



# CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

## QUALITY ASSURANCE

### SURVEILLANCE REPORT

PROJECT NO.: 20.06002.01.031

REPORT NO.: 2003-09A\*

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**SURVEILLANCE SCOPE:** Surveillance on Repository Design and Thermal-Mechanical Effects

**REFERENCE DOCUMENTS:**

CNWRA Operations Plan Revision 17, Change 0; QAP-002 Review of CNWRA Documents, Reports and Papers; QAP-004 Surveillance Control Procedure

**STARTING DATE:** March 19, 2003

**ENDING DATE:** March 28, 2003

**QA REPRESENTATIVE:** Mark R. Ehnstrom

**PERSONS CONDUCTING TEST/EXAM/ACTIVITY:** Drs. Biswajit Dasgupta, Goodluck Ofoegbu, and Douglas Gute

**SATISFACTORY FINDINGS:**

Discussions were held with B. Dasgupta, G. Ofoegbu, and D. Gute concerning the Repository Design and Thermal-Mechanical Effects (RDTME) Key Technical Issue. These discussions identified current project activities and the work areas within the KTI. For example, several members work on the RDTME KTI, but Drs. Ofoegbu and Gute are more involved in post-closure activities, while Dr. Dasgupta is more involved in pre-closure activities. Software programs used for modeling activities include the PCSA Tool, SAPHIRE, MACCS2, FLAC, MECHFAIL, UDEC, and TPA. These programs are currently listed on the CNWRA List of Controlled Engineering and Scientific Software. Professional Personnel Qualification files were reviewed for SwRI workers George Adams, Fern Thomassy, and Mark Leshner. These SwRI personnel provide additional assistance to the RDTME KTI from outside the CNWRA. The review found the QA Personnel Qualification files to be complete and contained the required information. Discussions confirmed that no samples had been obtained for analysis. Current activity is limited to reviewing DOE project activities and, through analysis of the DOE data, either confirming or challenging their results. Results of the analysis are sent to NRC for review as pre-decisional draft reports. A report issued in November 2002 titled "MECHFAIL- A Total System Performance Assessment Code for Evaluation Engineered Barrier Performances Under Mechanical Loading Conditions" was reviewed for compliance to QAP-002. The review found the report was processed within the requirements contained in QAP-002.

**UNSATISFACTORY FINDINGS:** None

**NONCONFORMANCE REPORT NO.:** N/A

**Corrective Action Request No.:** N/A

**ATTACHMENTS:** None

**RECOMMENDATIONS/ACTIONS:** None

\* Revision 9A was issued to correct individual personnel responsibilities and correct the report issuance date for the report reviewed during the surveillance.

**APPROVED:**   
CENTER DIRECTOR OF QUALITY ASSURANCE

**DATE:**

4/8/2003

**DISTRIBUTION:**

ORIGINAL - CNWRA QA DIRECTOR, QA Records

ORIGINATOR: Ehnstrom

PRINCIPAL ENGINEER: N/A

ALL ELEMENT MANAGERS

P. Mackin, B. Sagar, B. Dasgupta, G. Ofoegbu, and D. Gute