



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

December 1, 2005

MEMORANDUM TO: ACNW Members
ACNW Staff

FROM: *Michele S. Kelton*
Michele S. Kelton
Technical Secretary, ACNW

SUBJECT: CERTIFIED MINUTES OF THE 162ND MEETING OF THE ADVISORY
COMMITTEE ON NUCLEAR WASTE (ACNW) AUGUST 2-4, 2005

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

Attachment:
Certified Minutes of the 162nd Meeting
August 2-4, 2005

cc: A. Bates, SECY (O-16C1)
S. Jones, NMSS (T-8A23)
J. Dixon-Herrity, EDO (O-16E15)



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

MEMORANDUM TO: Sharon Steele, Team Lead
Advisory Committee on Nuclear Waste

FROM: Michael T. Ryan, Chairman
Advisory Committee on Nuclear Waste

SUBJECT: PROPOSED MINUTES OF THE 162ND MEETING OF THE
ADVISORY COMMITTEE ON NUCLEAR WASTE (ACNW)
AUGUST 2-4, 2005

I certify that, based on my review of these minutes¹, and to the best of my knowledge and belief, I have observed no substantive errors or omissions in the record of this proceeding subject to the comments noted below.

Comments:

Michael T. Ryan, Chairman

A handwritten signature in cursive script that reads "Michael T. Ryan".

11/30/05

Date

⁽¹⁾ Minutes of the 162nd Meeting of the ACNW held August 2-4, 2005, dated November 29, 2005



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

November 29, 2005

MEMORANDUM TO: Michael T. Ryan, Chairman
Advisory Committee on Nuclear Waste

FROM: *Michele S. Kelton*
Michele S. Kelton, Technical Secretary
Advisory Committee on Nuclear Waste

SUBJECT: PROPOSED MINUTES OF THE 162ND MEETING OF THE
ADVISORY COMMITTEE ON NUCLEAR WASTE (ACNW)
AUGUST 2-4, 2005

Enclosed are the proposed minutes of the 162nd meeting of the ACNW. This draft is being provided to give you an opportunity to review the record of this meeting and provide comments. Your comments will be incorporated into the final certified set of minutes as appropriate. Please provide your corrections and comments to me.

Please note that these minutes are being issued in two parts: (1) main body (working copy form) and (2) appendices. The appendices are being sent only to those members who have requested them.

A copy of the certified minutes with appendices will be forwarded to each member.

Enclosure: As stated

cc w/o Encl. 2: ACNW Members
ACNW Staff

CONTENTS

	<u>Page</u>
I. Chairman's Report (Open)	1
II. Working Group Meeting on Waste Determination (Open)	1
III. Status of Repository Design Issues (Open)	14
IV. Draft 3 of the ACNW White Paper on Low-Level Radioactive Waste (LLW) Management Issues (Open)	16

APPENDICES

- A *Federal Register* Notice
- B Meeting Agenda
- C Meeting Attendees
- D Future Agenda
- E List of Documents Provided to the Committee and Meeting Notebook Contents

CERTIFIED

11/30/2005

BY MICHAEL T. RYAN

Issued: 11/29/05

**CERTIFIED MINUTES OF THE 162ND MEETING OF THE
ADVISORY COMMITTEE ON NUCLEAR WASTE
AUGUST 2-4, 2005**

The U.S. Nuclear Regulatory Commission (NRC) Advisory Committee on Nuclear Waste (ACNW or the Committee) held its 162nd meeting August 2-4, 2005, at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland. The ACNW published a notice of this meeting in the *Federal Register* on July 20, 2005 (70 FR 41799) (Appendix A). This meeting served as a forum for attendees to discuss and take appropriate action on the items in the agenda (Appendix B). The entire meeting was open to public attendance.

A transcript of selected parts 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 Company, 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, Michael T. Ryan (ACNW Chairman), Allen G. Croff (ACNW Vice Chairman), James H. Clarke, William J. Hinze, and Ruth Weiner attended this meeting. For a list of other attendees, see Appendix C. David Kocher, ACNW consultant, was also in attendance.

I. CHAIRMAN'S REPORT (OPEN)

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

Dr. Michael Ryan, ACNW Chairman, convened the meeting at 8:35 a.m. and briefly reviewed the agenda. He said that the meeting was being conducted in conformance with the Federal Advisory Committee Act. Dr. Ryan asked members of the public who were present and had something to say to inform the ACNW staff so that time could be allocated for them to speak.

II. WORKING GROUP MEETING ON THE WASTE DETERMINATION (OPEN)

[Latif Hamdan was the Designated Federal Official for this part of the meeting.]

On August 2 and 3, 2005, the ACNW hosted a working group (WG) meeting on waste determinations for incidental waste (also known as waste incidental to reprocessing or WIR). All of the Committee members participated. Committee Vice Chairman Allen Croff chaired and moderated the WG meeting. Invited speakers who made presentations to the Committee and participated in the panel discussions included Mr. Kenneth Picha (U.S. Department of Energy, DOE); Ms. Anna Bradford (U.S. Nuclear Regulatory Commission, NRC); Dr. Paul Murray (AEA

Technology); Dr. Barry Burks (TPG Applied Technology); Dr. David Kocher (ACNW consultant); Dr. Kenneth Gasper (DOE, ORP, retired); Dr. John Plodinec (Diagnostic Instrumentation and Analysis Laboratory); Dr. Leslie Dole (Oak Ridge National Laboratory); Edward Garboczi (National Institute of Standards, NIST); Dr. Anne Smith (Charles Rive Associates International); Dr. Vernon Ichimura (Chem-Nuclear Systems); Dr. Craig Benson (University of Wisconsin, Madison); and Dr. Randy Poston (WDP & Associates).

Day 1: August 2, 2005

Opening Remarks

Vice Chairman Croff provided an overview of the meeting and introduced the invited speakers. He said the ACNW organized the WG meeting with the advice of the staff of NRC's Office of Nuclear Material Safety and Safeguards (NMSS). The purpose of the meeting was to obtain technical insights relevant to a standard review plan (SRP) the NMSS staff is preparing. The Committee will review the SRP in connection with the classification of the incidental wastes under DOE management. He said that the WG meeting was not intended to focus on any specific tank waste determination that has been or might be developed by DOE.

Vice Chairman Croff said that during the first session, speakers from DOE and NRC would provide an overview of the tank wastes stored at four sites that are managed by DOE, including plans for waste determinations and NRC's involvement in the waste determination reviews. The first session would be followed by three other WG sessions at which the speakers would elaborate on the status and prospects of various scientific and technical aspects of waste determinations: retrieval and processing technology, waste disposal and performance assessment, and monitoring onsite disposal.

Session 1 - Introduction and Background

Vice Chairman Croff introduced the speakers of the first session.

Two invited speakers from DOE and NRC discussed their agencies' roles in waste determinations.

Mr. Kenneth Picha from DOE's Office of Environmental Management talked about DOE's approach to managing tank waste at four sites or areas under DOE management: the DOE sites at Hanford, Washington; Savannah River, South Carolina, the Idaho National Laboratory, Idaho, and the West Valley Demonstration Project in New York. He said there are about 350,000 cubic meters and 700 million curies of waste that need treatment, storage, and disposal.

Mr. Picha said DOE's waste management strategy was developed in the early 1980's, through National Environmental Policy Act documents and decisions based on the documents. He said the general strategy involves safe storage of the waste, waste pretreatment, treatment, and disposal. Waste is retrieved and separated into low-activity waste (LAW) (which has the most volume) and high-activity waste (HAW) (most activity). The tank waste residue is stabilized in place. The strategy for disposal of the removed waste is to dispose of the HAW waste in a geologic repository and the LAW waste in a near-surface low-level waste (LLW) disposal facility

onsite or off site. Any transuranic waste (TRU) resulting from processing of incidental waste may be disposed of at the WIPP site, but that would require a determination outside the waste determination provisions in the National Defense Authorization Act (NDAA or the Act).

Mr. Picha also described the facilities, processes, and operations, including the status of the four incidental waste storage sites managed by DOE.

In response to specific questions by the Committee members and the ACNW staff, Mr. Picha said that the vitrification process problems have been resolved; that the HAW glass logs would be placed in high-level waste (HLW) packages for placement in the geologic repository; that the waste processing is driven by chemical engineering as well as by the waste acceptance criteria; that the waste in storage has decayed significantly; that TRU disposal at the waste isolation pilot plant would require additional determinations; that some issues remain to be resolved with regard to the stabilization of calcine for shipment and disposal in a geologic repository; that there are some innovative technologies for retrieval of the tank wastes as well as design requirements for ultimate covers if empty tanks are stabilized and left in place; that issues associated with contaminated equipment and contaminated soils are being looked at (the cleaning of contaminated soils may be handled under the Comprehensive Environmental Response, Compensation, and Liability Act); that there has been some focus groups and communication and sharing of information among different sites; and that plant designs involve hazard assessment and safety analyses.

Ms. Anna Bradford from NMSS briefly described the history and background on NRC's involvement in waste determinations.

Ms. Bradford talked about the evolution of the waste determination criteria, NRC's review process, and NRC waste determination evaluations to date, pertinent WIR provisions in the NDAA, and ongoing activities, including an SRP the NMSS staff is currently developing. She said WIR waste is not considered HLW; it is LLW or TRU waste, and DOE often refers to waste determinations as non-HLW determinations or Section 3116 determinations (i.e., determinations per Section 3116 of the NDAA).

Ms. Bradford said that NRC has completed four waste determination reviews: tank waste at Hanford and Savannah River, and sodium-bearing waste and tank closure at the Idaho National Lab. She said in general NRC concluded that the performance objectives of 10 CFR Part 61, Subpart C, could be met. She explained NRC's waste determination review process. She said that in the past, DOE asked NRC to provide technical advice on DOE's methodology for waste determinations even though NRC does not have any regulatory or oversight role in this area. The reviews were undertaken in response to DOE requests and were conducted on a reimbursable basis under memoranda of understanding between the two agencies. DOE was responsible for making the waste determinations, and NRC just provided technical advice. She said technical reviews usually involve demonstrating compliance with the applicable waste demonstration criteria and often included a performance assessment. NRC assesses the soundness of the technical assumptions, the analysis, and the conclusions, and the results of the review, including any NRC recommendations, are documented in a technical evaluation report (TER) that is submitted to the Commission before transmittal to DOE. She said NRC did not conduct any followup activities: submittal of the TER ended NRC's involvement. She also discussed the pertinent provisions in the NDAA and how they will impact the NRC waste determination

reviews. She said that the NDAA requires DOE to consult with NRC on all of its non-HLW determinations for the Savannah River site and the Idaho National Laboratory, and that the Act does not apply to waste shipped out of South Carolina and Idaho but only applies to waste that will remain in the States.

Ms. Bradford said NRC has begun developing an SRP for waste determinations to help guide the waste determination reviews. She said that a public scoping meeting on the SRP will be held this fall and that a draft SRP will be issued for public comment in the spring of 2006. She also said there are some interactions with the representatives of the States of South Carolina and Idaho, as well as with the National Academy Sciences committee for waste determination.

In response to questions by the Committee members and ACNW staff, Ms. Bradford explained the waste determination criteria before and after the issuance of the NDAA, but said meeting the performance objectives remained the same. Economic considerations are embodied in the criterion to remove waste to the maximum extent practicable, and are used along with other technical and programmatic considerations. DOE does this on a case-by-case basis. NRC considers risk evaluations in the waste determination reviews. Worker protection during operations is one of the performance objectives in Subpart C and is tied to worker safety regulations in 10 CFR Part 20. The disposition of empty tanks will be evaluated on a case-by-case basis, but burial in place is an option that NRC can accept. NRC could identify in the TER the need to monitor factors affecting the performance objectives and compliance with 10 CFR Part 61, Subpart C, and to do environmental monitoring component. The monitoring could also be coordinated with the concerned States. NRC can do its own independent performance assessment if warranted; waste to be disposed of offsite such as TRU is not subject to the NDAA determinations.

Session 1 Roundtable Discussion

Mr. Kocher, a consultant to ACNW from Senes Oak Ridge Inc., said that there is a tendency to forget what was behind these class C limits when they were developed. When the LLW rule was developed, the expectation was LLW would have very small amounts of HAW.

Mr. Wayne Hodo from the Army Engineering Research and Development Center asked if any studies had been done on the impact of sodium leached from concrete on soil mineralogy. Sodium in cement leaches out over time and will affect the soil mineralogy through ion exchange which would be detrimental to the burial process. Mr. Picha called on Mr. Jim Cook in the audience to respond. Mr. Cook said that leach tests have been conducted on cement-based forms and that sodium and nitrate in particular are looked at. He said sodium does come out, but the cement is formulated so that the sodium comes out a little at a time. As for the soil, Mr. Cook said the soils tested do not particularly absorb sodium.

Session 2 - Retrieval and Processing Technology

Five invited speakers made presentations during this session. Four experts talked about state-of-the-art and research and development tank waste removal technologies, including fluidic and robotic technologies, and technologies for removing common radionuclides and determining the volume and composition of residual tank waste. The fifth expert gave a historical perspective on the definition of "highly radioactive waste" in the regulations and in practice.

Dr. Paul Murray from AEA Technology gave a presentation on the status of fluidic technology for removing waste from the tanks. He talked about power fluidics, including the pulse jet mixers, reverse flow diverter (RFD) pumps, tank grouting, and a consolidated system for mobilizing waste, recovering HLW, and grouting residual HLW in place.

Dr. Murray said that power fluidics was invented over 25 years ago, and that it is a prudent technology with multiple deployments in the British nuclear arena. The technology has no moving parts in contact with the fluid, it is designed to be completely maintenance free, and it is installed in all modern reprocessing plants. He described the components and operation of the pulse jet mixer and how the technology was used to remove the waste from tanks at Oak Ridge.

Dr. Murray said the RFD pump is like a three-way valve that is connected to the charge vessel, delivery line, and the waste tank. He said this pump will literally pump anything. A demonstration system for these pumps was built at Hanford. Over 400 of them are installed in British nuclear plants.

Dr. Murray said his company built a 28-foot-diameter tank with cooling coils across the bottom, with two pulse jet mixers operating underneath the cooling coils and the RFD pump feeding two external nozzles. He said that his company will conduct a demonstration at AEA Technology's facility near Charlotte, N. C., in September to recover the HLW from the tank and to jet-grout the residual waste in the tank. He said if people are interested, he can arrange for them to see this demonstration.

Dr. Murray concluded by saying his company had developed a very capable and adaptable system for retrieving the tank waste, with HLW recovery, minimal water requirement, and jet grouting in the tank. The system is skid-mounted and reusable.

Dr. Barry Burks, President of TPG Applied Technology, gave a presentation on the use of robotic technology for retrieving tank waste.

Dr. Burks said there are three basic ways to retrieve waste from the tanks: mix-and-pump, which removes the waste as a slurry, mechanical removal in a solid form, and removal of ion exchange resins before removing the rest of the waste and treating it. He said his presentation would primarily address mixing, pumping, and mechanical removal. He distinguished between positioning tools and retrieval tools, and said remote systems are used to position tools. He gave examples of and specifications for horizontal reach, lift, positioning accuracy—the arms and vehicles that can be used to remotely gather and remove the waste from the tanks. The examples included large arms and smaller light utility arms and manipulators, and systems that have been developed, tested, or used at various sites (Oak Ridge, West Valley, and Fernald sites). He described some of the systems and equipment used in the waste retrieval (e.g., jets, nozzles) and said different tanks may require specialized equipment. Dr. Burks said there had been some success with the bulk waste removal technology with remotely controlled systems, but the limited funding had limited the treatment and storage of the removed waste.

Dr. Burks and Dr. Murray answered questions by the Committee members and ACNW staff about the waste removal technologies, including questions about the system pressure, the detection of tanks leaks associated with the waste removal, the explosion potential, equipment decontamination, the amount of waste acceptably left in the tank, the disposition of contaminated equipment, removal of the waste to the maximum extent practical, and the efficiency of waste removal from tanks with coils.

A point made repeatedly was that the waste removal and the quantity of waste left in the tank to satisfy the regulations would vary from tank to tank and site to site, depending on the tank configuration and the activity and consistency of the waste. For example, the waste left in the tanks at West Valley was only millimeters thick compared to ½ to ¾ inch at the Savannah River and Hanford sites.

Dr. David Kocher gave a historical perspective on the definition, quantification, and use of "highly radioactive" in the regulations and practice, including waste classification, and that it may have to do with how the term is interpreted at present. He discussed the meaning and quantification of "highly radioactive" in the definition of high-level waste, the importance of the definition to the long-term performance of waste disposal systems, and the term "highly radioactive radionuclides" used in the National Defense Authorization Act. He said that the original description of high-level waste as highly radioactive meant high decay heat and external radiation and that it was based originally on the need to protect workers during waste operations and storage and not on the requirements for safe disposal. He said the quantification of the term "highly radioactive" was driven by short-lived radionuclides, not long-term alpha-emitting transuranics. He said that the high-level waste definition in the regulations was source-based and had two attributes: it produced high levels of decay heat and external radiation (mainly due to short-lived fission products), and it required long-term isolation from the biosphere to protect public health (due primarily to the long-lived transuranics). The emphasis was more on the latter (long-term isolation requirement). In his opinion, thermal power density is a reasonable criterion for "highly radioactive" for purposes of ensuring safe waste disposal.

Dr. Kocher said the term "highly radioactive radionuclide" in the National defense Authorization Act does not make sense. He said a radionuclide is not inherently highly radioactive, lowly radioactive, or intermediately radioactive. It just is. He said this language is new and the intent of this language is not clear.

Dr. Kenneth Gasper, a retired DOE Program Manager, discussed the status of technology for removing commonly targeted radionuclides from the tank waste.

Dr. Gasper talked about the removal of what he considered to be the key radionuclides: ¹³⁷cesium, including its association with ¹³⁷barium, ⁹⁹ technetium, ¹²⁹iodine, and ⁹⁰strontium and the transuranics. He said that there are some proven technologies and that millions of curies of ¹³⁷cesium and ⁹⁰strontium had been removed and high recoveries had been attained at the Hanford site.

Dr. Gasper discussed the radionuclide removal technologies used at the Hanford site in the 1960s and 1970s and the technologies that evolved and were explored, demonstrated, and/or used at these sites in the 1990s and 2000s. He described various technologies for removing ¹³⁷cesium and associated radionuclides: ion exchange, phosphotungstic acid precipitation,

waste treatment and immobilization using resins, fractional crystallization, in-tank precipitation involving cesium tetraphenylborate salts, caustic-side solvent extraction, deliquification, dissolution, and adjustment (DDA), and supplemental pretreatment options such as caustic-side fractional crystallization, and draining of interstitial liquid followed by salt cake washing and subsequent salt cake dissolution. He said that supplemental pretreatment investigations at Hanford have shown that both ¹²⁹iodine and pertechnetate track with ¹³⁷cesium, and that caustic-side solvent extraction separates ¹³⁷cesium from both radionuclides.

He also discussed technologies for removing ⁹⁰strontium and the transuranics: solvent extraction; cross filtration for separating solids and liquids to remove insoluble strontium and actinides, with a monosodium titanate addition to remove soluble strontium and actinides by sorption (at Savannah River) or strontium nitrate and permanganate addition to remove soluble strontium and actinides by precipitation (at Hanford); and supplemental pretreatment by decanting solids-free dissolved saltcake.

In conclusion Dr. Gasper said that work at Hanford and Savannah River, supported by laboratory studies there and at the national laboratories, has provided experience, insight, and possible methods for removing of ¹³⁷cesium, ⁹⁰strontium, transuranics, ⁹⁹technecium, and ⁹⁹iodine.

Dr. John Plodinec from Diagnostic Instrumentation and Analysis Laboratory at Mississippi State University discussed the technology for determining the volume and composition of residual tank wastes (tank heels).

Dr. Plodinec said that characterization of tank residual waste was not trivial. He discussed the requirements for acceptability of methods employed in such characterization. He described DOE's experience in residual waste characterization at Oak Ridge, Hanford, Idaho, and Savannah River, including the cleaning processes, residual waste volume determinations, and estimates of source term (i.e., radionuclide inventory). He discussed potential problems with current methods and mentioned emerging technologies, including a technique developed at Mississippi State University called Fourier transform profilometry or FTP that has a lot of promise, at least in addressing some of the problems with the current methods.

In conclusion Dr. Plodinec said that current methods can provide quantitative information on volume and radionuclide content, and that data are probably complete enough and errors probably small enough for risk-informed decisions. He said errors are not completely characterized, nor are the methods independently verified. Wall deposits and annular space need to be considered, and quality assurance requirements for data are not well defined. He said that alternative techniques are being developed for volume determination (with deployment expected by 2006) and for radionuclide inventory determination, but that these techniques will probably not be ready for 3 to 4 years.

Session 2 Roundtable Discussion

The Committee members and panelists discussed issues pertaining to risk-informing the process, data and sampling errors, the definition of highly radioactive waste in the NDAA, the ALARA requirement, storage of liquid waste, the FTP technique, waste separation processes,

the performance objectives in Subpart C of 10 CFR Part 61, the waste determination standard review plan, and the tank leaks.

Session 3 - Waste Disposal & Performance Assessment

Four invited speakers made presentations during this session. Two experts discussed the status of technology for using cementitious materials to stabilize waste, and for predicting the durability of cementitious materials. The other two experts talked about performance assessment issues for near-surface disposal of low-level radioactive waste and decisionmaking considerations in waste determinations.

Dr. Leslie Dole from the Oak Ridge National Laboratory discussed the status of technology for using cementitious materials to stabilize waste, based on practical experience with cement and cement waste forms.

Dr. Dole defined and gave examples of hydraulic cement and discussed reaction sequence in Portland cement, the evolution of cement with time, waste constituent's influence on curing and rheology; mitigation of waste impacts on waste form performance, accelerated aging at elevated temperatures, anthropomorphic and natural analogs, durability and performance, leach testing, and diffusion and fractional release models.

Dr. Dole concluded that there is a great body of knowledge on how to formulate cementitious waste forms to process and solidify radwastes from across the DOE complex; there is disagreement on how to measure and model source terms for the leaching of radionuclides in the near-field transport models; and there is no coordinated effort to reconcile measured waste form performance with accelerated testing and natural and anthropomorphic analogs.

Dr. Dole answered questions about the susceptibility to degradation by cracking and the leaching of sodium, the effect of changes in the pH, measured and predicted leaching rates, the impact of iron on the grout, and grout on the iron containers, the systems approach, and alternatives to grout use.

Day 2: August 3, 2005

Opening Remarks

The WG meeting continued with Session 3 (Waste Disposal & Performance Assessment). Vice Chairman Croff said that in the first presentation of the session given the day before, Les Dole discussed the durability of cements and grout waste forms based on essentially practical experience and that the next presentation would discuss progress in the ability to predict the properties and performance of cementitious materials from fundamental principles, which offers some hope of extending predictions for much longer times.

Dr. Ed Garboczi from the National Institute of Standards and Technology (NIST) gave a presentation on the status of technology for predicting the durability of cementitious materials.

Dr. Garboczi said the main goal of the Inorganic Materials Group at NIST is to provide the scientific and technical foundations for performance-based selection and use of concrete, by improving the material science basis for performance-based tests and computational tools. Dr. Garboczi said that concrete is complex, whether it is the cementitious waste forms or grout or full concrete. He said that NIST was using it at the meter scale, but there is important microstructure at the micrometer, millimeter, and the nanometer scales. He discussed the prediction of the durability from first principles and NIST's current prediction capabilities and addressed model-based predictions.

Roundtable Discussion on Concrete Durability Predictions

Dr. Garboczi said that it was hard to predict concrete durability over extended periods. He said information on the initial composition of concrete used in existing structures limits the use of such structures to predict concrete durability.

There were questions about how the radionuclides are incorporated in the grout, the geochemical stability of the grout, how the radionuclides leached out, and how all that should be addressed in the standard review plan. The panelists said concrete studies and tests have been done in support of civil engineering structures and the construction industry.

Vice Chairman Croff said that the next two presentations would address performance assessment and decision making.

Dr. David Kocher gave a presentation on performance assessment (PA) issues for near-surface disposal of low-level radioactive waste.

Dr. Kocher talked about the nature and purpose of PA, including the underlying science and limitations, and PA's role in the decisionmaking; performance objectives in Subpart C of 10 CFR Part 61, and the requirements of DOE's Order 435.1-1; how differences between near-surface disposal and geologic disposal affect approaches to PA; onsite disposal of DOE tank wastes; and key technical and policy issues in the PAs for near-surface disposal.

Dr. Kocher said that the protection criteria were not specified in the DOE order, but there was a general requirement to comply with applicable Federal, State, and local laws and regulations. He said that meeting the EPA's drinking water standards (maximum concentration limits, or MCLs) are probably going to apply, especially at DOE facilities and especially the sites that are being cleaned up under CERCLA. MCLs are more restrictive than the 25 millirem per year for every radionuclide that is in the fission product spectrum, but they are not important for the alpha emitters. He said that the MCLs can be also important for hazardous chemicals. He said that States often impose MCLs as enforceable standards. The central issue in the saltstone disposal site at Savannah River in the early days was meeting a limit for nitrate in groundwater per agreement with the State of South Carolina. Nitrate, not radionuclides, was the problem. So meeting the MCL standards is an issue that has to be attended to.

Dr. Kocher provided the following perspectives on the PA: (1) near-surface disposal of LLW involves achieving balance between acceptable releases beyond the site boundary and acceptable residual concentrations in the disposal facility after loss of institutional controls; (2) for nearly all radionuclides, criteria to protect inadvertent intruders are more restrictive than

criteria to protect the public and the environment; (3) limits to protect inadvertent intruders consistent with NRC assumptions result in only modest demands on the ability of facilities to limit releases to the environment; (4) there is incentive for simplified and conservative assumptions in PAs, including highly stylized modeling of disposal systems over time, and for incorporation of realism only as needed to qualify waste intended for disposal.

Dr. Kocher said that near-surface disposal facilities differ from deep geologic disposal sites. Near-surface facilities are more modest undertakings, have a much smaller buffer zone, different compliance period, and inadvertent intrusion requirement. He said that assessments of releases involve flow analysis, a source term, transport analysis, exposure pathways, and uncertainty/sensitivity analysis.

Dr. Kocher discussed the utility and limited data to predict the structural integrity and load bearing beyond several hundred years. He said infiltration through degraded concrete barriers can be an important concern. It is difficult to estimate inventories of radionuclides in releases to groundwater, and there are general concerns about modeling source terms for highly heterogeneous radionuclide distributions. He said the key concerns about waste removed from tanks are the hydrologic properties of monolithic waste forms such as the saltstone and the degradation of the waste form over time. He said the main concerns about residual waste in tanks are leachability and ability of tank fill to limit inflow of water over time.

Dr. Kocher discussed flow and transport issues in both the unsaturated and saturated zones. He noted the simplistic nature of distribution coefficient, K_d (measure of contaminant sorption in the soil), the absence of site- and scale-specific data on dispersivity, and uncertainties in flow models. He the exposure pathways and radiological impacts are the best understood and least important of PAs. Uncertainty in PAs has evolved over time, and no full probabilistic PAs have been developed for any LLW sites. He said that the key concept for PAs is importance analysis and that integration and interpretation of the results to identify assumptions and parameter values can affect the decision about compliance. He said that uncertainty and sensitivity analysis as commonly understood are not necessary in the PA.

Dr. Kocher said the key to analyses of inadvertent intrusion is the selection of intrusion scenarios, including assumptions about the time such scenarios occur. He said role of institutional controls in limiting the type and duration of credible scenarios could be important at DOE sites.

Dr. Kocher said the key technical issues for the PA are the modeling of the source term and groundwater flow (including flow in the unsaturated zone); assumptions about the integrity of engineered barriers; and assumed intrusion scenarios at DOE sites. Policy issues are receptor location, time of compliance, institutional controls role of inadvertent intruder, future land use, and demonstration of compliance.

Dr. Anne Smith of Charles River Associates International gave a presentation on decisionmaking considerations in waste determinations.

Dr. Smith discussed the complexity of a decisionmaking process for waste determinations, current standards for good decisionmaking, the hallmarks of a good decisionmaking process,

the structure of the analysis to support deliberations on a course of action, alternative actions, PAs role in the decisionmaking process, and improving the understanding of the alternatives.

Dr. Smith said some decisions may not be addressed by the performance assessment, especially the decision on tank waste separation and disposal and the decision on the performance objectives, including decisions on removal of the radionuclides to the maximum extent practical and meeting the ALARA criterion in NRC's regulations. She said these decisions involve tradeoffs: risk reduction vs. cost, occupational risk vs. future public risk, and near-term risk vs. longer term risk. Some of the tradeoffs occur across huge gaps in time.

Dr. Smith discussed the complexity of the decisionmaking process for waste determinations. She said this is a new process that is still being developed and that the complexity arises from the involvement of different government agencies with different roles and responsibilities at different sites, the qualitative nature of the available decisionmaking criteria, and the diversity of viewpoints of the stakeholders.

Regarding the current standards for a good decisionmaking process, she said that there is a series of NAS reports on the subject. The two most relevant reports are "Understanding Risk" (1996), which describes general principles, and "Risk and Decisions" (2005), which is directly applicable to waste determination decisions for DOE HLW. She said the key themes in both reports are that a risk-informed approach is needed to make decisions and that the process must be participatory. According to "Risk and Decisions," a good decisionmaking process must be logical, consistent with current scientific knowledge, and technically credible with believable results, transparent and traceable, subjected to independent peer review, and framed to address the underlying need. She added two more qualities from NRC guidelines: avoiding after-the-fact realizations to justify decisions already made and not letting the process unnecessarily delay the decision or action.

Dr. Smith said the analysis should be structured as a comparison among alternatives. The analysis must identify and focus on information needs of all affected parties. The analysis should not be overly complex. She said these principles are set forth in Chapter 4 of the NAS report "Risk and Decisions."

Dr. Smith said the PA in a waste determination should be used to make decisions and to demonstrate compliance with the performance objectives. She said the waste determination criteria imply comparisons with an alternative action. The second most stringent alternative to the proposed plan (including tradeoffs) will need to be examined in terms of risk and cost.

With respect to whether the PA will be sufficient for waste determination decisionmaking, she said that the PAs tend to focus on risk at a specific point in time and space and that comparison of alternatives may require more information over time, space, and types of risks. Relying just on whether the performance objectives are met is inconsistent with the concept of a risk-informed process, and identifying a "maximum extent practical" and ALARA via comparison with an alternative action can better serve the goal of gaining public acceptance of a waste determination. The process should be reasonably balanced between analysis and deliberation.

In conclusion Dr. Smith emphasized the importance of understanding the comparisons and tradeoffs among alternatives, the temporal dimension of risk profiles of alternative actions, and the role of long-term monitoring to reduce the risk of future releases of pollutants.

Roundtable Discussion on PA and the Decisionmaking Process

Dr. Smith and Dr. Kocher answered questions on to monitoring, risk-informing the decision-making process, the participatory process, decisions with multiple objectives, performance objectives, the intrusion scenario, and pertinent regulations.

Session 4 — Monitoring Onsite Disposal Methods

Dr. Vernon Ichimura from Chem-Nuclear Systems gave a presentation on the status of environmental monitoring technology.

Dr. Ichimura discussed characterization and measurements of radionuclides in the groundwater pathway at LLW disposal sites; environmental monitoring considerations at waste determination sites; an overview of groundwater monitoring, including the monitoring program design, the sampling methodology and documentation procedures, and quality assurance and quality control; other environmental monitoring; trends in monitoring technology; and compliance evaluation.

Dr. Ichimura said that satisfying the LLW regulations requires characterization and measurements of radionuclides in the groundwater, surface water, air, soil, plants, and animals, and that the measurements have to be converted to dose to verify compliance. He said that based on present knowledge and experience from measurements, dose rate and population dose estimates, and history and experience to date, groundwater appears to be the most important pathway after a facility closure.

Dr. Ichimura discussed radionuclides in groundwater at DOE sites and commercial sites. He said that tritium appears to be most widespread and is common at many facilities. Other radionuclides of concern at these sites are ¹⁴carbon, ¹³⁷cesium, ⁶⁰cobalt, ¹²⁹iodine, ⁹⁰strontium, ⁹⁹technetium, and uranium and plutonium isotopes. More unusual radionuclides are detected closer to the source. He said there are some advantages in looking at sites that are designated for WIR. The sites have very good baseline data; they are characterized; they have many years of data measurements; and they may have environmental transport models.

Dr. Ichimura said groundwater monitoring required knowledge of the site hydrology, a monitoring network, an analysis agenda (measured parameters and frequency of measurements), a sampling methodology, documentation, and quality assurance and quality control measures. He said the fundamentals of monitoring have not changed, but there have been improvements in equipment and more standardized procedures. The analysis agenda usually includes the pH and conductivity, radiological indicators such as gross alpha and beta, and gamma ray spectrometry. He said that to keep cost down, the emphasis should be on identifying specific nuclides of concern. He said EPA lists approximately 130 priority pollutants.

Dr. Ichimura offered several suggestions on compliance monitoring and evaluation: the use of direct measurements to the extent possible, sensible scenarios and models, and the use of simple and reliable standard methods.

In conclusion Dr. Ichimura said environmental monitoring shows that LLW disposal sites and similar facilities meet the applicable regulatory requirements, that groundwater appears to be the most important pathway for closed disposal sites, and that measuring and modeling technologies are available to make reasonable determinations on satisfying the LLW regulations in 10 CFR 61.41.

Dr. Craig Benson of the Geo Engineering Program at the University of Wisconsin-Madison gave a presentation on monitoring issues for caps and subsurface barrier walls.

Dr. Benson discussed the status of engineered barrier technology, including lining systems, capping, cutoff walls, and reactive barriers. He described the functions of caps and liners and explained the functionality of conventional "resistive designs" (clay caps, geosynthetic caps, and composite caps) and alternative "water balance designs" (monolithic caps and capillary barriers). He discussed some of the ongoing field studies on caps to support calibration of the hydrological models. He also presented data for, and discussed the performance of, covers at several sites in different parts of the U.S. with different climates.

Dr. Benson summarized some of the practical lessons learned about covers. Composite covers (clay/plastic sheeting underneath) work very well. Clay and resistive-type systems without a geomembrane do not function very well. He said that water balance covers can work well in semiarid and subhumid climates provided there is adequate storage capacity and adequate vegetation to effectively remove stored water each year. Low percolation rates cannot be achieved with water balance covers at all sites, especially humid sites. He said that the unpredictable response of vegetation may complicate performance assessment and that more research is needed to ensure long-term reliability.

Dr. Benson discussed four types of groundwater cutoff walls: soil-bentonite walls, geomembrane walls, sheetpile walls, and composite geomembrane-soil walls. He described some of the design and construction technologies and procedures for cutoff barriers and the need to monitor their performance. He discussed the timeframes for short-term, moderate-term, and long-term monitoring. He also discussed the factors to consider when deciding on the timeframe and scope of the monitoring programs for particular sites. He said it is difficult to monitor and evaluate the effectiveness of barrier walls at the field scale because they are underground.

Dr. Randall Poston from WDP & Associates, Inc., gave an overview of nondestructive testing and monitoring technology for existing concrete structures.

Dr. Poston said the current technology evolved because of the need to repair the deteriorating civil infrastructure. He identified and described some select nondestructive test methods. He said most of the technologies use contact sensors. He described several techniques for evaluating concrete strength, corrosion activity, stress waves, nuclear methods, and magnetic and electrical methods. He said a number of methods are usually applied to obtain complementary information.

Dr. Poston talked about the principles, equipment, and limitations of various nondestructive techniques, including visual inspection, exploratory openings, petrographic analysis, ground-penetrating radar, infrared thermography, and stress wave techniques. He said the stress wave techniques, including pulse velocity and pulse echo methods, probably have the most promise for nuclear waste containment structures.

Dr. Poston said the capability of nondestructive testing of buried structures is quite limited at the present and that such testing is in its infancy with regard to contained waste management concerns. He said the massive size is a problem, because there are limits on the thickness of a given structure that we can monitor for structural integrity. He said a buried system will have more than one structural component—not only the tank but the soil—so soil-structure interaction issues have to be dealt with. He said the timescale issues are a big problem in terms of assessment over centuries. The questions are pretty easy, but the answers are more complicated.

In conclusion Dr. Poston said he is comfortable with the sensors and the types of technologies currently available to assess the structural integrity of surface structures, but that there is limited capability to evaluate buried structures and the application of this technology in the nuclear industry is uncertain. He said the problem needs to be clearly stated and the flaws and damage requiring detection need to be characterized. Research is needed to adapt current technology and to develop new technologies.

Session 4 Roundtable Discussion

Drs. Ichimura, Benson, and Poston for this session were joined by Mr. Thomas Nicholson and Jacob Philip from NRC's Office of Research for a panel discussion on monitoring. The discussion covered both environmental and performance monitoring issues. The panelists answered questions by the members and the ACNW staff.

Closing Remarks

Vice Chairman Croff and Chairman Ryan thanked the participants. The Committee said the working group meeting findings will be used to develop recommendations and advice to the Commission, primarily on the waste determination SRP that the NRC staff is developing to support staff reviews of waste determination submittals.

III. STATUS OF REPOSITORY DESIGN ISSUES (OPEN)

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

During this meeting, the ACNW was briefed by representatives of NMSS's Division of High-Level Waste Repository Safety (DWLWRS) on the status of pre-licensing consultations on the geologic repository operations area (GROA) design. The principal staff member doing the presentation was Mr. Tim Kobetz. At times, he was assisted by Mr. Mike Waters and Dr. Mahendra Shah. As background, the NRC staff representatives said that they (and their technical assistance contractor, the Center for Nuclear Waste Regulatory Analyses) conducted focused pre-licensing reviews of available DOE technical basis documents expected to support the pre-closure GROA design aspects of the license application in 2003–04. As a result of

these reviews and subsequent internal discussions, the NRC staff have identified a number of concerns. These concerns were communicated in a letter to DOE dated October 8, 2005.¹

The staff said it had formed internal review teams of NRC and Center staff in anticipation of reviewing a license application. Consistent with NRC's pre-licensing consultation role, these review teams have begun to compare NRC's regulations at 10 CFR Part 63² against existing DOE design information. The staff said that the principal outcome of these internal reviews was the identification of GROA design areas for which DOE may need to develop additional engineering detail³. After NRC communicated these views to DOE during a June 1, 2005, technical exchange meeting, the NRC and DOE staffs agreed to a series of technical exchanges during the rest of 2005 to discuss DOE's approach to documenting the engineering detail and/or analyses the NRC staff was expecting to see in the DOE license application. These areas (listed below) are generally considered "items important to safety" and therefore would be on DOE's Q-list for quality assurance.

Aging Pad for Spent Nuclear Fuel (SNF)	Pre-Closure Safety Assessment (PCSA) Process
Aircraft Hazards	Pre-Closure Criticality
Commercial SNF Handling in a Dry Environment	Pre-Closure Seismic Design
Design and Classification of Electrical Systems	Pre-Closure Consequences and Worker Doses
Fuel Behavior and Release Fractions	Structural Analyses for Aircraft Impact
Information Available at License Application Submittal	Technical Specifications
Material Handling	Waste Package Transporter and Gantry
Non-Standard Equipment	

During the briefing, the staff said it has attempted to risk inform this process by considering issues believed to be the most important to the pre-closure performance objective in Section 63.112. The NRC and the Center have made a number of site visits to existing fuel-handling facilities domestically and overseas to get a better understanding of operations and procedures similar to those expected at Yucca Mountain.

¹Letter from C.W. Reamer (NRC/DWHLRS) to W.J. Arthur (DOE Yucca Mountain Project), Subject: "The Design of the Proposed Surface and Subsurface Facilities at Yucca Mountain, Nevada."

²Sections 63.11, 63.21, and 63.31.

³The staff's determination represents an informal expert judgment based on operational and licensing experience, risk insights, and available design and analytical information from DOE.

The ACNW Members and support staff commented and asked several followup question. The NMSS staff was assisted in its responses by Dr. Andrew Campbell and Mr. Robert Johnson, also of the DWLWRS. During the question and answer period, the Committee noted that human reliability analysis—the so-called man-machine interface—is one design area that the staff should consider paying special attention to based on previous reviews of other NRC-licensed facilities. The other design area has systems integration and the interfaces between the many GROA waste-handling steps. The Committee said the number of potential waste-handling steps increased the chances of occupational doses of ionizing radiation. The staff said that in the future it will focus more on where the waste-handling interfaces occur and will use the pre-closure integrated safety assessment tool to evaluate potential dose consequences.

The ACNW has been tracking progress in the development of the DOE repository design for many years and in the staff's readiness to review the design. The Committee will continue to track staff progress in this area. The staff has committed to provide future information briefings, as appropriate, on the outcomes of meetings with DOE.

IV. DRAFT 3 OF THE ACNW WHITE PAPER ON LOW-LEVEL RADIOACTIVE WASTE (LLW) MANAGEMENT ISSUES (OPEN)

[Sharon Steele was the Designated Federal Official for this part of the meeting.]

Dr. Ryan recommended that the LLW paper be divided in two parts: a primer on history and the path forward. ACNW staff will continue to revise Part I, "History." The Committee will wait until the completion of Part I before reviewing the forward-looking part of the paper. Dr. Ryan and the ACNW staff will continue to review and do research on the existing draft.

retention are recordkeeping copies of historically significant case files.

3. Department of Justice, Civil Division (N1-60-04-7, 12 items, 7 temporary items). Inputs and outputs of the Victim Compensation Management System, claimant case files, and general correspondence of the September 11th Victim Compensation Fund of 2001. Also included are electronic copies of records created using electronic mail and word processing. Proposed for permanent retention are recordkeeping copies of background and policy files relating to the administration of the Fund, and the master files and system documentation of the Victim Compensation Management System, which includes a complete copy of the claimant case file and a tracking database.

4. Department of Justice, Office on Violence Against Women (N1-60-05-5, 3 items, 3 temporary items). Grant case files and electronic copies of records created using electronic mail and word processing.

5. Department of Justice, Federal Bureau of Investigation (N1-65-04-5, 19 items, 17 temporary items). Inputs, outputs, system documentation, master files, and related records associated with the Integrated Automated Fingerprint Identification System. Proposed for permanent retention are the Interstate Identification Index and the related system documentation.

6. Department of Justice, Federal Bureau of Investigation (N1-65-05-4, 7 items, 6 temporary items). Distribution copies, distribution lists, standard operating procedures, and originating office input for the Director's briefing books accumulated by the Current Intelligence Unit. Also included are electronic copies of records created using electronic mail and word processing. Proposed for permanent retention are the master copies of the Director's briefing books.

7. Department of Justice, Federal Bureau of Investigation (N1-65-05-5, 13 items, 9 temporary items). Inputs, outputs, and master files of the Freedom of Information Act/Privacy Act Processing System. Proposed for permanent retention are the electronic versions of redacted case files where the original case file is scheduled as permanent, system documentation, and records relating to cases litigated before the Supreme Court.

8. Department of Justice, Bureau of Prisons (N1-129-05-6, 5 items, 5 temporary items). Inputs, outputs, master files and system documentation associated with an electronic system which summarizes financial data, inventory backlogs, and sales data in

graphic and textual form. Also included are electronic copies of records created using electronic mail and word processing.

9. Department of Justice, Bureau of Prisons (N1-129-05-7, 6 items, 6 temporary items). Inputs, outputs, master files, and system documentation associated with the Bureau's Trust Fund Accounting and Commissary System, which is used to maintain and track inmate financial transactions as well as warehouse and commissary inventories and commissary sales. Also included are electronic copies of records created using electronic mail or word processing.

10. Department of Justice, Bureau of Prisons (N1-129-05-8, 3 items, 3 temporary items). Architectural renovation and modification records and correspondence files accumulated by the Administration Division's Facilities Branch. Also included are electronic copies of records created using electronic mail and word processing. Recordkeeping copies of construction drawings and modifications accumulated by the Design and Construction Branch are proposed for permanent retention in a pending schedule.

11. Department of State, Bureau of Educational and Cultural Affairs (N1-59-05-1, 4 items, 3 temporary items). Schedules of daily activities maintained by the Assistant Secretary for Educational and Cultural Affairs and electronic copies of records created using electronic mail and word processing. Proposed for permanent retention are recordkeeping copies of subject files of the Assistant Secretary.

12. Environmental Protection Agency, Office of Air and Radiation (N1-412-05-8, 6 items, 3 temporary items). Electronic software programs, inputs, and electronic data pertaining to allowance tracking. Records are associated with the Clean Air Markets Division Business System, which is used in connection with the market-based emissions trading program. Proposed for permanent retention are the electronic data and supporting documentation for sub-systems that include source management data and emissions tracking data.

Dated: July 13, 2005.

Michael J. Kurtz,
Assistant Archivist for Records Services—
Washington, DC.
[FR Doc. 05-14209 Filed 7-19-05; 8:45 am]
BILLING CODE 7515-01-P

NATIONAL TRANSPORTATION SAFETY BOARD

Sunshine Act Meeting

TIME AND DATE: 9:30 a.m., Tuesday, July 26, 2005.

PLACE: NTSB Board Room, 429 L'Enfant Plaza, SW., Washington, DC 20594.

STATUS: The one item is Open to the Public.

MATTERS TO BE CONSIDERED: 7642A Railroad Accident Report—Derailment of Amtrak Train No. 58, City of New Orleans, near Flora, Mississippi, April 6, 2004 (DCA-04-MR-008).
NEWS MEDIA CONTACT: Telephone: (202) 314-6100.

Individuals requesting specific accommodations should contact Ms. Carolyn Dargan at (202) 314-6305 by Friday, July 22, 2004.

The public may view the meeting via a live or archived webcast by accessing a link under "News & Events" on the NTSB home page at <http://www.nts.gov>.

FOR MORE INFORMATION CONTACT: Vicky D'Onofrio, (202) 314-6410.

Dated: July 13, 2004.

Vicky D'Onofrio,

Federal Register Liaison Officer.

[FR Doc. 05-14298 Filed 7-18-05; 12:08 pm]

BILLING CODE 7533-01-M

NUCLEAR REGULATORY COMMISSION

Advisory Committee on Nuclear Waste; Notice of Meeting

The Advisory Committee on Nuclear Waste (ACNW) will hold its 162nd meeting on August 2-4, 2005, Room T-2B3, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland.

The schedule for this meeting is as follows:

Tuesday, August 2, 2005

The Committee will conduct a 2-day working group meeting on Waste Determinations.

8:30 a.m.—11:25 a.m. Session 1: (Open)—This session will provide a background for waste determinations. The ACNW Moderator will discuss the purpose of the Working Group meeting and provide an overview of the meeting sessions. Department of Energy (DOE) staff will provide an overview of DOE's current and planned management of tank waste at four tank sites, including waste handling practices, waste streams likely to require waste determinations and their characteristics. NRC staff will provide an overview of NRC's

involvement in waste determination evaluations to date, a summary of new waste determination provisions in the National Defense Authorization Act (NDAA) of 2005, and anticipated waste determination activities by the NRC.

11:25 a.m.-4:15 p.m. Session 2: (Open)—Invited experts will address state-of-the-art and R&D technology for waste retrieval including removal of common target radionuclides, and technology for characterizing tank heels. In addition, a historical perspective on the definition of "highly radioactive waste" in the regulations and in practice will be provided. There will also be a roundtable discussion of Session 2 topics.

4:15 p.m.-5 p.m. Session 3: (Open)—Invited experts will discuss the status of technology for using cementitious materials to stabilize wastes.

Wednesday, August 3, 2005

8:30 a.m.-11:35 a.m. Session 3, continued: (Open)—Invited experts will address the status and prospects of predicting durability of grouts; performance assessment perspectives on waste disposal; and practical approaches to make decisions on waste determinations. There will also be a roundtable discussion of Session 3 topics.

11:35 a.m.-4:40 p.m. Session 4: (Open)—Invited experts will address status of technology for environmental monitoring of on-site waste disposal, monitoring of engineered barriers performance, and non-destructive monitoring for cementitious waste forms. There will also be a roundtable discussion of Session 4 topics, as well as topics from other sessions as they relate to the waste determination provisions in the NDAA.

4:40 p.m.-5 p.m.: (Open)—The ACNW Committee members will discuss the main thoughts and findings of the Working Group meeting, and a potential letter/report to the Commission.

Thursday, August 4, 2005

10:15 a.m.-10:20 a.m.: Opening Statement (Open)—The ACNW Chairman will make opening remarks regarding the conduct of today's sessions.

10:20 a.m.-11:30 a.m.: Discussion of Current Letters/Reports (Open)—The Committee will discuss prepared draft letters and reports on April 2005 Center for Nuclear Waste Regulatory Analyses Program Review, NRC Office of Nuclear Regulatory Research Generic Waste-Related Research, and Risk-Informing Nonreactor Activities.

12:45 p.m.-3:45 p.m.: Status of Repository Design Issues (Open)—The

Committee will hear a briefing by the NRC staff on issues related to the design of a geologic repository at Yucca Mountain, Nevada. The general areas to be addressed are: "NRC Staff Views on the Sufficiency of Current U.S. Department of Energy (DOE) Level of Design Detail;" "Recent NRC Staff Visits to Spent Nuclear Fuel Handling Facilities in France (Cogema), and the United States (Idaho and Washington);" and "Status of Development of NRC's Pre-Closure Safety Assessment Tool."

4 p.m.-4:45 p.m.: Past Waste Confidence Decisions (Open)—The Committee will hear a briefing by the NRC staff on waste confidence decisions (findings) made by the Commission prior to 1999.

4:45 p.m.-5:15 p.m.: ACNW Low-Level Waste White Paper: Draft 3 (Open)—The Committee will comment on the third draft of the white paper on low-level waste.

5:15 p.m.-5:30 p.m.: Miscellaneous (Open)—The Committee will discuss matters related to the conduct of ACNW activities, and specific issues that were not completed during previous meetings, as time and availability of information permit. Discussions may include future Committee meetings.

Procedures for the conduct of and participation in ACNW meetings were published in the **Federal Register** on October 18, 2004 (69 FR 61416). 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 Ms. Sharon A. Steele, (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 Ms. Steele 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 Ms. Steele.

ACNW meeting agenda, meeting transcripts, and letter reports are available through the NRC Public Document Room (PDR) at pdr@nrc.gov, or by calling the PDR at 1-800-397-4209, or from the Publicly Available Records System 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).

Video Teleconferencing 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 14, 2005.

Andrew L. Bates,

Advisory Committee Management Officer.

[FR Doc. E5-3857 Filed 7-19-05; 8:45 am]

BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

Advisory Committee on Nuclear Waste; Meeting on Planning and Procedures; Notice of Meeting

The Advisory Committee on Nuclear Waste (ACNW) will hold a Planning and Procedures meeting on August 4, 2005, Room T-2B3, 11545 Rockville Pike, Rockville, Maryland. The entire meeting will be open to public attendance, with the exception of a portion that may be closed pursuant to 5 U.S.C. 552b(c)(2) and (6) to discuss organizational and personnel matters that relate solely to internal personnel rules and practices of ACNW, and information the release of which would constitute a clearly unwarranted invasion of personal privacy.

The agenda for the subject meeting shall be as follows:

Thursday, August 4, 2005—8:30 a.m.—10 a.m.

The Committee will discuss proposed ACNW activities and related matters. The purpose of this meeting is to gather

APPENDIX B: MEETING AGENDA



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

July 13, 2005

AGENDA
162nd ACNW MEETING
August 2-4, 2005

TUESDAY, AUGUST 2, 2005, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH,
ROCKVILLE, MARYLAND

- 1) ^{8:35}~~08:30~~ - 08:40 A.M. Opening Remarks by the ACNW Chairman (Open)(MTR/JTL)
The Chairman will make opening remarks regarding the conduct of today's sessions.

WORKING GROUP MEETING ON WASTE DETERMINATIONS, DAY 1 of 2 (OPEN)

Session 1: Introduction and Background (ACNW Moderator: Allen Croff)

- 2) 08:40 - 08:55 A.M. Introduction to Working Group Meeting and Session 1 (AGC/LH)
The ACNW Moderator will discuss the purpose of the WG meeting and provide an overview of the meeting as well as the purpose and scope of Session 1. Invited experts will also be introduced.

- Jack* 3) ^{9:45} 08:55 - 09:55 A.M. Overview of DOE's Approach to Managing Tank Waste (Ken Pich/DOE/EM)
DOE staff will provide an overview of DOE's current and planned management of tank waste at its four tank sites, including waste handling practices, waste streams likely to require waste determinations and the characteristics of these streams.

^{10:20 - 10:35}
~~09:55~~ - 10:10 A.M. ***BREAK***

- dc* 4) ^{9:45 - 10:20} 10:10 - 11:10 A.M. History and Background on NRC Involvement in Waste Determinations (Ann Bradford/NMSS/NRC)
NRC staff will provide an overview of NRC's involvement in waste determination evaluations, including NRC's experience with waste determinations, a summary of new waste determination provisions in the National Defense Authorization Act of 2005, and anticipated waste determination activities.

- 5) 11:10 - 11:25 A.M. Outline for the Remaining Sessions (AGC/LH)
The ACNW Moderator will discuss outline and structure of the rest of the Working Group Meeting.

Session 2: Waste Retrieval and Processing Technology (ACNW Moderator: Allen Croff)

- 6) 11:25 - 11:30 A.M. **Overview of Session 2**
The ACNW Moderator will provide an overview of the purpose and scope of Session 2.
- 7) ^{10:35 - 10:50} 11:30 - 12:00 P.M. **Status of Fluidic Technology for Retrieving Waste from Tanks (Paul Murray/AEA Technology Engineering Services, Inc.)**
Dr. Murray will address state-of-the-art and research and development (R&D) concerning retrieval techniques using pressurized water.
- 12:00-01:00 P.M. ***LUNCH***
- 8) ^{10:50 - 12:00} 01:00 - 01:30 P.M. **Status of Robotic Technology for Retrieving Waste from Tanks (Barry Burks/TPG Applied Technology)**
Dr. Burks will address state-of-the-art and R&D concerning retrieval techniques using robotic devices.
- 9) ^{1:00 - 1:25} 01:30 - 01:45 P.M. **Perspectives on the Definition of "Highly Radioactive Waste" for the Purposes of NDAA (David Kocher/SENES/ACNW Consultant)**
Dr. Kocher will give a historical perspective on the definition of "highly radioactive waste" both in the regulations as well as in practice.
- 10) ^{1:25 - 2:05} 01:45 - 02:30 P.M. **Status of Technology for Removing Common Target Radionuclides from Waste (Ken Gasper/DOE DRP, Retired)**
Dr. Gasper will discuss radionuclides commonly targeted for removal from the waste tanks.
- 11) ^{2:05 - 2:30} 02:30 - 03:00 P.M. **Status of Technology for Characterizing Tank Heels (John Plodinec/Diagnostic Instrumentation and Analysis Laboratory)**
Dr. Plodinec will discuss the technology for determining the amount, composition, and distribution of tank heels.
- 03:00 - 03:15 P.M. ***BREAK***
- 12) ^{2:30 - 3:25} 03:15 - 04:15 P.M. **Roundtable Discussion (All)**
This part of the meeting will involve a roundtable discussion pertaining to Session 2 topics.

Session 3: Waste Disposal & Performance Assessment (ACNW Moderator: Allen Croff)

- 13) ^{3:45 - 3:50} 04:15 - 04:20 P.M. **Overview of Session 3**
The ACNW Moderator will provide an overview of the purpose and scope of Session 3.
- 14) ^{3:50 - 4:30} 04:20 - 05:00 P.M. **Status of Technology for Using Cementitious Materials to Stabilize Wastes (Las Dole/Oak Ridge National Lab)**
Dr. Dole will discuss the use of grouts for tank closure and low-activity waste (LAW), including experience in long-term durability of grouts, and effects of waste materials on durability of grouts.
- ^{4:30} ~~05:00~~ P.M. **Adjourn Day 1, Working Group Meeting**

WEDNESDAY, AUGUST 3, 2005. CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 15) 08:30 - 08:35 A.M. **Opening Remarks by the ACNW Chairman** (Open)(MTR/JTL)
The Chairman will make opening remarks regarding the conduct of today's sessions.

WORKING GROUP MEETING ON WASTE DETERMINATIONS, DAY 2 of 2 (OPEN)

Session 3: Waste Disposal & Performance Assessment (ACNW Moderator: Allen Croff) [continued from previous day]

- 16) ^{9:25} 08:35 - ~~09:05~~ A.M. **Status of Technology for Predicting the Durability of Cementitious Materials (Ed Garboczi/NIST)**
Dr. Garboczi will address the status and prospects of predicting durability of grouts.
- 17) ^{9:25 10:10} 09:05 - 09:50 A.M. **Performance Assessment Perspectives for Onsite Waste (David Kocher/GENES/ACNW Consultant)**
Mr. Kocher will discuss key features of a performance assessment as they relate to onsite disposal of LAW and filled tanks.
- ^{10:10 - 10:25} **09:50 - 10:05 A.M. ***BREAK*****
- 18) ^{10:25 - 11:05} 10:05 - 10:35 A.M. **Decisionmaking Considerations in Waste Determinations (Anne Smith/Charles River Associates International)**
Dr. Smith will address factors and practical approaches to make decisions with regard to waste determinations, including removal of radionuclides to the maximum extent practical and meeting the as low as reasonably achievable (ALARA) requirement.

- 19) ^{11:05} ~~10:35~~ - 11:35 A.M. **Roundtable Discussion of Disposal Methods and Performance Assessment (All)**

This part of the meeting will involve a roundtable discussion pertaining to Session 3 topics.

Session 4: Monitoring Onsite Waste Disposal (ACNW Moderator: Allen Croff)

- 20) ^{11:50} ~~11:35~~ - 11:40 A.M. **Overview of Session 4**
The ACNW Moderator will provide an overview of the purpose and scope of Session 4.

- 21) ^{12:45} ~~12:40~~ - 12:25 P.M. **Status of Technology for Environmental Monitoring of Onsite Waste Disposal (TBD)**
This presentation will address environmental monitoring issues including establishing the baseline, and detection and compliance monitoring of groundwater and air as it relates to waste disposed on site.

^{11:40} ~~12:25~~ - ~~01:25~~ P.M. *****LUNCH*****

- 22) ^{1:00} ~~01:25~~ - ~~02:10~~ P.M. **Status of Engineered Barrier Design and Monitoring Technology for Onsite Waste Disposal (Craig Benson/ University of Wisconsin)**

Dr. Benson will discuss the technology status of caps and subsurface barrier walls, including durability issues, and the monitoring of cap performance.

- 23) ^{2:30} ~~02:00~~ - ~~02:55~~ P.M. **Status of Non-Destructive Monitoring Technology for Massive Near-Surface Cementitious Waste Forms (Randy Poston/WDP & Associates)**

Dr. Poston will discuss the status of technology for non-destructive monitoring of massive grout waste forms such as the tank fill and grouted LAW.

^{2:15} ~~02:00~~ - ~~02:10~~ P.M. *****BREAK*****

- 24) ^{3:05} ~~03:10~~ - ~~04:40~~ P.M. **Roundtable Discussion of Onsite Waste Disposal Monitoring**
This part of the meeting will involve a roundtable discussion of Session 4 topics plus topics from other sessions as they relate to the waste determination provisions in SEC. 3116 of the NDAA.

- 25) ~~04:40~~ - ~~05:00~~ P.M. **ACNW Discussion of WG Meeting Findings**
The ACNW members will discuss the main thoughts and findings of the Working Group meeting, and a potential letter/report to the Commission.

^{4:30} ~~05:00~~ P.M. **Adjourn Working Group Meeting**

^{3:05} - ^{4:05}
Thomas Anderson + Robert Thompson
in other - invited guests

THURSDAY, AUGUST 4, 2005, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

26) ^{10:20} ~~10:15~~ - ^{11:40 AM} ~~11:30~~ A.M.

See attached agenda ->

Discussion of Current Letters/Reports (Open) (All)

The Committee will discuss prepared draft letters and reports:

- 1) April 2005 Center for Nuclear Waste Regulatory Analyses Program Review (RFW/RPS)
- 2) NRC Office of Nuclear Regulatory Research Generic Waste-Related Research (RFW/RPS)
- 3) Risk-Informing Nonreactor Activities (JHC/JHF)

^{11:40}
~~11:30~~ - 12:45 P.M.

*****LUNCH*****

27) ^{12:45} ~~12:45~~ - ~~3:45~~ P.M.

JHC

Status of Repository Design Issues (Open) (WJH/MPL)

NRC Staff will brief the Committee on issues related to the design of a geologic repository at Yucca Mountain, Nevada. The general areas to be addressed are: "NRC Staff Views on the Sufficiency of Current U.S. Department of Energy (DOE) Level of Design Detail;" "Recent NRC Staff Visits to Spent Nuclear Fuel Handling Facilities in France (Cogema), and the United States (Idaho and Washington)," and "Status of Development of NRC's Pre-Closure Safety Assessment Tool."

^{2:30-2:45}
~~03:45~~ - 04:00 P.M.

*****BREAK*****

28) ~~04:00~~ - ~~04:45~~ P.M.

del page

Past Waste Confidence Decisions (Open) (JHC/MPL)

NRC staff will brief the Committee on waste confidence decisions (findings) made by the Commission prior to 1999.

29) ~~04:45~~ - ~~05:15~~ P.M.

2:45 - 3:45

ACNW Low-Level Waste White Paper: Draft 3 (Open) (MTR/SAS)

The Committee will comment on the third draft of the white paper on low-level waste.

30) ~~05:15~~ - ~~05:30~~ P.M.

3:45 - 5:00

Miscellaneous (Open)

The Committee will discuss matters related to the conduct of ACNW activities and specific issues that were not completed during previous meetings, as time and availability of information permit. Discussions may include future Committee meetings.

~~05:30 P.M.~~ **ADJOURN**

3:50

NOTES:

- 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.
- **Fifty (50) hard copies and one (1) electronic copy 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 significant inconvenience or hardship, be sure to verify the schedule with Ms. Sharon Steele at 301-415-6805 between 8:00 a.m. and 4:00 p.m. prior to the meeting.

APPENDIX C: MEETING ATTENDEES

**162ND ACNW MEETING
AUGUST 2-4, 2005**

ACNW MEMBERS

Michael Ryan, Chairman
Allen Croff, Vice Chairman
James Clarke
William Hinze
Ruth Weiner

ACNW CONSULTANT

David Kocher

ACNW STAFF

John Larkins
Ashok Thadani
Neil Coleman
Jessie Delgado
John Flack
Latif Hamdan
Michael Lee
Richard Major
Richard Savio
Sharon Steele

ATTENDEES FROM THE NUCLEAR REGULATORY COMMISSION

AUGUST 2, 2005

P. Reed	RES
N. Jensen	OGC
D. Esh	NMSS
M. O'Shaughnessy	NMSS
C. Glenn	NMSS
E. O'Donnell	RES
R. Codell	NMSS
A. Blanco	OIG
C. Barr	NMSS
C. Brown	NMSS
M. Tokar	NMSS
T. Nicholson	RES
J. Philip	RES
H. Arlt	NMSS
J. Randall	RES

AUGUST 3, 2005

H. Arlt	NMSS
D. Brooks	NMSS
R. Johnson	NMSS
D. Esh	NMSS
P. Reed	NMSS
J. Philip	RES
T. Nicholson	RES

**APPENDIX C
162ND ACNW MEETING
AUGUST 2-4, 2005**

ATTENDEES FROM THE NUCLEAR REGULATORY COMMISSION (CONT'D)

AUGUST 4, 2005

C. Lui	RES
R. L. Johnson	NMSS
A. Fetter	NMSS
K. Campe	NRR
T. Kobetz	NMSS
M. Waters	NMSS
T. Ahn	NMSS
C. Ryder	NMSS
J. Rubenstone	NMSS
J. Borowitz	NMSS
A. Campbell	NMSS
R. K. Johnson	NMSS
B. Leslie	NMSS
M. Bailey	NMSS
M. Nataraja	NMSS
A. Csontos	NMSS

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

AUGUST 2, 2005

K. Rosenberger	Westinghouse Savannah River Co.
W. Ellis	U.S. Army Corps of Engineers, ERDC
E. Regnuc	U.S. Department of Energy (DOE)
B. Finch	DOE
J. Cook	Public
J. Lieberman	DOE Consultant
S. Ross	DOE/Savannah River
E. von Tiesenhausen	CCCP
V. Price	Advanced Environmental Solutions
R. Hodges	Advanced Environmental Solutions
R. Quintero	DOE
C. Gerwitz	New York State Energy Research and Development Authority (NYSERDA)
T. Sonntag	NYSERDA
B. Hewitt	YAHSGS LLC
H. Brodie	NYSERDA

**APPENDIX C
162ND ACNW MEETING
AUGUST 2-4, 2005**

C. Benson
J. Lieberman
B. Eid
W. Hodo
M. Nartker
G. Jettis
J. Russell

University of Wisconsin
DOE
NRC
U.S. Army Corps of Engineers, ERDC
Weapons Complex Monitor
NRDC
CNWRA

AUGUST 3, 2005

H. Brodie
T. Sonntag
C. Gerwitz
J. Cook
K. Rosenberger
K. Snyder

NYSERDA
NYSERDA
NYSERDA
Public
Westinghouse Savannah River Co.
National Institute of Standards &
Technology
CNWRA
CCCP

J. Russell
E. von Tiesenhausen

AUGUST 4, 2005

E. von Tiesenhausen
R. Beake
N. Henderson
J. York
J. Shaffner
J. Pye
B. Finch
S. Stinglinski
E. Werner

CCCP
CNWRA
Bechtel-SAIC Co.
Bechtel-SAIC Co.
MTS
NWTRB
DOE
Las Vegas Sun
Associated Press

CNWRA via Video teleconference

A. Chowdhury
A. Ghosh
S. Hsiung
G. Ofoegbu
G. Adams
B. Dasgnpti
S. Mohanty
R. Janetzke

APPENDIX D: FUTURE AGENDA

The Committee approved the following topics for discussion during its 163rd meeting, scheduled for September 20–22, 2005:

- DOE Overview on Status of Yucca Mountain Project
- 2005 Update to the DOE Performance Confirmation Program Plan
- NRC Project Plan for the Yucca Mountain License Application Review
- ACNW Low-Level Radioactive Waste White Paper Status Report
- ACNW Subcommittee Report on DOE Probabilistic Volcanic Hazards Analysis (PVHA) Workshop No. 2
- 1995 National Academy of Sciences Recommendations for Yucca Mountain Standards and the 2004 Court Remand
- Evolution of Climate in the Yucca Mountain Region Over the Next Million Years
- An Approach to the Modeling of Magma/Repository Interactions
- ACNW Summer Intern Project: Modeling a Volcanic Ash Plume
- ACNW Subcommittee Report on August 2005 Savannah River and Barnwell LLW Disposal Site Visits
- ACNW Public Outreach Meeting
- ACNW Retreat (partially closed)
- Preparation of ACNW Reports

**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

Working Group on Waste Determinations

- | | |
|-----------|---|
| 3 | A. Overview of DOE's Approach to Managing Tank Waste

1. Department of Energy Tank Wastes, presented by Ken Picha, DOE [Viewgraphs] |
| 4 | B. History and Background on NRC Involvement in Waste Determinations

2. NRC Involvement in Waste Determinations, presented by Anna Bradford, NMSS [Viewgraphs] |
| 7 | C. Status of Fluidic Technology for Retrieving Waste From Tanks

3. Status of Fluidic Technology for Retrieving Waste From Tanks, presented by Paul Murray, AEA Technology [Viewgraphs] |
| 8 | D. Status of Robotic Technology for Retrieving Waste From Tanks

4. Tank Waste Retrieval Using Remotely Operated Systems, presented by Barry Burks, TPC Applied Technology [Viewgraphs] |
| 9 | E. Perspectives on the Definition of "Highly Radioactive" Waste for the Purposes of NDAA

5. Perspective on Definition of "Highly Radioactive" Waste, presented by David Kocher, SENES Oak Ridge, Inc. [Viewgraphs] |
| 10 | F. Status of Technology for Removing Common Target Radionuclides from Waste

6. Status of Technology for Removing Common Target Radionuclides from Waste, presented by Kenneth Gasper, DOE ORP, Retired [Viewgraphs] |

**APPENDIX E
162ND ACNW MEETING
AUGUST 2-4, 2005**

MEETING HANDOUTS (CONT'D)

<u>AGENDA ITEM NO.</u>	<u>DOCUMENTS</u>
11	<p>G. Status of Technology for Characterizing Tank Heels</p> <p>7. Determination of Volume and Composition of Residual Tank Wastes, presented by M. John Plodinec, Diagnostic Instrumentation and Analysis Laboratory at Mississippi State University [Viewgraphs]</p>
14	<p>H. Status of Technology for Using Cementitious Materials to Stabilize Wastes</p> <p>8. Status of Technology for Using Cementitious Materials to Stabilize Wastes, presented by Les Dole, Oak Ridge National Laboratory [Viewgraphs]</p>
16	<p>I. Status of Technology for Predicting the Durability of Cementitious Materials</p> <p>9. Status of Technology for Predicting the Durability of Cementitious Materials, presented by Edward Garboczi, National Institute of Standards and Technology</p>
17	<p>J. Performance Assessment Perspectives for Onsite Waste</p> <p>10. Performance Assessment Issues for Near-Surface Disposal of Low-Level Radioactive Waste, presented by David Kocher, SENES Oak Ridge, Inc. [Viewgraphs]</p>
18	<p>K. Decisionmaking Considerations in Waste Determinations</p> <p>11. Decisionmaking Considerations in Waste Determinations, presented by Anne Smith, Charles River Associate International [Viewgraphs]</p>
21	<p>L. Status of Technology for Environmental Monitoring on Onsite Waste Disposal</p> <p>12. Status of Technology for Environmental Monitoring, presented by Vernon Ichimura, Chem-Nuclear Systems, LLC [Viewgraphs]</p>

**APPENDIX E
161ST ACNW MEETING
JULY 19-21, 2005**

MEETING HANDOUTS (CONT'D)

<u>AGENDA ITEM NO.</u>	<u>DOCUMENTS</u>
22	M. Status of Engineered Barrier Design and Monitoring Technology for Onsite Waste Disposal 13. Status and Monitoring Issues for Caps and Subsurface Barrier Walls, presented by Craig Benson, University of Wisconsin-Madison [Viewgraphs]
23	N. Status of Non-Destructive Monitoring Technology for Massive Near-Surface Cementitious Waste Forms 14. An Overview of Non-Destructive Testing and Monitoring Technology for Existing Concrete Structures, presented by Randall Poston, WDP & Associates, Inc. [Viewgraphs]
27	<u>Status of Repository Design Issues</u> 15. Status of Yucca Mountain Preclosure Review Preparations, presented by Tim Kobetz, Mike Waters, Mahendra Shah, NMSS [Viewgraphs]

MEETING NOTEBOOK CONTENTS

**TAB
NUMBER**

DOCUMENTS

Agenda, 162nd ACNW Meeting, August 2–4, 2005, dated July 13, 2005

Introductory Statement by ACNW Chairman, Tuesday, August 2, 2005, undated

Introductory Statement by ACNW Chairman, Wednesday, August 3, 2005, undated

Introductory Statement by ACNW Chairman, Thursday, August 4, 2005, undated

Color Code–ACNW Meeting, dated August 3, 2005

1 Working Group Waste Determination

1. Schedule
2. Status Report
3. Roster of Non-NRC/DOE Speakers for WIR WG Meeting, dated July 7, 2005
4. Consolidated List of Questions for the WIR WG - Questions Developed Through Meetings With the NMSS Staff

5. Section 3116 of the Defense Authorization Act (DAA) containing the new criteria for an acceptable waste determination
6. NRC Low-Level Waste Regulations in 10 CFR Part 61 containing the performance objectives that are specifically mentioned in the DAA
7. Review of U.S. High-Level Waste Processing, viewgraphs by Allen G. Croff, ACNW Vice Chairman, May 16, 2005
8. NMSS Staff Commission Paper, SECY-05-0073 with Attachments, dated April 28 2005, pertaining proposed plan for implementing new NRC responsibilities under the DAA in reviewing waste determinations by DOE
9. Memorandum dated June 30, 2005, to Luis A. Reyes, EDO, and Karen D. Cyr, General Counsel, from Annette L. Vietti-Cook, Secretary, NRC, Subject: Staff Requirements - SECY-05-0073 - Implementation of New USNRC Responsibilities Under the National Defense Authorization Act of 2005 in Reviewing Waste Determinations for the USDOE

MEETING NOTEBOOK CONTENTS (CONT'D)

AGENDA
ITEM NO.

DOCUMENTS

27

Status of Repository Design Issues

10. Status Report
11. Final Summary of the U.S. Department of Energy/U.S. Nuclear Regulatory Commission, Technical Exchange on the Design of the Surface and Subsurface Facilities at Yucca Mountain, Nevada, September 14-15, 2004, Las Vegas Nevada
12. Proposed Preclosure Interactions, presented to NRC/DOE Technical Exchange on Preclosure Interactions and Aircraft Hazards, presented by April C. Gill, DOE, dated June 1, 2005
13. Status of the Geologic Repository Design: Minutes from ACNW 159th Meeting

28

Past Waste Confidence Decisions

14. Status Report
15. NRC Regulations, 10 CFR Part 51, Waste Confidence Decision Review: Status
16. Letter, dated February 28, 2005, to The Honorable Nils Diaz, Chairman, NRC, from Robert R. Loux, Executive Director, Nevada Agency for Nuclear Projects, regarding State of Nevada Petition for Rulemaking to Amend the Commission's Waste Confidence Decision and Rule to Avoid Prejudging Yucca Mountain