Summary Highlights of NRC/DOE Technical Exchange and Management Meeting on Key Technical Issue Agreement Status

July 23, 2002
Las Vegas, Nevada

Introduction and Objectives

This Technical Exchange and Management Meeting to discuss the Key Technical Issues (KTIs) is one in a series of meetings related to the U.S. Nuclear Regulatory Commission (NRC) and U.S. Department of Energy (DOE) issue resolution process. Consistent with a 1992 agreement with the DOE, staff-level resolution can be achieved during prelicensing consultation. The purpose of issue resolution is to assure that sufficient information is available on an issue to enable the NRC to docket a proposed license application. Resolution at the staff level does not preclude an issue being raised and considered during the licensing proceedings, nor does it prejudge what the NRC staff evaluation of that issue will be after its licensing review. Issue resolution at the staff level, during prelicensing, is achieved when the staff has no further questions or comments at a point in time regarding how the DOE is addressing an issue. Pertinent additional information (e.g., changes in design parameters) could raise new questions or comments regarding a previously resolved issue.

Issues are "closed" if the DOE approach and available information acceptably address staff questions such that no information beyond what is currently available will likely be required for regulatory decision making at the time of any initial license application. Issues are "closed-pending" if the NRC staff has confidence that the DOE proposed approach, together with the DOE agreement to provide the NRC with additional information (through specified testing, analysis, etc.) acceptably addresses the NRC's questions such that no information beyond that provided, or agreed to, will likely be required at the time of initial license application. Issues are "open" if the NRC has identified questions regarding the DOE approach or information, and the DOE has not yet acceptably addressed the questions or agreed to provide the necessary additional information in a potential license application.

The objective of this meeting was to discuss DOE's KTI Agreement Item Planning Strategy and the KTI agreements DOE plans to address in Fiscal Year (FY) 2003 and beyond. No new agreements were reached at this meeting. The agenda and the attendance list are provided as Attachments 1 and 2, respectively. Copies of the presenters' slides are provided as Attachment 3. Highlights from the Technical Exchange and Management Meeting are discussed below.

Summary of Meeting

1) Introduction

The NRC noted that this meeting is the second of two meetings in which the agreements will be discussed. During the first meeting, held on April 15-16, 2002, NRC and DOE discussed those agreements that DOE plans to address during the remainder of FY2002. During this meeting

DOE provided information pertaining to the agreements it plans to address during FY2003 and beyond.

2) Overview of KTI Issue Resolution Status

DOE provided an overview of the status of issue resolution (see the "KTI Planning for FY2003 through FY2005" presentation given by Timothy Gunter and Mark Wisenburg). DOE stated that of the 293 DOE/NRC KTI agreements, 52 have been formally closed and a number are under NRC review. DOE stated that it plans to address all the agreement items by the time of license application submittal. Of the remaining 241 agreements, DOE stated that some will be addressed by providing risk information as an alternate basis for completion and some have been overcome by events based on new project approaches.

DOE then presented an overview of its KTI Planning Strategy. DOE described a four step process to obtain a coarse binning of disposition methods for each of the agreements not yet closed. DOE then provided the definition for each bin and a table which discussed its schedule for addressing the FY2003 and beyond agreements, and a method for documenting the work scope needed to address the agreements. The NRC noted that it would not comment on the binning of the agreements, but was more interested in how DOE planned to address the NRC's information needs for each agreement.

NRC stated that it does not plan to formally review or endorse the DOE planning strategy, but that it would like to understand the process DOE used to determine the priority and work scope for addressing the agreements. The NRC further stated that it is interested in having additional technical exchanges and Appendix 7 meetings to discuss the specific key technical issues, and that it believes continued discussions between the NRC and DOE technical leads are warranted. DOE agreed.

DOE then provided a breakdown of plans to address the agreements by FY. DOE noted that a majority of the remaining agreements will be submitted in the later half of FY2003 and first half of FY2004. DOE stated that this was due, in large part, to scheduled work which was needed to address the agreement. NRC and DOE agreed that early interactions on the agreements would be beneficial since it would like to understand DOE's approach to addressing agreements early on in the process.

3) DOE Risk Prioritization Analyses for Closure of KTI Agreements

DOE discussed its risk prioritization of total system performance assessment (TSPA) model components (see the "Risk Prioritization of Performance Assessment Models" presentation given by Larry Rickertsen). DOE stated that risk analyses have been conducted to assess the role of each model component in meeting individual and groundwater protection performance objectives in 10 CFR Part 63. DOE stated that this information is used to provide insights into KTI agreements and to suggest possible alternative approaches to resolution of those agreements. DOE stated that when it plans to use this risk information, it would provide the quantitative sensitivity studies, as well as a physical explanation of why the sensitivity study was appropriate. NRC stated that the inclusion of a physical explanation of the sensitivity study

results was important and that the NRC would need this information in reviewing DOE's approach.

DOE then provided two examples of agreements where it used sensitivity studies as an alternative basis to address the agreement. Both examples had been recently submitted to NRC for review. During the discussion, the NRC stated that as part of its review, it is interested in seeing the cumulative effect of all the uncertainties. DOE stated that it had recently completed a study which addressed this issue and that study would be included in its risk prioritization report. NRC stated that it would be interested in reviewing that report.

NRC also noted that several agreements, for which DOE planned to use sensitivity studies as an alternative basis to address the agreement, related to discussing uncertainties in parameters or systems. NRC stated that it was uncomfortable, without having discussed this approach in detail, about how sensitivity studies could provide a basis for closing agreements dealing with uncertainty. Both NRC and DOE agreed that followup discussions on these types of agreements were warranted.

Finally, NRC noted that in its review of the two examples, it would also try to provide DOE with any generic information which should be included in future Bin 3 submittals.

4) NRC Risk Insights Initiative

The NRC then discussed its internal initiative to review the KTI agreements from an importance perspective (see the "NRC High-Level Waste Risk Insights Initiative" presentation given by James Andersen). The NRC stated that the objective of the initiative was to: (1) document existing risk insights and those insights relative to the KTI resolution process, (2) enhance communication of risk insights, and (3) identify additional risk insights necessary to support issue resolution. The NRC discussed the methodology it used to rate the agreements, both from an importance and a DOE level of effort perspective. The ratings were then used to facilitate NRC and Center for Nuclear Waste Regulatory Analysis discussions during subsequent meetings. The NRC noted that, for this initiative, risk insights were: (1) tied to regulatory requirements, (2) based on the DOE safety case at that time, (3) derived from performance assessment analyses, and (4) necessary to understand/evaluate KTIs. DOE questioned what was meant by the DOE safety case. NRC responded that it used the DOE safety case, and the processes which were identified in the safety case as important, which were documented at the time of the initiative. As a result of the initiative, the NRC stated that 41 agreements were rated as either high or medium-high importance. The NRC stated that it would be documenting the process it went through in a deliverable expected to be released in the October/ November 2002 timeframe. DOE stated that it would be interested in reviewing the results of the NRC's initiative as soon as it is available.

NRC and DOE then discussed the two approaches. The NRC commented that a number of Bin 3 agreements were included in the 41 agreements the NRC rated as high or medium-high importance. NRC stated that for these agreements, NRC/DOE interactions were needed so that the NRC understood the DOE approach. DOE agreed with the need for these interactions. NRC also commented that a number of the Bin 3 agreements, which were included in the 41 agreements the NRC rated as high or medium-high importance, dealt with uncertainty. As

discussed above, NRC and DOE agreed that additional interactions were warranted for these cases.

5) General Discussion of FY2002 - FY2005 KTI Agreements

NRC and DOE then discussed several topics related to the DOE table outlining which agreements it planned to address in FY2003 and beyond. DOE stated that the table was still preliminary and that the final version would be transmitted to the NRC for review. NRC noted that it would wait for the final table before updating the KTI agreement database with the new schedules.

First DOE presented an overview of how it used risk prioritization in work planning for the license application. DOE described the process it used to determine what work scope it would use and how it would address the KTI agreements. NRC noted that it would be helpful if DOE could provide information on documents released which were not part of the KTI resolution process. DOE stated that it would address this issue.

Next, DOE discussed its intended use of Supplemental Science and Performance Analyses and other sensitivity studies to close agreements. NRC stated that it was concerned with the use of these non-qualified studies and how this information would be incorporated into future license application documentation. DOE stated that it was preparing a position paper which would describe this process. NRC stated that it would be interested in reviewing that paper when available.

Next, DOE described the major differences between the current plan and the one discussed with the NRC in April 2002. DOE stated that there was now only one agreement for which information would be provided past the proposed license application date. This agreement dealt with criticality validation reports and DOE stated that the last report would be submitted beyond the license application date.

Next, DOE discussed the KTI agreement items it planned to address in October 2004. DOE noted that these agreements relied on final performance assessment results and that the final performance assessment would not be completed until the end of FY2004.

NRC and DOE then discussed several aspects of the DOE table. These items included the scheduling of agreements where NRC has requested additional information, an agreement that was omitted from the table, and agreements where only part of the information had been provided.

Lastly, NRC gave an update on the status of its Integrated Issue Resolution Status Report (IIRSR). NRC stated that the report was in its final review and that it expected it to be released in the next couple weeks. NRC stated that the report would be useful to DOE in: (1) understanding the background of the agreements, (2) seeing how the NRC used the acceptance criteria from the Yucca Mountain Review Plan (YMRP), (3) seeing how the agreements were incorporated into the 14 model abstractions discussed in the YMRP, and (4) preparing for future pre-closure issue resolution meetings. DOE asked if the IIRSR will supercede the individual

Issue Resolution Status Reports. NRC stated that it would. DOE stated that it is interested in reviewing the report as soon as it is available.

6) Summary Discussions

After a short break, NRC provided the following list of issues coming out of this meeting:

- that continued interactions are needed on the agreements, specifically those agreements where the DOE approach has changed and the agreements DOE classified as Bin 3

- that it was interested in receiving the DOE Risk Prioritization Report and would be looking for a target date

- that it was interested in receiving notification of when DOE documents, which are not related to the issue resolution process, are released

- that it was concerned with the use of SSPA and non-qualified studies to close agreement and that it is interested in reviewing the DOE process for incorporating this information into future license application documentation

DOE agreed with the above issues, but noted that the use of non-qualified information in the license application is appropriate in some cases.

7) **Public Comments**

Ms. Susan Lynch, State of Nevada, commented that she would like to see what probabilities DOE used in slides which address risk. Ms. Lynch noted that dose does not equal risk in the public's mind and that discussions of risk should also include a discussion of probability.

Ms Judy Treichel, Nevada Nuclear Waste Task Force, discussed the same issue and noted that future discussions of risk should include a slide on definitions so that everyone clearly understood how those terms were being used.

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