SUMMARY OF THE
U.S. NUCLEAR REGULATORY COMMISSION / U.S. DEPARTMENT OF ENERGY
QUARTERLY MANAGEMENT MEETING
IN PAHRUMP, NEVADA
JUNE 6, 2005

Introduction

The U.S. Nuclear Regulatory Commission (NRC) and U.S. Department of Energy (DOE) held a public quarterly management meeting on June 6, 2005. The purpose of this meeting was to discuss the progress of the project regarding the potential geologic repository at Yucca Mountain, Nevada. The meeting was hosted at the Pahrump Valley Fire-Rescue Service in Pahrump, Nevada, with video and audio connections to NRC in Rockville, Maryland, the Center for Nuclear Waste Regulatory Analyses (CNWRA) in San Antonio, Texas, and Bechtel SAIC Company, LLC (BSC) in Las Vegas, Nevada. Other participants included NRC Region IV, Nuclear Energy Institute, the Electric Power Research Institute (EPRI), the Naval Nuclear Propulsion Program, the State of Nevada, Nye County, Clark County, the press, and members of the public.

Opening Remarks

Dr. April Gil, Office of License Application and Strategy, DOE, started the meeting by welcoming the NRC management and staff, members of the public, and all other stakeholders. Dr. Gil also thanked Nye County, the Town of Pahrump, and the Pahrump Valley Fire-Rescue Service for hosting the meeting.

Mr. Jack Strosnider, Director, Office of Nuclear Materials Safety and Safeguards, NRC, stated that this was the second management meeting in 2005 and the first to be held in Pahrump, Nevada, and provided a brief clarification that this was a Category 1 meeting, open to public comment and feedback during the meeting and through the feedback forms provided. Mr. Strosnider then welcomed DOE managers, members of the public, all other stakeholders, and also thanked Nye County, the Town of Pahrump, and the Pahrump Valley Fire-Rescue Service for the use of their facilities.

Mr. Strosnider acknowledged the significant uncertainties with respect to the Yucca Mountain project. He added that DOE had previously reported an August 2005 date, though subject to revision, to be able to certify the electronic availability of its documentary material with an estimate to tender the license application for filing approximately six months after the Licensing Support Network (LSN) certification. Mr. Strosnider stated NRC staff could not docket the application until at least 6 months have elapsed from the time of DOE's certification of the LSN.

Mr. Strosnider discussed the U.S. Environmental Protection Agency's (EPA's) proposed rulemaking activities regarding the 10,000-year standard and mentioned the recent publication of EPA's expected date to issue a proposed rule making by September 2005.

Mr. Strosnider said the NRC takes the allegations of potential falsification by USGS employees very seriously and will carefully monitor pending investigations and assessments. He stated NRC expects that DOE will have a high level of confidence in the quality of information associated with the license application, and that NRC staff will continue to monitor and assess DOE's implementation of its QA program.

NRC Program Update

Mr. C. William Reamer, Director, Division of High-Level Waste Repository Safety, NRC, presented the NRC program update. Mr. Reamer stated that a high-quality license application would have to address the Key Technical Issues and related 293 agreements. He added to date DOE has addressed all 293 agreements, and NRC provided feedback on all but 8 agreements that may be related to the USGS e-mail issue.

Mr. Reamer summarized the future preclosure interactions which were identified at the June 1, 2005, Preclosure Interaction and Aircraft Hazards Technical Exchange. He pointed out that certain types of aircraft hazard analyses have not been performed, such as the impact speeds, penetration, structural response, and vibration effects. Mr. Reamer added that he is hopeful that DOE understands a license application must have sufficient design detail to demonstrate safety conclusions and supporting bases, including the inputs to its pre-closure safety analysis. He added that another technical exchange on this subject is planned for July 19, 2005.

Mr. Reamer then highlighted the following activities that occurred since the last Quarterly Management Meeting on February 17, 2005:

- NRC's publication of the Integrated Issue Resolution Status Report;
- NRC and DOE's Technical Exchange on Safety Conscious Work Environment and Performance Indicators held May 19, 2005. Mr. Reamer stated these are important tools and that DOE management needs to continue to demonstrate a commitment to these programs;
- The State of Nevada's petition titled "Petition for Rulemaking to Amend the Commission's Waste Confidence Decision and Rule to Avoid Prejudging Yucca Mountain," which has been docketed and is currently under NRC staff consideration;
- The State of Nevada's petition to amend 10 CFR Part 51.109, which has been docketed and is currently under staff consideration;
- The Electric Power Research Institute's issuance of an Interim Report titled, "Yucca Mountain Licensing Standard Options for Very Long Time Frames, Technical Basis for the Standard and Compliance Assessments," and the State of Nevada's letter regarding the report.

DOE Yucca Mountain Project Update

Mr. John Arthur, Deputy Director, Office of Repository Development (ORD), DOE, provided an update on Yucca Mountain Project progress since the February 17, 2005, Management Meeting and discussed the status of DOE preparations to submit the LA and complete the supporting documentation. Mr. Arthur noted that Mr. Paul Golan is the new Deputy Director, Office of Civilian Radioactive Waste Management, DOE.

Mr. Arthur discussed the Fiscal Year (FY) 2006 Budget, stating that the appropriations bill in Congress adds $10 million to the requested $651 million to evaluate interim storage of high-level nuclear waste (HLW).

In his update, Mr. Arthur addressed a wide spectrum of program activities including: the first spent fuel storage cask prototype (was due to be completed in Jan 2006); Project Safety has achieved 1.9 million work hours without a lost workday due to accident or injury; maintenance is in progress on site equipment; inspections are underway on the underground rail system and rolling stock; a geotechnical borehole program consisting of 35 new boreholes is underway in support of design analyses; and three of four phases of chlorine-36 (Cl_{36}) sampling are complete.

Mr. Arthur provided information on the status of programmatic activities in the areas of Quality Assurance (QA), Safety Culture, Safety Conscious Work Environment, the Employee Concern Program (ECP), and the Corrective Action Program (CAP). With respect to the CAP, Mr. Arthur noted the closure of longstanding Corrective Action Report (CAR)-001 on model reports and efforts related to two Level A (the highest significance level) condition reports (CRs), CR-3235, "Improper CR Closure and Ineffective Corrective Actions," and CR-5559, "Extensive Rework of Technical Work Products." He described a decline in the percentage of Level B (second highest significance level) CRs initiated by the line organizations and stated that the goals for completing CR evaluations and corrective action plans are not adequately being met.

With respect to an LA completion schedule, Mr. Arthur stated that he could not provide an LA submittal date at this time and emphasized that while DOE strives toward identifying the schedule, quality will be of major importance in determining the LA submittal schedule. The LSN re-certification may occur in August 2005, which could support potential docketing of an LA six months later. He added that the management processes, programs, and implementing procedures are in place to ensure quality of the LA, and, with respect to problem identification, employees have a number of avenues to raise issues.

Mr. Arthur then addressed the e-mail issues regarding the potential falsification of information in USGS technical products and their possible impact on Yucca Mountain licensing documents. An extent of condition evaluation is in progress and should be completed by the end of July 2005. The preliminary conclusions are that the net infiltration estimates are technically defensible and that there does not appear to be any impact on the technical information presented in the site recommendation

documentation, the key technical issues (KTI) responses, or the contents of the draft LA. Mr. Arthur stressed that the behavior exhibited in the e-mails alleging wrongdoing is not condoned and is unacceptable. At this time, it is not known when the investigations underway by the DOI and DOE Inspectors General will be complete and available for review and use. Mr. Arthur suggested that when the internal evaluations are completed he would like to have a technical exchange with the NRC to discuss the results. Mr. Arthur also stated DOE is preparing an historical review of quality assurance since 1992, expected to be completed in the next several months.

DOE will ensure the completeness and accuracy of the LA and any USGS products used as support, certify the LSN, finish the work on the LA with an emphasis on quality, continue progress in the implementation of management programs, and reinforce the standards for professional conduct.

Mr. John Linehan (NRC) asked whether the finalized DOE investigative report on the USGS e-mail issues will be available for independent review. Mr. Arthur indicated that all such documentation will be made available. Mr. Reamer then asked what reports are to be issued. Mr. Arthur responded that the internal extent of condition report, when issued, will be available, as well as the quality assurance history and summary.

Mr. Linehan asked whether there will be an investigation of QA performance. Mr. Arthur responded that there is an independent assessment of QA and management process scheduled to be complete for September 2005.

Mr. Leonard Wert (NRC) asked why the USGS issue is not addressed by a Level A CR. Mr. Arthur responded that the CR significance level will be finalized in conjunction with the conclusions of the internal investigation.

Mr. Strosnider asked what will define success in the USGS impact evaluation. Mr. Arthur responded that success will be marked by the completion of a thorough extent of condition evaluation, ensuring any similar behavior is identified and rectified, and ensuring that the LA is correct, high quality, and acceptable for NRC's review.

Mr. Reamer raised the NRC's need for an LA schedule as a resource allocation concern. Mr. Arthur stated that he understands NRC's position and will provide an LA submittal schedule as soon as it is available.

Mr. Latta requested that the NRC Onsite Representatives be given the opportunity to observe the CR-5559 investigation and extent of condition activities. Mr. Arthur said that DOE appreciates the NRC's insights and oversight on these activities, as appropriate.

Mrs. Susan Lynch (State of Nevada) commented that the issues raised in CR-5559 appear to be a continuation of problems and issues identified during the NRC Technical Evaluation of three Analysis and Modeling Reports (AMRs) conducted over a year ago. Mrs. Lynch was pleased to hear that CR-5559 was initiated by a line organization

person, but added that disregard for QA compliance, particularly at USGS, has been a problem since she started oversight of the YMP over 20 years ago. Mrs. Lynch added that she would be glad to share her 20 years of research findings on laboratory failures to follow QA procedures with the NRC and DOE in support of DOE's analysis.

Mr. Budhi Sagar, Center for Nuclear Waste Regulatory Analysis (CNWRA), asked about the 35 geotechnical boreholes that are planned and whether they are to be included in the LA. Mr. Richard Craun, DOE, responded that information collected from the boreholes will be used to assist in the design of the surface facilities and aging pad at the repository.

Preclosure Safety Analysis and Repository Design

Mr. Craun provided an overview of preclosure design activities, including discussion of design status, design products alignment, and future activities.

In the areas of design development and design enhancements, discussions included: design details for the site specific aging system; site-specific canisterization system design for use with the aging system; electrical systems; use of inerting systems for specific operations to prevent fuel matrix degradation in the event of perforated fuel cladding; design of non-standard equipment and the work to confirm Preclosure Safety Analysis reliability analyses; evaluating potential effects of non-Important to Safety Structures, Systems, and Components (SSCs) on Important to Waste Isolation SSCs; aircraft hazard analysis and the establishment of a no-fly zone, seismic design methodology and preliminary facility seismic analysis; thermal management strategy; automated event trees analysis, including direct radiation sources and low-level waste sources in preclosure safety analyses; and the potential impact of results from preclosure analyses on post closure activities.

Mr. Craun noted that there are new issues resulting from the technical exchange on Aircraft Hazards related to the consideration of 10 CFR Part 71 and Part 72 systems. Mr. Craun provided a proposed schedule for additional technical interactions with the NRC in areas of interest for their consideration.

Mr. Elmo Collins, NRC, said he appreciated the proposed technical interactions schedule and believes that the additional interactions will be very helpful and informative. Mr. Collins stated that he would like to hear more details on the site-specific canisterization process and design at the upcoming technical exchange on aging.

Mr. Tae Ahn, NRC, asked for clarification on the extent of inerting and if DOE is considering lessons learned from facilities that implement inerting. Mr. Craun responded that partial inerting will be employed and that DOE is incorporating knowledge gained and lessons learned from other facilities that implement inerting.

NRC staff asked about the grouping of standard and non-standard equipment and what equipment will be contained in the different facilities. Mr. Craun replied that these associations are under development.

Mr. Wes Patrick, NRC, asked how the specifics of an inerted environment are being addressed with respect to preclosure issues and whether diverse safety systems are to be employed. Mr. Craun responded that these issues will be addressed through process management activities.

Quality Assurance Program Update

Mr. Denny Brown, Director, Office of Quality Assurance (OQA), DOE, provided an update on QA activities. The Quality Assurance Requirements Description (QARD), Revision 17, is currently under NRC review for acceptance. Mr. Brown added that a CR has been written regarding organization chart information contained in lower tier M&O documents. Regarding the CAP oversight area, Mr. Brown noted that as a result of minor CAP process issues identified during OQA and M&O surveillances, AP-16.1Q, "Condition Reporting and Resolution," will be revised to make the CR initiation process clearer and easier to follow.

The status of CAR-001 (also known as CR-099) on Model Reports was discussed briefly. This CR was closed on February 22, 2005.

The latest quarterly trending report was issued May 20, 2005. Mr. Brown noted that human performance, mostly skill-based problems, continues to be the dominant causal factor. He noted a decline in the percentage of Level A and B CRs as identified by line organization personnel. This decline has been identified as an adverse trend in a separate CR for resolution. Mr. Brown also noted a consistently high frequency of CRs relating to data management and added that further investigation of this situation is underway.

With respect to audits and surveillances, Mr. Brown stated that there is a history of performance-based auditing at YMP and that the project has benchmarked its approach against NRC inspection methodologies and industry standards. He added that audits for 2006 will be a balance of performance-based and compliance-based activities. Mr. Brown provided a summary of completed audits and surveillances and discussed several upcoming audits related to software and design.

Mr. Collins thanked Mr. Brown for the audit schedule and asked if a performance-based design audit is included. Mr. Brown replied that it is scheduled for July 2005. Mr. Collins also asked about the content of the QA organization chart Condition Report. Mr. Brown explained that some of the lines of reporting were not very visible or clear on lower tier organization charts.

Mr. Bob Latta, NRC, questioned the adequacy of the trending program since it did not identify the issues reported in CR-3235 and CR-5559. Mr. Brown said the situation is being evaluated.

Mr. Thomas Matula, NRC, asked how the performance indicators can show "Green" or good performance since human performance has been continuously identified as a dominant cause. Dr. Gil replied that this is the first time this new metric has appeared and that the performance indicators are currently being adjusted to more accurately reflect performance.

NRC/DOE Closing Comments

Mr. Strosnider thanked DOE for their presentations, the public in attendance, and the other stakeholders present.

Mr. Reamer echoed Mr. Strosnider and gave special thanks to Nye County, the Town of Pahrump and the Pahrump Valley Fire-Rescue Service for providing the facilities and hosting the meeting.

Mr. Strosnider then provided a quick high level summary in areas of interest to the NRC:

- Reflecting on the Performance Indicators and Safety Conscious Work Environment Technical Exchange - Need to maintain a focus on Safety Conscious Work Environment as it provides the foundation for quality. The annunciator panel is a work in progress.
- USGS E-Mail Issue - NRC wants a full understanding of the results of the Extent of Condition and look to follow up in this area.
- Preclosure - The NRC will work to establish an interaction schedule with DOE. NRC believes it is critical to facilitating an effective meeting that DOE make supporting documents available in advance of these interactions.
- Quality Assurance - The NRC is near completion of their review of the QARD, Revision 17.
- CR-5559 - The NRC interest is high and will follow progress related to this CR.
- LA Schedule - NRC wants to be kept abreast of LA schedule developments so resources can be adjusted appropriately.

Mr. Arthur thanked the NRC and others in attendance for their participation. Mr. Arthur stated that DOE is working hard to establish a schedule for submittal of a high quality LA. He addressed the USGS issues stating that DOE has aggressively dedicated resources to the problem and has completed a large amount of work since the issue was identified just three months ago. DOE will seek to have the corrective actions completed and entered into the CAP by the end of June 2005 and have an interaction with NRC to report on the results. DOE continues to work on the level of detail for preclosure analyses and design work. Mr. Arthur proposed a technical exchange on the trending program and human performance issues to achieve the proper perspective on the process. Mr. Arthur added that management assessment of Safety Conscious Work Environment is ongoing and that should be completed in the next few weeks.

The next NRC/DOE management meeting is scheduled for September 15, 2005, at NRC Headquarters in Rockville, MD.

Action Item Status

The status of open action items was reviewed and one new action item was established that replaces action item MM 0411-02 requiring DOE and NRC to determine the dates for the list of proposed technical interactions discussed during the June 6, 2005 Management Meeting. DOE and NRC agreed to close three previous action items, MM 0411-02, MM 0502-01, and MM 0502-02. Status of action items is summarized in the attached table.

Public Comments

None.

Date: 7/13/05

C. William Reamer, Director
Division of High Level Waste Repository Safety
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission

Date: 7/11/05

Joseph D. Ziegler, Director
Office of License Application and Strategy
Office of Repository Development
U.S. Department of Energy