



UNITED STATES
NUCLEAR WASTE TECHNICAL REVIEW BOARD
2300 Clarendon Boulevard, Suite 1300
Arlington, VA 22201

AGENDA

Board Meeting

Renaissance Las Vegas Hotel
3400 Paradise Road
Las Vegas, Nevada 89109
702-733-6533
(fax) 702-735-3130

NOVEMBER 8, 2005

- 8:00 am **Opening Remarks**
B. John Garrick, Chairman, Nuclear Waste Technical Review Board
- 8:30 am **Conservatism, Non-conservatism, and Uncertainty in Dose Calculations – Risk Informed Dose Calculations**
Michael Ryan, Editor-in-Chief, *Health Physics Journal* Adjunct Professor, Medical University of South Carolina
- 8:55 am *Questions*
- 9:10 am **EPA’s Proposed Environmental Standard for Yucca Mountain**
Betsy Forinash, Director, Yucca Mountain Program, EPA
- 9:30 am *Questions*
- 9:45 am **The Proposed EPA Yucca Mountain Radiation Standard—Nevada’s Views**
[Victor Gilinsky](#), Consultant to the State of Nevada
- 10:05 am *Questions*
- 10:20 am **BREAK**
- 10:35 am **OCRWM Program and Project Overviews**
John Arthur, DOE
- 11:20 am *Questions*

11:50 am **LUNCH**

1:00 pm **Science Update**
[Mark Peters](#), Argonne National Laboratory

1:55 pm *Questions*

2:30 pm **Drip Shield Design, Installation, and Degradation**
[Michael J. Anderson](#), BSC
[Gerald M. Gordon](#), Framatome
[Mark Board](#), ITASCA Consulting

1. *The drip shield will be constructed from titanium grade 7 (shell), titanium grade 24 or 29 (struts and bulkheads), and alloy 22 (feet). What data are there under Yucca Mountain-relevant conditions for the generalized corrosion, localized corrosion, stress corrosion cracking, and hydrogen embrittlement of the titanium materials and galvanic corrosion at or near the titanium/alloy 22 interface?*
2. *Under what circumstances or combination of events can low-temperature creep of the drip shield's titanium alloys be a problem?*
3. *What data and/or prototypes for the drip shields and their emplacement devices are planned to be available in 2006? 2007? 2008?*

3:15 pm *Questions*

3:45 pm **BREAK**

4:00 pm **Localized Corrosion of the Waste Package**
[Charles R. Bryan](#), Sandia
[Gabriel Ilevbare](#), Integrated Science Solutions, Inc.

1. *In a letter to the Board dated January 26, 2005, Dr. Margaret Chu indicated that there is potential for NaCl-NaNO₃-KNO₃ deliquescent brines to boil at maximum temperatures on the order of 200C. Do experimental results confirm the possible existence of such brines? If so, what high-temperature corrosion data are available in these brines? Are there data showing that nitrate ion provides protection against localized corrosion at temperatures up to 200C?*
2. *The current model for localized corrosion of alloy 22 seems to indicate that nitrate will have a protective effect even when nitrate concentrations are vanishingly low. Please explain how this is physically possible.*

4:40 pm *Questions*

5:15 pm **PUBLIC COMMENTS**

5:50 pm **ADJOURN**

NOVEMBER 9, 2005

8:00 am **Opening Remarks**
B. John Garrick

8:10 am **Total System Model**
Christopher Kouts, DOE

1. *What are the key data and assumptions in TSM (e.g., processing time for preparing and unloading casks at Yucca Mountain)? What are the sources of these data and assumptions? How realistic are these likely to be?*
2. *What are the key conclusions from the scenarios analyzed to date?*
3. *Are there any obvious constraints or “choke points” in the waste management system? If so, how does the program intend to mitigate or resolve these problems?*
4. *What aspects of thermal management are incorporated into the TSM? How much of an influence does the project’s thermal management strategy affect the performance of the waste management system?*
5. *To what extent have the conclusions from TSM studies influenced design of the system?*

8:50 am *Questions*

9:25 am **BREAK**

9:40 am **Conservatism in Performance Assessment**
Abe Van Luik, DOE
Robert Andrews, BSC

1. *What does the DOE consider to be an appropriate level of realism/conservatism in the TSPA? What is the basis for this approach? To what extent is it determined by EPA/NRC regulations or guidelines? If so, what are the regulations or guidelines?*
2. *Which assumptions (models and data) are the most conservative, i.e., are the farthest removed from realistic assumptions? Why were they used? Which assumptions have the most potential for skewing the TSPA results to the larger dose rates or earlier times? Why were they used?*
3. *Which assumptions (models and data) are the least conservative? Why were they used? Which assumptions have the most potential for skewing the TSPA results to the smaller dose rates or later times? Why were they used? Specifically address the following possible non-conservatisms: coupled processes, colloidal transport of radionuclides, localized corrosion rates, seepage water composition.*
4. *If a decision were made to improve the realism in the DOE’s TSPA, in what areas would additional data need to be obtained? Approximately how long would it take to produce a validated and qualified assessment?*
5. *To what extent does the use of conservatism or non-conservatism aid or impair an in-depth understanding of how the repository system and its parts function to isolate waste?*

10:55 am *Questions*

11:30 am **State of Nevada—Review of Tunnel Stability Issues**
[Frank Kendorski](#), Consultant to the State of Nevada, Agapito

11:50 am *Questions*

12:05 pm **PUBLIC COMMENTS**

12:35 pm **ADJOURN**