

cc: R. Loux, State of Nevada
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G. Dials, M&O
J. Bailey, M&O
D. Wilkins, M&O
M. Voegele, M&O
S. Echols, Winston & Strawn
B. Price, Nevada Legislative Committee
J. Meder, Nevada Legislative Counsel Bureau
D. Bechtel, Clark County, NV
E. von Tiesenhausen, Clark County, NV
A. Kalt, Churchill County, NV
H. Ealey, Esmeralda County, NV
L. Fiorenzi, Eureka County, NV
A. Remus, Inyo County, CA
B. Duke, Lander County, NV
J. Pitts, Lincoln County, NV
J. Wallis, Mineral County, NV
L. Bradshaw, Nye County, NV
M. Murphy, Nye County, NV
J. McKnight, Nye County, NV
B. Ott, White Pine County, NV
D. Weigel, GAO
W. Barnard, NWTRB
R. Holden, NCAI
C. Williams, NIEC
R. Arnold, Pahrump County, NV
J. Lyznicky, AMA
R. Clark, EPA
F. Marcinowski, EPA
R. Anderson, NEI
R. McCullum, NEI
S. Kraft, NEI
J. Kessler, EPRI
R. Wallace, USGS
R. Craig, USGS
W. Booth, Engineering Svcs, LTD
J. Curtiss, Winston & Strawn

October 10, 2000

MEMORANDUM TO: Janet R. Schlueter, Acting Chief

High-Level Waste Branch
 Division of Waste Management
 Office of Nuclear Material Safety and Safeguards

FROM: Manny Comar, Project Manager /RA/
 Projects and Engineering Section
 High-Level Waste Branch
 Division of Waste Management
 Office of Nuclear Material Safety and Safeguards

SUBJECT: FORTHCOMING U.S. NUCLEAR REGULATORY COMMISSION
 AND U.S. DEPARTMENT OF ENERGY TECHNICAL
 EXCHANGE AND MANAGEMENT MEETING ON CRITICALITY
 (CLST SUBISSUE 5, ENFE SUBISSUE 5, AND RT SUBISSUE 4)

DATE/TIME of MEETING: October 23 - 25, 2000
 8:00 am - 5:45 pm (PDT)

LOCATION: Building 9
 9960 Covington Cross Drive (M&O complex in Summerlin)
 Las Vegas, NV 89134

PURPOSE: Discuss resolution of open issues related to Criticality in the CLST
 (Subissue 5), ENFE (Subissue 5), and RT (Subissue 4) Key
 Technical Issues

AGENDA: Attached

PARTICIPANTS: NRC DOE Nevada NV Counties
 KStablein PRussell SFrishman DBechtel
 MRahimi TGunter et. al. et. al.
 et. al. DWilliams
 CHanlon
 et. al.

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**TENTATIVE AGENDA
DOE/NRC TECHNICAL EXCHANGE AND MANAGEMENT
ON CRITICALITY (CLST SUBISSUE 5, ENFE SUBISSUE 5, AND RT SUBISSUE 4)
BUILDING 9
9960 COVINGTON CROSS DRIVE
LAS VEGAS, NEVADA**

**OCTOBER 23 - 25, 2000
8:00 - 5:45 P.M. (PDT)**

*INTERESTED PARTIES MAY PARTICIPATE IN THE AGENDA-SETTING TELECON SCHEDULED FOR
11:00 A.M. PDT (2:00 P.M. EDT)
OCTOBER 16, 2000 BY CALLING 702-295-3688*

Objective: Provide the basis to resolve open Key Technical Issues (KTIs) related to Criticality. Also, to provide basis to resolve criticality Safety Evaluation Report (SER) open items.

Times are approximate because the agenda items are expected to provide a framework for wider ranging discussions. Time allotted for each presentation includes time for the DOE presentation and time for accompanying discussion.

Monday, October 23, 2000

**8:00-8:20 AM Introduction/Objectives/Logistics
Purpose of the interaction**

8:20-8:40 AM Criticality – Summary of Status from DOE Perspective (Russell)

8:40-9:25 AM Criticality Topical Report Update (Thomas)

9:25-10:10 AM SER Open Items Summary (Thomas)

10:10-10:30 AM BREAK

Container Life and Source Term Subissue 5: The effects of in-package criticality on waste package and engineered barrier subsystem performance.

10:30-10:50 PM Acceptance Criterion 1- DOE has used sound technical bases for selecting the design criteria for components to mitigate any potential effects of in-package criticality on the repository performance. These design criteria may include development of subcritical limit, probability and consequence of criticality, and any other design criteria considered to be necessary by DOE. (DOE/NRC)

10:50-11:10 PM	Acceptance Criterion 2 - DOE has identified all the features, events, and processes that may increase the reactivity of the system inside the WP. (DOE/NRC)
11:10-11:30 PM	Acceptance Criterion 3 - DOE has identified the configuration classes and configurations that have potential for nuclear criticality. If models are used to develop the configuration, approach and accuracy in modeling verification and validation will be evaluated. (DOE/NRC)
11:30-12:30 PM	LUNCH
12:30-1:30 PM	Acceptance Criterion 4 - DOE has developed a technically defensible, transparent, and traceable method in assigning probability values to each of the scenario classes, scenarios, configuration classes, and configurations (DOE/NRC).
1:30-2:30 PM	Acceptance Criterion 5 - DOE has developed appropriate computer models, input parameters, and determined quantitative values for calculating the effective neutron multiplication factor (k_{eff}), including appropriate biases and uncertainties in the mode (DOE/NRC).
2:30-2:45 PM	BREAK
2:45-4:15 PM	Caucus on CLST Subissue 5 - Acceptance Criteria 1 through 5
4:15-5:15 PM	DOE/NRC Discussion of Resolution Status of CLST Subissue 5- Acceptance Criteria 1 through 5
5:15-5:45 PM	Closing Comments
5:45 PM	Adjourn first day

Tuesday, October 24, 2000

8:00-9:00 AM	Acceptance Criterion 6 - DOE has developed appropriate computer models, evaluated input parameters, and determined quantitative values for calculating the radionuclide inventory, heat, kinetic energy, and other parameters that would change as a result of k_{eff} exceeding the subcritical limit developed under Criterion (3) (DOE[Name]/NRC).
9:00-10:00 AM	Acceptance Criterion 7 - DOE has determined the risk contribution from the in-package criticality to the total repository system performance appropriately. (DOE[Name]/NRC)

10:00-10:15 AM	BREAK
10:15-11:45 AM	Caucus on CLST Subissue 5 – Acceptance Criteria 6 and 7
11:45-1:00 PM	LUNCH
1:00-2:00 PM	DOE-NRC discussion of resolution status of CLST Subissue 5, Acceptance Criteria 6 and 7.
2:00-3:00 PM	Radionuclide Transport (RT) Subissue 4: Nuclear Criticality in the Far Field
3:00-3:15 PM	BREAK
3:15-4:15 PM	Caucus on Radionuclide Transport Subissue 4
4:15-5:15PM	DOE/NRC Discussion of Resolution Status of RT Subissue 4
5:15-6:15 PM	Closing Comments
6:15PM	Adjourn Second Day

Wednesday, October 25

8:00-9:00 AM	Evolution of the Near-Field Environment (ENFE) Subissue 5: Effects of coupled Thermal-Hydrologic-Chemical Processes on Potential Nuclear Criticality in the Near-Field
9:00-10:00 AM	Remaining SER Open Items
10:00-10:15 AM	BREAK
10:15-11:15	Caucus on Evolution of the Near-Field Environment Subissue 5 and remaining SER Open Items
11:15-12:15 PM	DOE/NRC Discussion of Resolution Status of Evolution of the Near-Field Environment Subissue 5 and remaining SER Open Items.
12:15-1:15 PM	LUNCH
1:15-2:15 PM	DOE caucus to discuss proposed agreement
2:15-3:15 PM	Closing Comments
3:15 PM	Adjourn Technical Exchange