

TV/SUR OBS SNL QA PROG/1

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JUN 01 1990

Mr. Ralph Stein, Associate Director
for Systems Integration and Regulations
Office of Civilian Radioactive Waste Management
U.S. Department of Energy, RW-30
Washington, D.C. 20585

Dear Mr. Stein:

SUBJECT: SURVEILLANCE OBSERVATION OF SANDIA NATIONAL LABORATORIES
QUALITY ASSURANCE PROGRAM

From April 23 through 26, 1990, the U.S. Nuclear Regulatory Commission (NRC) staff observed the U.S. Department of Energy (DOE)/Yucca Mountain Project Office (YMPO) Quality Assurance (QA) Surveillance No. YMP-SR-90-027 of Sandia National Laboratories (SNL) conducted at Albuquerque, New Mexico. This letter transmits the NRC Surveillance Observation Report for the DOE/YMPO surveillance of the SNL QA program.

The NRC staff evaluated the DOE/YMPO QA surveillance to gain confidence that DOE and SNL are effectively implementing the requirements of their QA program. The NRC staff based its evaluation of the surveillance process and the SNL QA program on direct observations of the surveillance team, discussions with SNL staff and reviews of the pertinent surveillance information (e.g., surveillance check-list and SNL QA documents) and other available pertinent information.

The scope of this surveillance was limited to procedural implementation. No assessment of technical adequacy and qualification of any of the technical documents (study plans and exploratory shaft facility design alternative study) was made during the surveillance. The NRC observer found the DOE/YMPO surveillance of the SNL QA program useful and effective. The surveillance team was familiar with the SNL QA Plan and the relevant QA procedures being implemented. Their check-list for this surveillance was well prepared and utilized in determining the status and effectiveness of QA program implementation under 10 CFR Part 50, Appendix B, Criteria 3, 5, 6, 12 and 16. The team seemed to have an excellent knowledge of the requirements of the Nevada Nuclear Waste Storage Investigations Quality Assurance Plan (NNWSI/88-9) and applicable QA procedures. The NRC staff agrees with DOE/YMPO surveillance team's conclusion that the procedural implementation of the SNL QA program under Criteria 3, 5, 6, 12 and 16 is adequate.

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If you have any questions concerning this report, please contact Mark Delligatti of my staff at (301) 492-0430.

Sincerely,

ORIGINAL SIGNED BY

John J. Linehan, Director
Repository Licensing and Quality
Assurance Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated

cc: R. Loux, State of Nevada
C. Gertz, DOE/NV
S. Bradhurst, Nye County, NV
M. Baughman, Lincoln County, NV
D. Bechtel, Clark County, NV
D. Weigel, GAO

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SURVEILLANCE OBSERVATION REPORT

1. INTRODUCTION

Sandia National Laboratories (SNL) is responsible for repository systems development; data management and analysis; systems performance assessment of the repository; conceptual design of the repository; determining the thermal and mechanical properties of the host rock; repository sealing performance requirements, materials evaluation, design, and testing; and providing assistance to other Yucca Mountain Project (YMP) participants in areas of specialized expertise. The SNL Quality Assurance (QA) program is based on the requirements of the Nevada Nuclear Waste Storage Investigations Quality Assurance Plan (NNWSI/88-9), Revision 2. All the YMP work at SNL is controlled through the U.S. Department of Energy (DOE)/Yucca Mountain Project Office (YMPO) approved SNL Nuclear Waste Repository Technology (NWRT) Quality Assurance Program Plan (SNL-NWRT-QAPP), Revision E.

From April 23 through 26, 1990, DOE/YMPO conducted a surveillance (No. YMP-SR-90-027) of the SNL QA program in Albuquerque, New Mexico. This surveillance was conducted in accordance with the YMPO Quality Management Procedure, QMP-18-02, "Surveillance", Revision 1. A member of the U.S. Nuclear Regulatory Commission (NRC) staff participated in this surveillance as an observer. This Surveillance Observation Report documents the staff's assessment of the effectiveness of the DOE/YMPO surveillance and to a lesser extent, the adequacy and status of implementation of the SNL QA program.

2. PURPOSE

This DOE/YMPO surveillance evaluated the adequacy and status of procedural implementation of the SNL QA program in selected program elements. The NRC staff's purpose in observing this surveillance was to gain confidence that the DOE and its contractors are properly implementing the requirements of QA program by assessing the effectiveness of the DOE/YMPO surveillance and determining the adequacy of the SNL QA program.

3. SCOPE

The DOE/YMPO surveillance team selected Criteria 3, 5, 6, 12 and 16 requirements from the NNWSI/88-9 QA Plan and the SNL QAPP for review and assessment of QA program adequacy and status of procedural implementation. All applicable procedures under these criteria were checked for their completeness, adequacy of program controls and status of implementation. The scope of this surveillance did not include any review of the technical adequacy and qualification of the technical products such as study plans, exploratory shaft facility (ESF) alternatives study, or technical procedures.

ENCLOSURE

4. SURVEILLANCE PARTICIPANTS

DOE/YMPO

Martha J. Mitchell, SAIC, Team Lead
 Richard L. Weeks, SAIC, Team Member
 Robert B. Constable, DOE, Team Member

NRC

Tilak R. Verma, Observer

State of Nevada

Susan W. Zimmerman, Observer

5. SURVEILLANCE SUMMARY RESULTS

The DOE/YMPO surveillance team conducted a detailed examination and review of the SNL records, logs and documents to assess compliance with the procedural requirements. The team interviewed several SNL and contractor personnel to assess their knowledge of applicable procedures under each criterion. Adequacy of controls and status of implementation for selected procedures was assessed and documented on the check-list for each of the selected criteria. The surveillance team identified six weaknesses in the portions of the SNL QA program covered by the surveillance. Three of these weaknesses were identified as deficiencies and the other three as observations. Five are related to the Criterion 3 requirements for QA, technical and management reviews of study plans, technical procedures, and ESF alternatives study, acceptance or rejection criterion for experimental procedures (EPs) and documentation of review comments and their resolution. The one remaining weakness is under the requirements of Criterion 6 (Document Control). None of these weaknesses, if corrected in a timely manner, is serious enough to affect the adequacy of QA controls or their procedural implementation. The surveillance team concluded that the QA program controls under Criteria 3, 5, 6, 12 and 16 are adequate and their implementation is satisfactory. The surveillance team did not assess the effectiveness of implementation for these criteria of the SNL QA program.

6. SNL AND CONTRACTOR PERSONNEL CONTACTED

Gene A. Smit, QA, SNL
 Robert P. Sandoval, Technical Projects, SNL
 Les E. Shephard, Geoscience Assessment and Validation, SNL
 Aldred L. Stevens, Repository Engineering, SNL
 Greg Warner, QA, Mactec
 James V. Voigt, QA, Mactec
 Stan A. Edmund, Admin., SNL
 Joy Bemesserfer, Admin., SNL
 Sarah E. Sharbton, Admin., SNL
 James T. George, Geomechanics Analysis and Testing, SNL
 James Phillips, SNL
 James G. Lee, SNL
 Robert R. Richards, QA, SNL
 Price, Ronald H., SNL

7. NRC CONCLUSIONS

The NRC observer found the DOE/YMPO surveillance of the SNL QA program useful and effective. The surveillance team was familiar with the requirements of the NNWSI/88-9 QA Plan and the SNL-NWRT-QAPP. Their check-list for this surveillance was well prepared and utilized in determining the adequacy of QA controls under Criteria 3, 5, 6, 12 and 16 and for assessing the status of completeness and procedural implementation of all the applicable procedures under these criteria. The team was thorough and professional in interviewing the SNL and contractor personnel and in conducting the surveillance.

The scope of this surveillance was limited to procedural implementation. No assessment of technical adequacy and qualifications of any of the technical documents (such as study plans, technical procedures and ESF alternatives study) was made during the surveillance. The surveillance identified several weaknesses and deficiencies in the SNL QA program. None of these weaknesses, if corrected in a timely manner, is serious enough to affect the adequacy of QA controls or their procedural implementation. The NRC staff agrees with the DOE/YMPO surveillance team's conclusion that the SNL QA program provides adequate controls and that the procedural implementation of the procedures under the above criteria is also adequate. The DOE/YMPO team did not make an assessment of the effectiveness of the implementation of QA program under the above criteria.

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