



**GEOSCIENCES AND ENGINEERING DIVISION
QUALITY ASSURANCE
SURVEILLANCE REPORT**

PROJECT NO.: Various

REPORT No.: 2006-01

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SURVEILLANCE SCOPE:

Review of technical reports and assess software configuration status identification, technical reviewer qualification and training, accessibility of report web site references, documentation of calculation over checks and traceability to referenced scientific notebooks.

REFERENCE DOCUMENTS:

QAP-002, Revision 10, Change 1, "Review of Documents, Reports, and Papers"

QAP-005, Revision 4, Change 2, "Quality Indoctrination and Training"

QAP-014, Revision 3, Change 0, "Documentation and Verification of Scientific and Engineering Calculations"

START DATE:

January 17, 2006

END DATE:

January 20, 2006

QA REPRESENTATIVE:

Randolph Folck

PERSONS CONDUCTING ACTIVITY: Various

SATISFACTORY FINDINGS:

Reviewed seven technical reports delivered since September 2005 that includes calculation over checks. Verified the following:

- Configuration status identification for referenced computer codes
- Documentation of calculation over checks
- Record of training for technical reviewers
- Traceability to referenced scientific notebooks
- Accessibility to web site references

UNSATISFACTORY FINDINGS:

- The technical review and calculation verifications for **Report Q200511030004, Effect of Single-Fracture Aperture Variability on Field-Scale Transport – SKB Final Report** were performed on October 19, 2005. Training to QAP-014 was not requested nor documented for the Technical Reviewer, Alexander Sun.
- The technical review and calculation verifications for **Report Q200509060001, Summary and Analysis of Subsurface Fracture Data from the Topopah Spring Tuff Upper Lithophysal Middle Nonlithophysal, Lower Lithophysal, and Lower Nonlithophysal Zones at Yucca Mountain, Nevada** were performed on September 16, 2005. Calculation errors identified by the Technical Reviewer (i.e., Table 4-1, Set 3, Mean Orientation) were not corrected in the delivered report.

NCR NO.: 2006-05, 2006-06

CAR NO.: None

ATTACHMENTS: None

RECOMMENDATIONS/ACTIONS:

See page 2.

APPROVED:



DATE:

1/20/06

DISTRIBUTION:

ORIGINAL—QA RECORDS
DIRECTOR, QA
ASSISTANT DIRECTORS
MANAGERS

Recommendations:

- Require that scientific notebook numbers be included in the Quality of Data, Analysis, and Code Development section of technical reports to enhance traceability.
- Perform an analysis of report review comments (e.g. incomplete reference, calculation errors, definition of terms, report organization) to identify potential training opportunities for authors and reviewers and to focus future surveillance activities.
- When more than one code (software) is used to generate report data, a sample of input and output files should be checked for each code used.
- Discourage the use of web site references in reports. These addresses may change over time making the link obsolete.
- Perform a second, documented, calculation verification when calculation errors are noted in the first calculation verification.