

## **SUMMARY OF THE JULY 16, 2003, QUARTERLY MANAGEMENT MEETING BETWEEN U.S. DEPARTMENT OF ENERGY AND U.S. NUCLEAR REGULATORY COMMISSION**

### **Introduction**

On July 16, 2003, senior managers from the U.S. Nuclear Regulatory Commission (NRC) and U.S. Department of Energy (DOE) met, in a public meeting, to discuss the status of the program at the potential repository site at Yucca Mountain, Nevada. The meeting was hosted at the NRC Headquarters in Rockville, Maryland with video connections to the DOE Office of Repository Development in Las Vegas, Nevada, and the Center for Nuclear Waste Regulatory Analyses in San Antonio, Texas. Additionally, representatives from the Nuclear Energy Institute (NEI), NRC Region IV, Bechtel SAIC Co. LLC (BSC), United States Geological Survey (USGS), General Accounting Office (GAO), and members of the public participated via teleconference.

### **NRC Opening Remarks**

Ms. Margaret Federline, Deputy Director, Office of Nuclear Materials Safety and Safeguards, NRC, commenced the meeting by welcoming the DOE senior managers to the NRC Headquarters and all stakeholders who were in attendance for the meeting. Ms. Federline's remarks focused on the following three areas: (1) NRC's Risk Insights Initiative and Risk Prioritization of the Key Technical Issue (KTI) Agreements, (2) DOE's May 29 letter response to the NRC request made during the April 30, 2003, NRC/DOE Management Meeting, and (3) DOE's June 23 letter on "grouping" the agreements and DOE's July 1 memorandum on its re-baseline plan for FY 03 and FY 04.

Ms. Federline stated that the NRC staff has been developing an integrated synopsis of its current understanding of key issues in repository performance. The risk insights will help the NRC staff to (1) prioritize its pre-licensing and licensing activities, (2) focus resources on those aspects of the high-level waste (HLW) program that have the greatest potential impact on repository performance, and (3) further support risk-informed decision making in the HLW regulatory program. Ms. Federline added that the staff will look for opportunities to use the risk insights results in activities beyond pre-licensing issue resolution. Specifically, in areas such as planning for developing and implementing an inspection program, reviewing the DOE performance confirmation program, conducting a risk-informed review of the license application (LA), and communicating its current understanding and assessment of the repository system to DOE and to both internal and external stakeholders.

Ms. Federline mentioned that the NRC has repeatedly stated that DOE needs to identify meaningful metrics and demonstrate positive results and outcomes which reflect that the initiatives described in DOE's Management Improvement Initiative (MII) have been fully and effectively implemented. She added that although DOE has reaffirmed its commitment to implement actions to ensure that the license application will comply with NRC's quality assurance (QA) requirements, the DOE's May 29 letter does not - based on NRC's understanding of its contents - contain a clear linkage between program improvements and increased confidence that the DOE program is focusing on those program areas that could potentially have an impact on the quality of the LA and performance of the repository. She indicated that the NRC was planning to conduct an independent vertical-slice review of specific

areas of the DOE program in late fall. She added that the areas to be reviewed would be identified based on risk insights; that there would be public entrance and exit briefings, and that the results would serve as a basis for further dialogue with DOE.

Ms. Federline also noted that it is NRC's understanding that the "bundling" or "grouping" approach is DOE's attempt to strategically group the agreements into subject areas in a more integrated manner. She added that the NRC has no objection to such an approach, however, NRC's concern is that the original agreement and DOE's response to the agreement remain transparent so that it may continue to be explicitly tracked and managed. Ms. Federline also expressed concern regarding DOE's aggressive schedule and stated that it would represent a significant challenge for both agencies to use their resources effectively and ensure clear communication on all fronts so that the most significant agreements are addressed before a license application. Ms. Federline closed her remarks by encouraging DOE to meet its commitment to address all agreements, as DOE indicated in its June 23, 2003.

#### NRC Program/Project Updates

Ms. Janet Schlueter, Chief of the NRC's High-Level Waste Branch, started her remarks by providing a program update since the April 30, 2003, Management Meeting. Ms. Schlueter stated that in late June 2003 the staff received Commission approval to finalize the Yucca Mountain Review Plan (YMRP), with minor edits and that the Plan would be available on NRC's Website in July together with the Commission's Staff Requirement Memorandum. She stated that several technical exchanges have been held on agreements associated with the igneous activity, container life and source term, and repository design and thermal/mechanical effects Key Technical Issues. In addition, DOE and NRC conducted a public technical exchange in mid May on the use of risk information to address agreements. She also noted that in early June 2003 the HLW program staff briefed the Inyo County CA Board of Supervisors and conducted a public outreach meeting in Tecopa, CA, at their request. In response to a request from the State of Nevada the program staff responsible for the development of NRC's Total Performance Assessment Code met with representatives from the State of Nevada in a public meeting held on June 17, 2003, to provide more in-depth information on the development of NRC's model. She added that in recent months the staff has also briefed the NRC's Advisory Committee on Nuclear Waste (ACNW) on the status of the YMRP, the risk insights initiative including the risk ranking of agreements, and igneous activity issues. She added that on July 28-30, DOE and NRC staff as well as representatives from the State of Nevada will support ACNW's working group on "performance confirmation plans for the proposed repository."

Ms. Schlueter also noted that in March of this year the Commission directed the staff to step up its efforts to risk prioritize the KTI agreements. She added that in developing its response to the Commission, staff used its existing risk insights baseline document to rate the risk significance of the 293 KTI agreements and the staff responded to the Commission by a memorandum dated June 5, 2003.

Ms. Schlueter indicated that NRC had received a letter from the Nevada Nuclear Waste Task Force requesting NRC's position on DOE's approach to KTI agreement resolution. Ms. Schlueter closed her remarks by stating that the NRC's thinking concerning risk insights is still evolving and that a revised risk insights report is due to the Commission in October. She also added that the NRC would hold a meeting with DOE to discuss this report.

### DOE Program/Project Updates

Dr. Margaret Chu, Director of DOE's Office of Civilian Radioactive Waste Management, provided an update from the DOE Program perspective. Dr. Chu opened with a brief discussion of DOE's May 29, 2003, letter responding to NRC's request at the April 2003 management meeting for a description of actions DOE would take to improve its safety culture behavior. Dr. Chu provided a high-level summary of the actions described in the letter and emphasized DOE's commitment to the goal of submitting a high quality license application (LA) for which supporting data, software, and models meet applicable QA requirements. Dr. Chu stated that the other actions described in the DOE letter related to procedural compliance, corrective action, safety conscious work environment (SCWE), and accountability are means to achieve this end. Improving accountability, in particular, is viewed as critical to achieving DOE's objective. Dr. Chu also touched on actions being taken by DOE to collect and process records for the Licensing Support Network (LSN), and acknowledged the need for further discussion of the potential issue raised by NRC regarding the time required to index LSN records and audit the system. With respect to future funding, Dr. Chu noted that although a mark in excess of DOE's budget request was reported out of a House subcommittee, further action is needed in both the House and Senate before the funding for fiscal year (FY) 2004 is known. Dr. Chu emphasized that although adequate appropriations will help, DOE must manage its work to meet NRC expectations, and stated that schedule will not take precedence over quality and safety. Dr. Chu closed by saying that although DOE has a long way to go, it is focusing on results and emphasizing accountability for achieving these results.

John Arthur, Deputy Director for DOE's Office of Repository Development, provided an update for the Yucca Mountain Project (YMP). Mr. Arthur briefly discussed the recently implemented DOE re-plan, stating that the plan allows DOE to continue LA development, but that some LA-related work was shifted from FY 2003 into FY 2004. Mr. Arthur noted that although the plan may increase schedule risk for the LA, especially if there is a delay or reduction in funding for FY 2004, the quality of the LA will not be compromised. He discussed the role of the YMP monthly Project Management meetings as a means to establish management expectations and the starting point for flow down of expectations to Project Staff. The meeting held last week focused on expectations for the initiatives described in the May 29 letter to NRC. The next meeting in August will focus on expectations for the SCWE. Mr. Arthur reviewed the current status of the upper level YMP performance indicators used in ORD's Monthly Operating Review (MOR). NRC inquired as to whether there will be indicators of effectiveness, not just completion of actions; completion of an action does not necessarily indicate its effectiveness. For example, several of the action items confirmed to be completed have not yet been determined to be effective. DOE replied that the indicators are derived from evaluation of multiple aspects of the work, and that effectiveness is one of these indicators. Mr. Arthur also reviewed the current status of the remaining open actions from the Management Improvement Initiative, noting that as of July 11, only six of the original 35 actions remain open and all are expected to be completed by November 30, 2003. In closing, Mr. Arthur reiterated DOE's commitment to quality and welcomed NRC feedback on DOE's progress, with particular emphasis on the areas discussed in the May 29 letter to NRC.

### Program Improvements, Metrics, and Effectiveness

John Arthur and John Mitchell, BSC President and General Manager, jointly discussed actions being taken and preliminary indicators of performance in the five areas; LA, procedural compliance, corrective action programs (CAP), SCWE, and accountability, covered in DOE's May 29 letter to NRC.

Mr. Arthur re-emphasized the commitment to a high quality LA and reviewed the current status of work in areas that support this objective. He discussed work areas where quality and schedule appear to be at risk, and the actions being taken to mitigate problems and manage this work, which includes surface design and development of the analysis and model reports (AMRs) that support the total system performance assessment (TSPA) for LA. Bill Reamer (NRC) asked whether any conclusions should be drawn from the absence of indications of improvement in many areas. DOE responded that changes are incremental and that major indications of change from month to month would not be expected. The trend established over several months will provide better information on progress. Andy Campbell (NRC) indicated that NRC intends to focus on high-risk issue areas beyond the specific KTI agreements and that some of these areas are currently shown as problem areas in the DOE performance metrics. Mr. Arthur reviewed the current management assessment of progress toward LA completion, noting that the work is about 25% complete based on the assumptions and weighting factors used to assess the related work elements, including the DOE internal target for closure of Key Technical Issue (KTI) agreements prior to LA submittal. NRC inquired whether DOE had evaluated its target for completing KTI agreements to assess how many of NRC's high and medium risk-significant agreements could be completed. NRC noted that this information would enhance NRC confidence that these agreements could be closed prior to LA submittal. DOE responded that the management target for KTI agreement closure was based on an internal assumption that NRC will have closed 65% of the agreements by the time of DOE's LA submittal. However, this does not impact DOE's commitment to address all the KTI agreements by the time of LA submittal. DOE will review the results of the NRC's risk ranking of the KTI agreements and provide feedback on the results of the review to NRC. DOE will evaluate the schedule for responses to those agreements that NRC has determined are high and medium risk-significant to decide whether the later submittals could be made earlier. Mr. Mitchell discussed the status of data, software, and models supporting the LA, including the status of related corrective action reports (CARs). Mr. Mitchell stated that closure of the model CAR is pending the results of a surveillance in August. BSC is reviewing the results of the recent software audit to determine if the deficiency reports (DRs) will affect closure of the software CAR, which is currently scheduled for September. He also discussed the delay in action on the data CAR due to delay in completion of the root cause analysis. NRC requested that the NRC On-Site Representatives (ORs) be kept informed of the status of actions related to data, software, and models. DOE agreed to provide a listing of qualified models, software, and data to the NRC ORs. In closing, Mr. Arthur stated that DOE was looking forward to interactions with NRC on level of design detail for LA and on DOE's revised approach for responding to KTI agreements and NRC's risk insights initiative.

Mr. Arthur went on to describe actions being taken to ensure procedural compliance. He discussed the commitment to develop an effective trend report by September 30, 2003, and reviewed results from an initial causal analysis of contributors to conditions adverse to quality. Mr. Arthur also discussed completion of a simplified procedure for development and review of

procedures, which becomes effective on July 18, and plans for revision of selected procedures on a priority basis.

Mr. Arthur discussed the commitments made with respect to the CAP, including development of a single, improved CAP by September 30, 2003. He presented metrics showing the current status for approval of corrective actions and for closure of DRs and CARs against the aggressive goals established in the May 29 letter to NRC. Mr. Arthur stated that DOE clearly has work to do to bring its performance in line with these goals. He also discussed improvements related to revision of the procedure for corrective actions and line ownership of the corrective action process with management oversight to ensure timely completion of corrective actions. Mr. Mitchell provided a brief discussion of improvements in the self-assessment and lessons-learned processes. A major goal of this effort is to better integrate self-assessment and lessons-learned programs with the CAP.

Tom Matula (NRC), in a brief recap of the QA meeting held on July 15, 2003, stated that NRC recognized the efforts being made by DOE and BSC to implement QA improvements and encouraged DOE to complete corrective actions in a timely manner. Specifically, he noted that with the new management teams at DOE and BSC, new QA initiatives and areas of improvements are being undertaken. Overall, the time it is taking to close DRs and CARs is decreasing, however, there are recent isolated instances, such as in CAR-107, where extensive time is being taken to close certain CARs. He also encouraged DOE to review the DRs during the recent software QA audit for trends that may indicate potential new or recurring problems. Finally, he stated that, the quarterly QA meeting on July 15, 2003, was very productive and the exchange of information was very good.

Mr. Arthur provided an overview of DOE commitments with respect to SCWE. He reviewed the results of the first quarterly internal survey and noted that the second quarterly survey is now underway. He indicated that DOE would consult with external experts on the appropriate frequency for these internal surveys and that, as a result, they might be performed less often than originally planned. Mr. Arthur also discussed plans for the first of the annual SCWE surveys by external experts, which is expected to be completed in October. With respect to the commitment made for additional SCWE training for managers, Mr. Arthur discussed the plan to devote the August management team meeting to SCWE issues, with discussions of accountability, role playing, and follow-up flow down to Project staff.

In response to a question on DOE's use of independent management assessment, Mr. Arthur stated that he intends to use expertise in this area from throughout DOE and industry to improve the program, and would make examples of assessment reports from other DOE sites available to the NRC ORs.

Finally, Mr. Arthur discussed planned actions related to enhancing and enforcing accountability, including development of a single set of performance criteria to be incorporated in performance plans for both DOE and contractor employees, including the DOE laboratories and USGS. He also discussed actions being taken to modify contracts and agreements to reinforce accountability on an organizational basis. Mr. Arthur discussed how accountability would be enforced through disciplinary actions, some of which have already been taken by both DOE and BSC, and to institute a process to recognize and reward both individual and team efforts that meet or exceed desired criteria. He said that the semiannual report DOE committed to provide

to employees by October 1, 2003, would provide a means to share successes, failures, and lessons learned with Project staff.

### Key Technical Issue Agreements

Joe Ziegler (DOE) provided information on the DOE's revised approach and schedule for addressing KTI agreements in groups based on the relationship of the agreements to the repository system. Mr. Ziegler indicated that the goal of this integrated approach was the effective resolution of agreements within the context of the technical basis for licensing. He noted that the new schedule includes initial responses to agreements as well as the NRC's additional information needs, which is the first time these responses have been scheduled. Mr. Ziegler pointed out the significant number of responses planned for September and October, but noted that because of grouping, these responses will be contained in only a few documents. He stated that for responses scheduled near or after LA submittal, DOE would provide NRC with specific plans for completing the agreements. Mr. Ziegler referred to the LA content requirements in 10 CFR Part 63, noting that the LA need to only be as complete as possible in light of the information reasonably available at docketing, and that the KTI agreements should not be held to a higher standard. He also noted that risk can be assessed in terms of sensitivity to dose and in terms of the likelihood of new information changing conclusions. He stated that DOE believes that in many cases the information will be confirmatory and that the risk of changing conclusions important to performance will be small. NRC questioned the relationship of the continuing work on KTI agreements to the performance confirmation program. DOE responded that much of this work, especially in areas related to waste package performance, is expected to continue as part of performance confirmation. There was discussion between DOE and NRC of how submittal of subgroups of agreement responses would be handled. NRC indicated that it would be helpful if the information provided for the remainder of the group were in a standalone package to facilitate review. NRC asked whether the initial submittal for a group would provide adequate information for NRC review or whether additional information from later agreements would be needed. DOE responded that the technical basis provided for each group should envelope the agreements in the group and provide sufficient information for NRC to review the agreements in the context of the technical basis for licensing. NRC inquired as to the availability of a crosswalk indicating where each agreement is addressed and also indicating how agreements that cross-cut groups will be addressed. DOE indicated that it would consider the need for such a crosswalk as it prepares the initial example of an integrated response. DOE and NRC agreed on the need for a meeting, prior to DOE submitting its first set of responses to the "bundled" KTI agreements in September 2003, to discuss the revised approach to KTI agreements and a specific example of its implementation.

### Public Comments

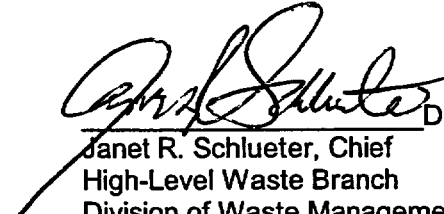
Steve Kraft (NEI), a meeting attendee, suggested that DOE and NRC work together to determine whether completion of the low risk agreements can be put off until after LA submittal to facilitate preparation and review of the more risk-significant agreements. Judy Treichel, Nevada Nuclear Waste Task Force, requested that NRC not respond to her recent letter to the NRC Chairman regarding the DOE bundling approach until after a public interaction with DOE to discuss and better understand DOE's approach to addressing KTI agreements.


### Closing Remarks

Mr. Reamer indicated that NRC's risk-insights initiative would be an important driver of NRC actions in the future and that further dialog with DOE would benefit both agencies. Mr. Reamer said that NRC was looking for the link between the commitment to a high-quality LA and the QA program improvements being made. He said that he did not get a clear picture of the connection between the improvements discussed by DOE and the LA. With respect to the DOE's revised approach to KTI agreements, Mr. Reamer stated that the integrated approach DOE presented warranted further dialogue between the two agencies.

Mr. Arthur indicated that there had been incremental improvement in the DOE program since the last meeting and that, in many cases, the trends are in the right direction. He reiterated that the re-plan was intended to realign the program to deal with the funding shortfall for FY 2003 and that quality would not be sacrificed.

There was discussion of mid November as the time frame for the next meeting.

 Date: 7/24/03  
Janet R. Schlueter, Chief  
High-Level Waste Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards  
U.S. Nuclear Regulatory Commission

 Date: 7/21/2003  
Joseph D. Ziegler, Acting Director  
Office of License Application  
and Strategy  
Office of Repository Development  
U.S. Department of Energy