hear comments from the public.

Wednesday, July 30, 2003, NRC Auditorium, Two White Flint North, Rockville, Maryland

Working Group on Performance Confirmation Plans for the Proposed Yucca Mountain High-Level Waste Repository (Open) (Continued)

8:30 a.m.–8:35 a.m.: Opening Statement (Open)—The Chairman will make opening remarks regarding the conduct of today's sessions.

8:35 a.m.–9:30 a.m.: NRC's Risk Insights Initiative and its Impact on Review of Performance Confirmation Plans (Open)—The Committee will hear a presentation by a representative from NRC's NMSS/DWM regarding the risk insights initiative and its impact on review of Performance Confirmation Plans.

9:30 a.m.–10 a.m.: NRC's Acceptance Criteria in the Yucca Mountain Review Plan for Review of Performance Confirmation (Open)—The Committee will hear a presentation by a representative from NRC's NMSS/DWM regarding the acceptance criteria in the Yucca Mountain Review Plan for Review of Performance Confirmation.

10:15 a.m.–12:15 p.m.: Presentations by Representatives of the State of Nevada, several affected Counties, the Las Vegas Paiutes, and the Electric Power Research Institute (Open)—The Committee will hear presentations by and hold discussions with representatives of the State of Nevada, several affected counties, the Las Vegas Paiutes, and EPRI regarding Performance Confirmation.

1:15 p.m.–2 p.m.: Research Perspective on Long-Term Testing for Performance Confirmation—Development of an Integrated Ground-Water Monitoring Strategy (Open)—The Committee will hear a presentation by a representative of the NRC's Office of Nuclear Regulatory Research regarding long-term testing for Performance Confirmation.

2 p.m.–4:55 p.m.: Panel and Committee Discussion Working Group Roundtable (Open)—The Panel and the Committee will further discuss today's topics.

4:55 p.m.–6:15 p.m.: Preparation of ACNW Report (Open)—Discussion of principal points in a proposed ACNW report on the Performance Confirmation Working Group.

Thursday, July 31, 2003, Conference Room 2B3, Two White Flint North, Rockville, Maryland

8:30 a.m.–8:35 a.m.: Opening Statement (Open)—The Chairman will make opening remarks regarding the conduct of today's sessions.

8:35 a.m.–9:30 a.m.: Risk-Informed Regulation for NMSS: Status Report and Plan for Future Work (Open)—Briefing by and discussions with representatives of the NRC NMSS Risk Task Group regarding the current status of risk-informed regulation for NMSS and the plan for future work.

9:30 a.m.–10 a.m.: Summer Intern Project (Open)—The ACNW summer intern will update the Committee on the status of her project titled "Assessing Model Uncertainty in Performance Assessment."

11 a.m.–11:45 a.m.: ACNW September Retreat (Open)—Members will finalize plans for the Committee's September retreat which is scheduled during the 145th meeting (September 16–18, 2003).

11:45 a.m.–12:15 p.m.: Committee Visit to Yucca Mountain (Open)—The Committee will finalize plans for the Yucca Mountain Site visit scheduled for the 147th meeting (November 18–20, 2003).

1:15 p.m.–2:30 p.m.: Preparation for Meeting with the NRC Commissioners (Open)—The Committee will discuss proposed topics for the ACNW meeting with the NRC Commissioners which is scheduled for Thursday, October 23, 2003, between 10 a.m. and 12 Noon.

2:30 p.m.–5:45 p.m.: Preparation of ACNW Reports (Open)—The Committee will discuss proposed ACNW reports.

5:45 p.m.–6:00 p.m.: Miscellaneous (Open)—The Committee will discuss matters related to the conduct of Committee activities and 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 were published in the **Federal Register** on October 11, 2002 (67 FR 63459). 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. Persons desiring to make oral statements should notify Mr. Howard J. Larson, ACNW (Telephone 301/415–6805), between 7:30 a.m. and 4 p.m. ET, 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 ACNW office 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. Howard J. 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 therefore can be obtained by contacting Mr. Howard J. Larson.

ACNW meeting agenda, meeting transcripts, and letter reports are available through the NRC Public Document Room at *pdr@nrc.gov*, or by calling the PDR at 1–800–397–4209, or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS) which is accessible from the NRC Web site at *http://www.nrc.gov/reading-rm/adams.html* or *http://www.nrc.gov/reading-rm/doc-collections/* (ACRS & ACNW Mtg schedules/agendas).

Videoteleconferencing service is available for observing open sessions of ACNW meetings. Those wishing to use this service for observing ACNW meetings should contact Mr. Theron Brown, ACNW Audiovisual Technician (301/415–8066), between 7:30 a.m. and 3:45 p.m. ET, at least 10 days before the meeting to ensure the availability of this service. Individuals or organizations requesting this service will be responsible for telephone line charges and for providing the equipment and facilities that they use to establish the video teleconferencing link. The availability of video teleconferencing services is not guaranteed.

Dated: July 15, 2003.

Andrew L. Bates,

Advisory Committee Management Officer.

[FR Doc. 03–18414 Filed 7–18–03; 8:45 am]

BILLING CODE 7590–01–P

PEACE CORPS

Proposed Information Collection Requests

AGENCY: Peace Corps.

ACTION: Notice of public use form review request submission to the Office of Management and Budget (OMB Control Number 0420–0533).

SUMMARY: Pursuant to the paperwork Reduction Act of 1981 (44 USC, Chapter 35), the Peace Corps has submitted to the Office of Management and Budget (OMB) a request for approval of information collections, OMB Control Number 0420–0533, the Peace Corps Crisis Corps Volunteer Application Form. This is a renewal of an active information collection. The initial **Federal Register** notice was published on April 23, 2003, Volume 68, No. 78, p. 20035 for 60 days. Also available at GPO access: *wais.access.gpo.gov*. No comments, inquiries, or responses to the notice were received. A copy of the information collection may be obtained from Mr. Dan Sullivan, Director of the Crisis Corps, Peace Corps, 1111 20th Street, NW., Room 7305, Washington, DC 20526. Mr. Sullivan may be contacted by telephone at 202–692–2250. Comments on the form should also be addressed to the attention of the Desk Officer for the Peace Corps, Office of Management and Budget, NEOB, Washington, DC 20503. Comments should be received on or before August 20, 2003.

The purpose of this information collection is necessary to recruit qualified Volunteers to serve in the Peace Corps' Crisis Corps Program. The information provided in the application is used by Crisis Corps staff to perform initial screening for potential candidates for specific Crisis Corps assignments. The purpose of this notice is to allow for public comment on whether the proposed collection of information is necessary for the proper performance of the functions of the Peace Corps, including whether their information will have practical use: the accuracy of the agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used; ways to enhance the quality, utility and the clarity of the information to be collected; and, ways to minimize the burden of the collection of information on those who are to respond, including through the use of automated collection techniques, when appropriate, and other forms of information technology.

Information Collection Abstract

Title: Peace Corps' Crisis Corps Volunteer Application Form.

Need for and Use of This Information: The Peace Corps' Crisis Corps Volunteer Application Form is completed by previous Peace Corps Volunteers; known as Returned Peace Corps Volunteers (RPCVs). The RPCVs apply to serve in the Crisis Corps after successfully completing their Peace Corps service. The Peace Corps' Crisis Corps Application is completed by applicants for Crisis Corps assignments to provide basic information concerning technical and language skills, and availability for Crisis Corps assignments. The application form from the RPCVs is used to perform initial screenings for potential candidates for specific Crisis Corps assignments. The Crisis Corps is an exciting Peace Corps Program that utilizes RPCVs to help communities overseas recover and rebuild in the aftermath of natural disasters and humanitarian crises. There are no other means of obtaining the required data. The Crisis Corps is working toward an electronic application; this version is not available at this time. The Crisis Corps Program fulfills the first and second goals of the Peace Corps as required by Congressional legislation.

Respondents: Returned Peace Corps Volunteers (RPCVs).

Respondents Obligation to Reply: Voluntary.

Burden on the Public:

a. *Annual reporting burden:* 54 hours.

b. *Annual record keeping burden:* 0 hours.

c. *Estimated average burden per response:* 5 minutes.

d. *Frequency of response:* One time.

e. *Estimated number of likely respondents:* 650.

f. *Estimated cost to respondents:* $1.97.

This notice is issued in Washington, DC on July 11, 2003.

Gopal Khanna,

Chief Information Officer.

[FR Doc. 03–18433 Filed 7–18–03; 8:45 am]

BILLING CODE 6051–01–M

PEACE CORPS

Proposed Information Collection Requests

AGENCY: Peace Corps

ACTION: Notice of public use form review request submission to the Office of Management and Budget (OMB Control Number 0420–0001).

SUMMARY: Pursuant to the Paperwork Reduction Act of 1981 (44 USC, Chapter 35), the Peace Corps has submitted to the Office of Management and Budget (OMB) a request for approval of an information collection, OMB Control Number 0420–0001, the National Agency Questionnaire for Peace Corps Volunteer Background Investigation. This is a renewal of an active information collection. The initial **Federal Register** notice was published on April 23, 2003, Volume 68, No. 78, p. 20036 for 60 days. Also available at GPO Access: *wais.access.gpo.gov*. No comments, inquiries or responses to the notice were received. A copy of the information collection may be obtained from Ms. Mada McGill, Peace Corps, Volunteer Recruitment and Selection CHOPS, 1111 20th Street, NW., Room 6402, Washington, DC 20526. Ms. McGill may be contacted by telephone at 202–692–1886. Comments on the form should also be addressed to the attention of Desk Officer for the Peace Corps, Office of Management and Budget, NEOB, Washington, DC 20503. Comments should be received on or before August 20, 2003. The purpose of this notice is to allow for public comments on whether the proposed collection of information is necessary

APPENDIX B

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

July 14, 2003

AGENDA
144th ACNW MEETING
July 29-31, 2003

TUESDAY, JULY 29, 2003, NRC AUDITORIUM, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

1) ~~9:30~~ 9:40 A.M. Opening Statement (Open) (BJG/MTR/NMC)
The Chairman will open the meeting and turn it over to the Working Group chairman who will state the Workshop objectives and provide a session overview.

WORKING GROUP ON PERFORMANCE CONFIRMATION PLANS FOR THE PROPOSED YUCCA MOUNTAIN HIGH-LEVEL WASTE REPOSITORY (OPEN)

The purposes of the working group are (1) to increase ACNW's technical knowledge of plans to develop and conduct performance confirmation (PC) work for the proposed Yucca Mountain repository, (2) to understand NRC staff expectations for performance confirmation, (3) to review examples of performance confirmation work being planned, (4) to identify aspects of performance confirmation that may warrant further study, and (5) to complement the previous working group session on performance assessment.

2) 9:40 - 10:20 A.M. Keynote Presentation: What Should Be Measured During Performance Confirmation? How Will These Measurements Enhance Confidence by Confirming Predicted Repository Behavior? (Open) Whipple
2.1) Views on performance confirmation will be presented by a distinguished expert.

10:20 - ~~10:40~~ A.M. 2.2) Discussion

~~10:40~~ - ~~10:55~~ A.M. *** BREAK ***

3) ~~10:55~~ - 11:25 A.M. Introduction to Performance Confirmation (NRC's Expectations Regarding Content of PC Plans in a License Application) (Open) Pohle
3.1) Presentation by a representative of NRC's Office of Nuclear Material Safety and Safeguards (NMSS), Division of Waste Management (DWM)

11:25 - 11:45 A.M. 3.2) Discussion

4) 11:45 - 12:00 P.M. Introduction to Performance Confirmation (Open) Brocoum
4.1) Presentation by a representative from DOE

12:00 - 12:15 P.M. 4.2) Discussion

~~12:15~~ - ~~1:15~~ P.M. *** LUNCH ***

5) ~~1:15~~ - 2:15 P.M. Decision Analysis Process Used to Develop a Performance Confirmation Program (Open)
5.1) Presentation by a representative from DOE
2:15 - ~~2:45~~ P.M. 5.2) Discussion

~~2:45~~ - ~~3:00~~ P.M. * BREAK *****

6) ~~3:00~~ - 4:15 P.M. Elements of a Performance Confirmation Program - a Presentation of DOE's Selected Program and Its Components (Open)
6.1) Presentation by a representative from DOE
4:15 - ~~4:40~~ P.M. 6.2) Discussion

~~4:40~~ - 4:55 P.M. * BREAK *****

7) ~~4:55~~ - ~~5:15~~ P.M. Documentation and Further Development of the Performance Confirmation Program - A Presentation on Possible Changes in the Next Revision of DOE's PC Plan (Open)
7.1) Presentation by a representative from DOE
5:15 - ~~5:30~~ P.M. 7.2) Discussion

8) ~~5:30~~ - 6:00 P.M. Public Comments

WEDNESDAY, JULY 30, 2003, NRC AUDITORIUM, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

WORKING GROUP ON PERFORMANCE CONFIRMATION PLANS FOR THE PROPOSED YUCCA MOUNTAIN HIGH-LEVEL WASTE REPOSITORY (OPEN) (CONTINUED)

9) ~~8:30~~ - 8:35 A.M. Opening Statement (BJG/MTR/NMC/HJL) (Open)
The Chairman will make opening remarks regarding the conduct of today's sessions.

10) 8:35 - 9:05 A.M. NRC's Risk Insights Initiative and its Impact on Review of Performance Confirmation Plans (Open)
10.1) Presentation by a representative from NRC's NMSS/DWM
9:05 - ~~9:30~~ A.M. 10.2) Discussion

11) ~~9:30~~ - 9:45 A.M. NRC's Acceptance Criteria in the Yucca Mountain Review Plan, for Review of Performance Confirmation (Open)
11.1) Presentation by a representative from NRC's NMSS/DWM
9:45 - ~~10:00~~ A.M. 11.2) Discussion

10:00 - ~~10:15~~ A.M. ***BREAK***

12) ~~10:15~~ - 12:15 P.M. Presentations by Representatives of the State of Nevada, several affected Counties, the Las Vegas Paiutes, and the Electric Power Research Institute (Open)

~~12:15~~ - 1:15 P.M. * LUNCH *****

13) 1:15 -1:45 P.M. Research Perspective on Long-Term Testing for Performance Confirmation - Development of an Integrated Ground-Water Monitoring Strategy (Open)
13.1) Presentation by a representative from NRC's Office of Nuclear Regulatory Research
1:45 - ~~2:00~~ P.M. 13.2) Discussion

14) ~~2:00~~ - ~~3:15~~ P.M. Working Group Roundtable Panel Discussion on Performance Confirmation (Open)

~~3:15~~ - ~~3:30~~ P.M. ***** BREAK *****

15) ~~3:30~~ - ~~4:15~~ P.M. Panel and Committee Summary Discussion (Continued)

16) 4:15 - ~~4:45~~ P.M. Public Comments

17) ~~4:45~~ - ~~4:55~~ P.M. Closing Comments by Working Group Chairman

18) ~~4:55~~ - 6:15 P.M. Preparation of ACNW Report (Open)
Discussion of principal points in a proposed ACNW report on the Performance Confirmation Working Group.

THURSDAY, JULY 31, 2003, CONFERENCE ROOM 2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

19) 8:30 - 8:35 A.M. Opening Statement (Open) (BJG/JTL)
The Chairman will make opening remarks regarding the conduct of today's sessions.

20) 8:35 - ~~9:30 A~~.M. Risk-Informed Regulation for NMSS: Status Report and Plan for Future Work (Open) (MTR/HJL)
Briefing by and discussions with representatives of the NRC NMSS Risk Task Group regarding the current status of risk-informed regulation for NMSS and the plan for future work.

21) 9:30 - 10:00 A.M. Summer Intern Project (Open) (STG)
The ACNW summer intern will update the Committee on the status of her project titled "Assessing Model Uncertainty in Performance Assessment".

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

22) ~~11:00~~ - 11:~~45~~ A.M. ACNW September Retreat (Open) (BJG/MPL)
Members will finalize plans for the Committee's September retreat which is scheduled during the 145th meeting (September 16-18, 2003).

23) ~~11:45~~ - 12:15 P.M. Committee Visit to Yucca Mountain (Open) (BJG/MPL)
The Committee will finalize plans for the Yucca Mountain Site visit scheduled for the 147th meeting (November 18-20, 2003).

12:15 - 1:15 P.M. *****LUNCH*****

24) 1:15 - ~~2:30~~ P.M. Preparation for Meeting with the NRC Commissioners (Open) (BJG/JTL)
The Committee will discuss proposed topics for the ACNW meeting with the NRC Commissioners which is scheduled for Thursday, October 23, 2003, between10:00 a.m. and 12:00 Noon.

25) 2:~~30~~ - ~~5:45~~ P.M. Preparation of ACNW Reports (Open)
Discussion of the proposed ACNW reports on:
25.1) Performance Confirmation Working Group (MTR/NMC)
25.2) 2003-04 ACNW Research Report (MTR/RPS)
25.3) Briefing on the HLW Risk Insights Initiative and the Risk-Informed Issue Resolution Process (BJG/NMC)
25.4) Role of ACNW in Yucca Mountain License Application (BJG/MPL)
25.5) Risk-Informed Regulation for NMSS (BJG/HJL)

26) 5:45 - 6:00 P.M. Miscellaneous (Open)
The Committee will discuss matters related to the conduct of Committee activities and matters and specific issues that were not completed during previous meetings, as time and availability of information permit

~~6:00~~ P.M. Adjourn 144th Meeting

NOTE:

- 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.

- Thirty-Five (35) copies of the presentation materials should be provided to the ACNW.

- ACNW meeting schedules are subject to change. Presentations may be canceled or rescheduled to another day. If such a change would result in significantinconvenience or hardship, be sure to verify the schedule with Mr. Howard Larson at 301-415-6805 between 8:00 a.m. and 4:00 p.m. prior to the meeting.

APPENDIX C: MEETING ATTENDEES

144TH ACNW MEETING
JULY 29–31, 2003

ACNW STAFF

John Larkins
Sher Bahadur
Neil Coleman
Tina Ghosh
Michele Kelton
Howard Larson
Michael Lee
Richard Major
Richard Savio

Invited Expert

Ruth Weiner

ATTENDEES FROM THE NUCLEAR REGULATORY COMMISSION

JULY 29, 2003

T. Kobetz	NMSS
R. Cady	NMSS
P. Reed	RES
L. Campbell	NMSS
B. Ibrahim	NMSS
T. McCartin	NMSS
G. Hatchett	NMSS
J. Firth	NMSS
H. Arlt	NMSS
B. Jagannath	NMSS
P. Justus	NMSS
C. Trottier	RES
K. Chang	NMSS
J. Danna	NMSS
C. Grossman	NMSS
J. Bradbury	NMSS
K. Stablein	NMSS
B. Leslie	NMSS
T. Carter	NMSS
J. Flemming	

ATTENDEES FROM THE NUCLEAR REGULATORY COMMISSION (CONT'D)

JULY 29, 2003 (Cont'd)

T. Nicholson	RES
J. Philip	RES
L. Hamden	NMSS
J. Rubenstone	NMSS
A. Campbell	NMSS

JULY 30, 2003

G. Hatchett	NMSS
T. Carter	NMSS
T. Bloomer	NMSS
K. Chang	NMSS
L. Kokajko	NMSS
J. Kotra	NMSS
M. Young	NMSS
C. Trottier	NMSS
J. Flemming	NMSS
R. Kuntz	NMSS
R. Codell	NMSS
E. O'Donnell	RES
R. Shane	NMSS
T. McCartin	NMSS
J. Pohle	NMSS
T. Ahn	NMSS
J. Rubenstone	NMSS
P. Reed	RES
S. Williams	NMSS
L. Campbell	NMSS
R. Cady	NMSS
D. Esh	NMSS
J. Schleuter	NMSS
J. Firth	NMSS
C. Grossman	NMSS
C. McKenney	NMSS
P. Justus	NMSS
T. Kobetz	NMSS
J. Bradbury	NMSS

ATTENDEES FROM THE NUCLEAR REGULATORY COMMISSION (CONT'D)

JULY 31, 2003

D. Damon	NMSS
R. Shane	NMSS
B. Leslie	NMSS
J. Shin	NMSS
M. Waters	NMSS
S. O'Connor	NMSS
A. Rubin	RES
C. Lui	NMSS
E. Chow	NMSS
R. Tadesse	NMSS
K. Gruss	NMSS
L. Kokajko	NMSS
B. Ibrahim	NMSS
P. Justus	NMSS
K. Stablein	NMSS
T. Bloomer	NMSS
B. Jagannath	NMSS
R. Codell	NMSS

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

JULY 29, 2003

R. McCullen	Nuclear Energy Institute
R. Rabalan	Southwest Research Institute
G. Cragnolino	Center for Nuclear Waste Regulatory Analyses(CNWRA)
L. Bradshaw	Nye County, Nevada
J. Walden	Nye County, Nevada
V. Cornell	Parallax
N. DiNunzio	Department of Energy (DOE)
S. Stivglinski	Las Vegas Sun
M. O'Mealia	Egan & Associates - Nevada
R. Bernero	NRC (retired)
R. Budnitz	Lawrence Livermore National Laboratories (LLNL)
C. Whipple	ENVIRON
N. Henderson	Bechtel-SAIC Company
C. Gerwitz	NYSERDA
A. Elzeftawy	Las Vegas Paiute Tribe

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

JULY 29, 2003 (cont'd)

W. Weart	DOE
C. Hanlon	DOE
E. v. Tiesenhausen	Clark County, Nevada
J. Shaffner	MTS - East
R. Parizek	Nuclear Waste Technical Review Board (NWTRB)
D. Duncan	U.S. Geological Survey
J. Kessler	Electric Power Research Institute
E. Linder	Bechtel-SAIC Company/LAP
J. Walton	Nye County, Nevada
J. Blink	DOE
D. Barr	DOE
A. Monib	DOE
D. Bullen	NWTRB
E. Pearcy	CNWRA
S. Frishman	State of Nevada
J. Treichel	Nevada Nuclear Waste Task Force
J. York	Bechtel-SAIC Company

JULY 30, 2003

E. v. Tiesenhausen	Clark County, Nevada
D. Bullen	NWTRB
N. Henderson	Bechtel-SAIC Company
A. Elzeftawy	Las Vegas Paiute Tribe
J. York	Bechtel-SAIC Company
G. Cragnolino	CNWRA
J. Russell	CNWRA
R. Rabalan	CNWRA
C. Gerwitz	NYSERDA
V. Cornell	PARALLAX
D. Barr	DOE
J. Shaffner	MTS-East PARALLAX
C. Whipple	ENVIRON
S. Tetreault	Stephens Media
C. Hanlon	DOE
E. Lindner	Bechtel-SAIC Company/LAP
F. Bailly	COGEMA
N. Thakar	U.S. House of Representatives
N. DiNunzio	DOE
S. Brocoum	DOE
R. Budnitz	LLNL
S. Stivglinski	Las Vegas Sun

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

JULY 30, 2003 (cont'd)

J. Kessler	EPRI
J. Walton	Nye County, Nevada

JULY 31, 2003

E. v. Tiesenhausen	Clark County, Nevada
N. Henderson	Bechtel-SAIC Company
C. Hanlon	DOE
J. Shaffner	MTS-East PARALLAX

APPENDIX D: FUTURE AGENDA

The Committee approved the following topics for discussion during its 145th meeting, scheduled for September 16–18, 2003:

- **Commission Presentations** — The Committee will discuss its presentation for the October 23, 2003, public meeting with the NRC Commissioners. The following are proposed topics for discussion:

  - Chairman's Report
  - High-Level-Waste Risk Insights
  - TSPA/TPA Working Group
  - Performance Confirmation Working Group
  - Status and Pathway to Closure on KTIs

- **Committee Retreat** —The Committee will identify the suite of topics that it intents to examine over the next 12 to 18 months. The topics to be proposed would be consistent with the priorities defined in its Action Plan as well as earlier Committee discussions with the Commission and the Office of Nuclear Material Safety and Safeguards management.

- **Planning for 147th ACNW Meeting in Las Vegas, Nevada** — The Committee will review proposed activities for its November 18, 2003, visit to Yucca Mountain and the Amargosa Valley and its subsequent technical discussion in Las Vegas, Nevada, with DOE representatives and others (including stakeholders and the public) during the 147th ACNW Meeting, November 19–20, 2003.

- **Preparation of ACNW Report** — The Committee will discuss a proposed ACNW report on matters considered during this meeting, as well as proposed ACNW reports on the Performance Confirmation Working Group.

Appendix E
144th ACNW Meeting
July 29–31, 2003

APPENDIX E
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	**Keynote Presentation: What Should Be Measured During Performance Confirmation? How Will These Measurements Enhance Confidence by Confirming Predicted Repository Behavior?**
	1. Performance Confirmation for Yucca Mountain, presented by Chris Whipple, ENVIRON **[Viewgraphs]**
3	**Introduction to Performance Confirmation (NRC's Expectations Regarding Content of Performance Confirmation Plans in a License Application)**
	2. Performance Confirmation Program, Subpart F of 10 CFR Part 63, presented by Jeffrey Pohle, NMSS **[Viewgraphs]**
4	**Introduction to Performance Confirmation**
	3. Overview of Performance Confirmation, presented by Deborah Barr, DOE **[Viewgraphs]**
5	**Decision Analysis Process Used to Develop a Performance Confirmation Program**
	4. Decision Analysis Process Used to Develop a Performance Confirmation Program, presented by Karen Jenni, Bechtel SAIC Company, LLC/Geomatrix Consultants **[Viewgraphs]**
6	**Elements of a Performance Confirmation Program - A Presentation of DOE's Selected Program and Its Components**
	5. Elements of a Performance Confirmation Program, presented by James A. Blink, Bechtel SAIC Company, LLC, LLNL **[Viewgraphs]**

Appendix E
144th ACNW Meeting
July 29–31, 2003

MEETING HANDOUTS (CONT'D)

AGENDA ITEM NO.	DOCUMENTS
7	**Documentation and Further Development of the Performance Confirmation Program - A Presentation on Possible Changes in the Next Revision of DOE's PC Plan**
	6. Documentation and Further Development of the Performance Confirmation Program, presented by Deborah Barr, DOE **[Viewgraphs]**
10	**NRC's Rick Insights Initiative and Its Impact on Review of Performance Confirmation Plans**
	7. Risk-Informing Performance Confirmation, presented by Tim McCartin, NMSS **[Viewgraphs]**
11	**NRC's Acceptance Criteria in the Yucca Mountain Review Plan for Review of Performance Confirmation**
	8. Performance Confirmation Program, Section 2.4 of Yucca Mountain Review Plan, presented by Jeffrey Pohle, NMSS **[Viewgraphs]**
12	**Presentations by Representatives of the State of Nevada, Several Affected Counties, the Las Vegas Paiutes, and the Electric Power Research Institute**
	9. The Role of Performance Confirmation in Yucca Mountain Development, presented by John Kessler, EPRI **[Viewgraphs]**
	10. Nye County's Views on Performance Confirmation and Related Topics, presented by Les Bradshaw, Nye County, Nevada **[Viewgraphs]**
	11. Some Observations on Performance Confirmation and Performance Assessment, presented by John Walton, Nye, County, Nevada **[Viewgraphs]**
	12. PC, What Does It really mean?, presented by Englebrecht v. Tisenhausen, Clark County **[Viewgraphs]**
	13. *Vegas Golfer,* July 2003, distributed by Atef Elzeftawy, representing the Las Vegas Pauite Indian Tribe **[Handout]**

Appendix E
144th ACNW Meeting
July 29–31, 2003

MEETING HANDOUTS (CONT'D)

AGENDA ITEM NO.	DOCUMENTS
13	**Research Perspective on Long-Term Testing for Performance Confirmation - Development of an Integrated Ground-Water Monitoring Strategy**
	14. Generic Research on an Integrated Ground-Water Monitoring Strategy, presented by Thomas Nicholson and Jacob Philip, RES **[Viewgraphs]**
20	**Risk-Informed Regulation for NMSS: Status Report and Plan for Future Work**
	15. Risk-Informed Regulation for NMSS: Status Report and Plans for Future Work, presented by Christiana Lui, NMSS **[Viewgraphs]**
21	**Summer Intern Project**
	16. Evaluating Model Uncertainty in Performance Assessments, presented by Tina Ghosh, ACNW **[Viewgraphs]**

Appendix E
144th ACNW Meeting
July 29–31, 2003

MEETING NOTEBOOK CONTENTS

TAB NUMBER	DOCUMENTS
	Opening Statement by ACNW Chairman
	1. Agenda,144th ACNW Meeting, July 29–31, 2003, dated July 14, 2003
	2. Color Code - 144th ACNW Meeting, dated July 17, 2003
	3. Introductory Statement by ACNW Chairman, Tuesday, July 29, 2003 undated
	4. Items of Interest for 144th ACNW Meeting
	5. Introductory Statement by ACNW Chairman, Wednesday, July 30, 2003 undated
	6. Introductory Statement by ACNW Chairman, Thursday, July 31, 2003 undated
Working Group	
	Briefing Notebook for 144th ACNW Meeting - Table of Contents
	7. Status Report - Performance Confirmation Working Group
	8. Agenda, dated July 14, 2003
Biographies	9. Chris G. Whipple, Ph.D.
	10. Richard R. Parizek, Ph.D.
	11. Robert M. Bernero
	12. John Kessler, Ph.D.
	13. Wendell Weart
	14. Atef Elzeftawy, Ph.D.
NRC PC Presentations	15. Overview of Performance Confirmation, viewgraphs by Jeffrey Pohle, Tae Ahn, DWM, December 11, 2002
PC Tech. Exchange DOE Handouts	16. Defining Performance Confirmation, viewgraphs by Deborah Barr, DOE
	17. Decision Analysis Process Used to Develop the Performance Confirmation Program — Phase1 - Parameter and Activity Evaluation, viewgraphs by Karen Jenni, BSC/Geomatrix Consultants
	18. Decision Analysis Process Used to Develop the Performance Confirmation Program — Phase 2 - Portfolio Development and Selection, viewgraphs by James A. Blink, BSC/LLNL
	19. Path Forward and Documentation, viewgraphs by Deborah Barr, DOE

Appendix E
144th ACNW Meeting
July 29–31, 2003

MEETING NOTEBOOK CONTENTS (CONT'D)

TAB NUMBER		DOCUMENTS
PC Tech. Exchange DOE Handouts (cont'd)	20.	PC Parameter Evaluation Questionnaire
YMRP Rev. Methods	21.	Section 4.4, "Performance Confirmation Program," from YMRP
DOE SER PRC Program	22.	Yucca Mountain, Science and Engineering Report, DOE/RW-0539, Rev. 1 Technical Information Supporting Site Recommendation Consideration, February 2002
EPRI Rpt.	23.	"Performance Confirmation for the Candidate Yucca Mountain High-Level Nuclear Waste Repository," Final Report—December 2001
NAS Summary	24.	Summary of The National Academies' report "One Step At a Time," on adaptive staging for a repository
PC in Part 63	25.	10 CFR Part 63, Subpart F — Performance Confirmation Program
Ground-Water Monitoring	26.	Office of Nuclear Regulatory Research Statement of Work, Title: Integrated Ground-Water Monitoring Strategy
ACNW TSPA Letter	27.	Letter dated June 12, 2003, from George M. Hornberger, Chairman, to The Honorable Nils J. Diaz, Chairman, NRC, Subject: Total System Performance Assessment Working Group Session, March 25–26, 2003
ACNW Waste Package Letter	28.	Letter dated August 5, 2002,from George M. Hornberger, Chairman, to The Honorable Richard A. Meserve, Chairman, NRC, Subject: Performance of Waste Packages at the Proposed Yucca Mountain Repository
	29.	Letter dated September 17, 2002, from William D. Travers, EDO, to George M. Hornberger, Chairman, ACNW, Subject: Response to the Advisory Committee on Nuclear Waste Letter Dated August 5, 2002, on the High-Level Waste Program Performance of Waste Packages at the Proposed Yucca Mountain Repository

Appendix E
144th ACNW Meeting
July 29–31, 2003

MEETING NOTEBOOK CONTENTS (CONT'D)

TAB NUMBER		DOCUMENTS
NRC/DOE Tech. Exchange	30.	Memorandum dated March 7, 2003, from Mike Lee, ACNW, to ACNW Members and ACNW Staff, Subject: Items of Interest From U.S. Nuclear Regulatory Commission/U.S. Department of Energy Technical Exchange on Performance Confirmation
NWTRB 2002	31.	U.S. Nuclear Waste Technical Review Board, "Report to The U. S. Congress and The Secretary of Energy, January 1, 2002, to December 31, 2002
20	**Risk-Informed Regulation for NMSS: Status Report and Plan for Future Work**	
	32.	Status Report
	33.	Enclosures:
		– Commission Voting Record, June 28, 1999, SECY-99-100, Framework for Risk-Informed Regulation in the Office of Nuclear Material Safety and Safeguards w/Attachments
		– Memorandum dated March 31, 1999, from William D. Travers, EDO, to The Commissioners, Subject: Framework for Risk-Informed Regulation in the Office of Nuclear Material Safety and Safeguards," SECY-99-100, w/Attachments
21	**Summery Inter Project**	
	34.	Status Report
22	**ACNW September Retreat**	
	35.	Status Report
		– Proposed Agenda
		– Proposed Future ACNW Activities
23	**Committee Visit to Yucca Mountain**	
	36.	Status Report