



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON NUCLEAR WASTE
WASHINGTON, DC 20555 - 0001

June 30, 2006

AGENDA
172nd ACNW MEETING
JULY 17-20, 2006

**MONDAY, JULY 17, 2006, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH,
ROCKVILLE, MARYLAND**

1) 8:30 - 8:35 A.M. **Opening Remarks by the ACNW Chairman** (Open) (MTR/AFD)
The ACNW Chairman, Dr. Michael Ryan, will make opening remarks regarding the conduct of today's sessions.

2) 8:35 - 9:30 A.M. **U.S. Department of Energy (DOE) Briefing on Exploratory Drilling of Aeromagnetic Anomalies in the Yucca Mountain Region** (Open) (WJH/NMC)
A DOE representative will present an evaluation of the results of this drilling which has been done in support of the ongoing update of the 1996 expert elicitation on Probabilistic Volcanic Hazard Analysis.

9:30 - 9:45 A.M. *BREAK*****

3) 9:45 - 11:45 A.M. **NRC Staff Review of Revised International Commission on Radiological Protection (ICRP) Recommendations** (Open) (MTR/NMC)
Briefing by and discussions with NRC staff representatives regarding their review of the June 5, 2006, ICRP report titled "Draft Recommendations of the International Commission on Radiological Protection." There may be a 15 minute break at some point during this presentation.

11:45 - 1:00 P.M. *LUNCH*****

4) 2:00 - 3:00 P.M. **Exchange of Information between NMSS Management and ACNW Members** (Open) (MTR/MRS)
NMSS management will brief the Committee about the upcoming office reorganization. ACNW staff will brief NMSS management about the revised action plan and how it reflects recent Staff Requirements Memoranda (SRMs).

5) 3:00 - 5:00 P.M. **Discussion of Draft ACNW Letter Reports** (Open) (All)
Discussion of proposed ACNW reports on the following:
5.1) Observations from the ACNW Low-Level Waste Working Group Meeting of May 23-24, 2006 (MTR/MPL)
5.2) Review of Revised ICRP Recommendations (MTR/NMC)

5:00 P.M. Adjourn

TUESDAY, JULY 18, 2006, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

ACNW WORKING GROUP MEETING (WGM) ON PREDICTING THE PERFORMANCE OF CEMENTITIOUS BARRIERS FOR NEAR SURFACE DISPOSAL (OPEN)

- 6) 8:30 - 8:45 A.M. **Opening Remarks and Introductions (MTR/AGC/LSH)**
The ACNW Chairman, Dr. Michael Ryan, will make opening remarks regarding the conduct of today's sessions. ACNW Vice Chairman Allen Croff will provide an overview of the WGM, including the meeting purpose and scope, and introduce invited subject matter experts.

SESSION I: WHERE ARE CEMENTITIOUS MATERIALS USED AND HOW ARE THEY IMPORTANT TO PERFORMANCE ASSESSMENT?

- 7) 8:45 - 9:15 A.M. **Use of Cementitious Materials to Dispose of Wastes Determined to be Non-HLW (Dr. Christine A. Langton Savannah River National Lab, SRNL)**
Dr. Langton will discuss cementitious waste forms and cement types and environments.
- 8) 9:15 - 9:45 A.M. **What Functions do Cementitious Materials Perform that are Important to Assessing System Performance (i.e., What do we Want Grouts to do?) (Professor David Kosson, Vanderbilt University)**
Professor Kosson will discuss the functions of cementitious materials; e.g., control water infiltration, control Eh of infiltrating water, and prevent subsidence.
- 9) 9:45 - 10:15 A.M. **Panel Discussion (All)**
Vice Chairman Croff will moderate a panel discussion of Session I topics by the Committee members and invited subject matter experts.

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

SESSION II: HOW CAN GROUTS FAIL AND WHAT CAN CAUSE GROUT FAILURE?

- 10) 10:30 - 11:15 A.M. **Failure Processes and Mechanisms (Dr. Rachel Detwiler, Braun Intertec Corporation)**
Dr. Detwiler will discuss failure processes and mechanisms of cementitious materials.
- 11) 11:15 - 12:00 P.M. **Causes of Failure of Cementitious Materials (Professor Barry Sheetz, Pennsylvania State University)**
Professor Sheetz will discuss specific causes that are important to failure of cementitious materials

- 12) 12:00 - 12:30 P.M. **Panel Discussion (All)**
Vice Chairman Croff will moderate a panel discussion of Session II topics by the Committee members and invited subject matter experts.

12:30 - 1:15 P.M. *LUNCH******

SESSION III: STATE-OF-THE-ART IN LONG-TERM PREDICTION OF CEMENTITIOUS MATERIAL PERFORMANCE

- 13) 1:15 - 2:15 P.M. **Current Capability to Predict the Conditions and Processes Important to Cement Failure (Professor Fred Glasser, Aberdeen University, UK)**
Professor Glasser will discuss current capability to predict the conditions and processes important to cement failure, and the affect of failures on cement performance, based on modern experience, experiment, and observation.
- 14) 2:15 - 2:45 P.M. **Current Capability to Predict the Conditions and Processes Important to Cement Failure (Dr. Leslie Dole, Oak Ridge National Lab, ORNL)**
Dr. Dole will discuss current capability to predict the conditions and processes important to cement failure, and the affect of failures on cement performance, based on archeological evidence obtained from ancient cementitious materials and natural analogues.

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

- 15) 3:00 - 4:00 P.M. **Current Capability to Predict the Conditions and Processes Important to Cement Failure (Dr. Ed Garboczi, National Institute of Standards and Technology, NIST)**
Dr. Garboczi will discuss current capability to predict the conditions and processes important to cement failure, and the affect of failures on cement performance, based on computation.
- 16) 4:00 - 4:30 P.M. **Panel Discussion (All)**
Vice Chairman Croff will moderate a panel discussion of Session III topics by the Committee members and invited subject matter experts.

SESSION IV: WRAP-UP

- 17) 4:30 - 5:00 P.M. **Comprehensive Roundtable Discussion (All)**
Vice Chairman Croff will moderate a comprehensive roundtable discussion of the WGM topics by the Committee members and invited subject matter experts.

- 18) 5:00 - 5:30 P.M. **Path Forward (Committee Members and ACNW Staff)**
Vice Chairman Croff will moderate a discussion of the path forward on cementitious materials by the Committee members and ACNW staff.

5:30 P.M. Adjourn

WEDNESDAY, JULY 19, 2006, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 19) 8:30 - 8:35 A.M. **Opening Remarks by the ACNW Chairman** (Open) (MTR/JTL)
The Chairman will make opening remarks regarding the conduct of today's sessions.
- 20) 8:35 - 10:00 A.M. **NRC Draft Rule/Guidance on Preventing Legacy Sites** (Open) (JHC/DAW)
NMSS staff will present preliminary plans for development of requirements and guidance for the scheduled rulemaking on prevention of legacy sites.

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

- 21) 10:15 - 12:15 P.M. **Expanded Potential NRC Use of the Center for Nuclear Waste Regulatory Analysis (CNWRA) Expertise** (Closed) (RFW/RPS)
The Committee will meet with representatives of the Offices of Nuclear Material Safety and Safeguards (NMSS), Nuclear Regulatory Research (RES), and Nuclear Reactor Regulation (NRR) and discuss these Offices' assessments of potential expanded use of the CNWRA expertise.

NOTE: This portion of the meeting will be closed pursuant 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 the Agency, and information the release of which would constitute a clearly unwarranted invasion of personal privacy.

12:15 - 1:00 P.M. *LUNCH*****

- 22) 1:00 - 5:30 P.M. **Discussion of Potential ACNW Letter Reports** (Open) (All)
Discussion of possible ACNW reports on the following:
- 22.1) Review of Revised ICRP Recommendations (MTR/NMC)
 - 22.2) Draft Standard Review Plan for Waste Determinations (AGC/LSH)
 - 22.3) DOE Evaluation of Results from Exploratory Drilling of Aeromagnetic Anomalies in the Yucca Mountain Region (WJH/NMC)
 - 22.4) Predicting the Performance of Cementitious Barriers (AGC/LSH)
 - 22.5) Draft Rule/Guidance on Preventing Legacy Sites (JHC/DAW)

- 22.6) NMSS/RES/NRR Briefing on expanded NRC Use of the CNWRA (RFW/RPS)
 22.7) DOE Briefing on Advanced Fuel Cycle Initiative (AGC/JHF)
 22.8) Dry Cask Storage PRA (RFW/AFD)

5:30 P.M. Adjourn

THURSDAY, JULY 20, 2006, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 23) 8:00 - 8:05 A.M. **Opening Remarks by the ACNW Chairman** (Open) (MTR/JHF)
 The Chairman will make opening remarks regarding the conduct of today's sessions.

- 24) 8:05 - 10:15 A.M. **U.S. Department of Energy (DOE) Briefing on Advanced Fuel Cycle Initiative (AFCI)** (Open) (AGC/JHF)
 DOE representatives and supporting national laboratories will brief the Committee on AFCI processes and technologies. DOE's AFCI mission is to develop proliferation-resistant spent fuel treatment and transmutation technologies to enable transition from once-through fuel cycle to a closed fuel cycle.

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

- 25) 10:30 - 12:30 P.M. **Standard Review Plan for Activities Related to U.S. Department of Energy Waste Determinations** (Open) (AGC/LSH)
 NMSS staff will address specific topics, comments, and questions identified by the Committee in their review of the draft "Standard Review Plan for Activities Related to U.S. Department of Energy Waste Determinations" (NUREG-1854).

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

- 26) 1:30 - 3:00 P.M. **RES/NMSS Dry Cask Storage Probabilistic Risk Assessment (PRA) Study** (Open) (RFW/AFD)
 RES and NMSS representatives will present their draft final report, "A Pilot Probabilistic Risk Assessment of a Dry Cask Storage System at a Nuclear Plant," as well as address its future applicability not only for other storage systems but as guidance for assessing risk to the public and identifying dominant contributors to risk.

3:00 - 3:15 P.M. *BREAK*****

- 27) 3:15 - 4:45 P.M. **Electric Power Research Institute (EPRI) Dry Cask Storage Probabilistic Risk Assessment Study** (Open) (RFW/AFD)
 An EPRI representative will address the Committee with the methodology, results, conclusions and proposed applicability of their study: EPRI Report #1009691, "Probabilistic Risk Assessment (PRA) of Bolted Storage Casks."

- 28) 4:45 - 5:30 P.M. **Discussion of Potential ACNW Letter Reports** (Open) (All)
Continued discussion of proposed ACNW reports listed under Item 22.
- 29) 5:30 - 6:00 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.
- 6:00 P.M. Adjourn**
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NOTES:

- Presentation time should not exceed 50 percent of the total time allocated 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 in advance of the briefing.**
- 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 Mr. Antonio F. Dias at 301-415-6805 between 8:00 a.m. and 5:00 p.m. prior to the meeting.