

QUALITY ASSURANCE AUDIT REPORT
NYE COUNTY
NUCLEAR WASTE REPOSITORY PROJECT OFFICE
AUDIT NUMBER NWRP0-01-2005

Date: March 31, 2005

To: Doug Davis, NWRPO Quality Assurance Officer

From: Quality Assurance (QA) Audit Team

SUBJECT: Audit of Nye County Nuclear Waste Repository Project Office (NWRPO) QA Program implementation Associated With Site 22 Tracer Test Activities.

PURPOSE: To verify that the requirements established by the NWRPO QA program are being effectively applied and implemented for the Nye County Testing activities.

SCOPE: The audit was conducted to evaluate the effectiveness of the QA program implementation of the drilling operations and tracer tests being conducted at EWDP-22S between November 11, 2004 and January 26, 2005. The audit team members interviewed cognizant personnel, examined supporting documentation, reviewed procedures, and evaluated procedure implementation to determine the adequacy and effectiveness of compliance with NWRPO QA program requirements. Recommendations made during the full program audit conducted in November 2004, were also reviewed, although not required, for any changes voluntarily made to enhance the Nye County QA Program.

BACKGROUND: The Nye County Independent Scientific Investigation Program includes the Early Warning Drilling Program (EWDP), which has been established to monitor groundwater flow and provide qualified data down gradient of the proposed nuclear waste repository. The EWDP is planned to be accomplished in phases (four completed to date) with over 30 well drilling operations and locations. Several final reports have been issued by Nye County on completed drilling operations. U.S. Department of Energy personnel are located at the drilling sites to confirm the drilling process and core sample collection.

The QA program is intended to ensure that scientific activities are conducted in a systematic manner, using documented instructions and procedures to ensure the validity, integrity, preservation, and retrievability of the data generated.

SUMMARY: Based upon reviews of in-process documentation, interviews of personnel, and examination of procedure processes, the audit team determined that the Nye County QA program requirements were being effectively and satisfactorily implemented for the current scope of activities based on the samples selected and reviewed during this audit. No conditions adverse to quality were identified. Three recommendations were made (listed below). Recommendations do not require a response.

AUDIT TEAM MEMBERS:

Kenneth Hooks, QA Contractor Lead Auditor
William Belke, QA Contractor Auditor

DATE OF AUDIT: March 21-22, 2005

PERSONNEL CONTACTED: D. Swanson, D. Hammermeister, D. Davis, S.Dudley, K. Gilmore, and L. Kryder.

AUDIT CONDUCT: In accordance with the audit plan, the following QA Program Plan (QAPP) sections were reviewed:

3.0 Design Control
12.0 Control of Measuring and Test Equipment
17.0 Quality Assurance Records
18.0 Audits
Work Plan WP-9
Test Plans TPN-9.2 and TPN-9.3
Technical Procedures TP-7.0 and TP-9.2

The audit focused on the tracer push pull tests and cross-hole tests performed at Site 22. This included the review and evaluation of quality-affecting activities and data associated with the Site 22 activities, measuring and test equipment, QA records, and recommendations made during the November 2004 full program audit. The tracer tests were accomplished in accordance with WP-9, *Work Plan for Tracer Testing*, Rev.0, (7/30/03), TPN-9.2, *Single-Push/Pull Tracer Tests at Well NC-EWDP-22S*, Rev. 0, (11/18/04), and TPN-9.3, *Cross-Hole Multiple-Well Tracer Test at Site 22*, Rev. 0, (11/18/04). The push/pull tests on Well 22S began on December 2, 2004 and the cross-hole tests began on January 13, 2005.

The scientific notebook in which the performance of tests was recorded, and the data monitored and collected by data loggers, had not been formally submitted to the Quality Assurance Records Center (QARC) at the time of this audit. The auditors reviewed copies of pages 1 through 76 of scientific notebook #174, *NC-EWDP SITE 22 Tracer Tests*, dated November 22, 2004 through January 26, 2005. Random pages of Scientific Notebooks #155, *Westbay Wells* and #145, *EWDP Field Chemistry* were also reviewed. All pages were sequentially numbered, dated, signed, and countersigned. A disc containing the temperature and pressure readings recorded from the Westbay probes used in the tests, *NC-EWDP-22, 12/1/04-3/18/05*, was sampled by file numbers taken from the scientific notebook (e.g., 01170522 pa pb 01.WD2, page 52, 1/17/05) to verify traceability between the scientific notebook and the raw data logged. Scientific notebooks and raw data are not posted on the Nye County web site but are retained in the QARC and available for review upon request. The data from the Westbay Probes and Tracer Tests were downloaded and fully traceable in accordance with QAP-17.1, Section 5.2. Daily drilling forms and tubing and casing forms were reviewed for accuracy and completeness and found acceptable.

The auditor's review of the scientific notebook entries against the requirements of TPNs 9.2 and 9.3 verified that personnel performing these tests conformed to the requirements of the TPNs, and that the data from the tests, including the samples taken and sent off site for analysis, should be traceable to the tests performed.

The auditors checked the calibration and identification status of the Westbay probes, Mosdax data logger module, and electro digital thermometer. Training records associated with TP-7.0 and TP-9.2 were verified and found to be complete and accurate.

The auditors verified that the recommendations concerning the QA program, which were contained in Dow Davidson's August 2002 annual review and Audit report NWRPO-1-2004, were evaluated and either adopted or otherwise closed.

Checklists based on the applicable implementing QA and technical procedures identified above and associated with this audit, will be entered into to the QARC as a separate entity.

RECOMMENDATIONS:

1. Several sections of the QAPP afford the opportunity to allow in-process activities to be observed independently to verify conformance to Nye County program requirements. It is recommended that when time and resources permit, more of these surveillances be performed and documented.
2. Certain portions of the QAPP, Quality Administrative Procedures, and technical procedures contain requirements that may not be necessary and may not be totally implemented under the current scope of activities. It is recommended that these requirements be reviewed and where applicable, consider removing any unnecessary requirements on the next revision effort.
3. Weekly reports issued to all affected individuals on the status of the Independent Scientific Investigations Program were discontinued in 2004. It is recommended that consideration be given to reinstating these reports to inform all program participants of the current status. These reports would especially be helpful in planning activities for future audits and surveillances.

EXIT SUMMARY: During the exit meeting, the audit team expressed their appreciation for the cooperation and responsiveness from all personnel during the audit. Especially notable was the knowledgeable QA Records Specialist who retrieved all requested information in a timely manner.

cc: Nye County Commissioners
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