



CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES QUALITY ASSURANCE SURVEILLANCE REPORT

PROJECT NO.: 20.06002.01.031

REPORT NO.: 2004-12

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SURVEILLANCE SCOPE: Performance Assessment Activities - Risk Analysis for Risk Insight Report

REFERENCE DOCUMENTS: QAP-001, Scientific Notebook Control; QAP-004, Surveillance Control; QAP-007, Professional Personnel Qualification

STARTING DATE: 07/19/04

ENDING DATE: 08/5/04

QA REPRESENTATIVE: Mark R. Ehnstrom *MRE*

PERSONS CONDUCTING TEST/EXAM/ACTIVITY: S. Mohanty, R. Janetzke, G. Adams, D. Gute, L. Howard, M. Smith, R. Benke, D. Dunn, L. Yang

SATISFACTORY FINDINGS: Discussion with the manager of the Performance Assessment, S. Mohanty, lead to the decision to focus the surveillance on the "Risk Analysis For Risk Insights Progress Report" that is currently in preparation. PA Staff were interviewed and documents were reviewed to verify the activities described in the report had been performed in accordance with applicable procedures. Four areas of the subject report were evaluated as follows:

Rockfall Damage to Waste Package

Four TPA code parameters were identified in the subject report as requiring change. The input file (tpa.inp) and Scientific Notebook 612-8E provided documentation of these changes. TPA code modules SEISMO2.f and MECHFAIL.f were also changed and were documented in Software Change Request 481. TPA code version changes from 5.0s to 5.0t and from 5.0t to 5.0u were described in Software Change Requests 477 and 486.

Credit Attributed to Alluvium

Surveillance in this area concerned the new curve fitting coefficient determination and TPA data file modification. Scientific Notebook 377, Page 77 contained the table of information which was placed into the coefkdeq.dat file.

High Burn-Up Spent Nuclear Fuel

Radionuclide inventories for high burn-up fuels were calculated using the ORIGEN-ARP.2.00. These activities were documented in scientific notebook 650. This work was performed using TPA 5.0s which was also confirmed in the notebook.

Natural Backfill and Igneous Consequences

A numerical model based on the MECHFAIL module was used in the analysis for evaluating the effects of natural backfill on the consequences from an igneous eruption. Based on this work it was found that because drift degradation does not affect the basecase model for a volcanic eruption, it will not be necessary to modify the TPA code. The work is documented in scientific notebook 170-12E, page 12.

Overall Conclusions

The surveillance determined that data generated by CNWRA personnel was well documented and readily available for review. However, some sections of the subject report were solely authored by NRC personnel and supporting information was less readily available. Prior to the formal reviews of the report, the necessary information from NRC contributors will be requested. The surveillance noted that the NRC PEM was appointed to perform calculation checks.

UNSATISFACTORY FINDINGS: None

NONCONFORMANCE REPORT NO.: N/A

CORRECTIVE ACTION REQUEST NO.: N/A

ATTACHMENTS: None

RECOMMENDATIONS/ACTIONS: None

APPROVED: *Robert Beil*
CENTER DIRECTOR OF QUALITY ASSURANCE

DATE: *8/11/04*

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