



**CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES  
QUALITY ASSURANCE  
SURVEILLANCE REPORT**

PROJECT NO: 20.06002.01.031

REPORT NO: 2003-07

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**SURVEILLANCE SCOPE:** Development and control of software

**REFERENCE DOCUMENTS:** TOP-018, Development and Control of Scientific and Engineering Software  
QAP-004, Surveillance Control  
QAP-013, Quality Planning  
Corrective Action Request (CAR) 2001-04

**STARTING DATE:** March 10, 2002

**ENDING DATE:** March 31, 2003

**QA REPRESENTATIVE:** R. Folck

**PERSONS CONDUCTING TEST/EXAM/ACTIVITY:** R. Janetzke, B. Mabrito, S. Painter, M. Ehnstrom, B. Dasgupta, G. Wittmeyer, M. Padilla, B. Winfrey, D. Stead, A. Lozano, C. Cruz, P. Seely.

**SATISFACTORY FINDINGS:**

- The QA record copy of the following scientific and engineering software were successfully installed in accordance with documented installation instructions by CNWRA MIS staff members: MELCOR, V.1.8.5, MULTIFLO, V.1.5.2, PVHA\_YM, V.2.0, AND SOLCALC, V.1.0.
- Development activities for PCSA Tools are documented on Software Change Reports (SCR) and in a Scientific Notebook in accordance with TOP-018 requirements.
- The testing strategy being implemented to support validation of the TPA software was found to be thorough as well as sufficient to support future changes of the TPA software.

See recommendations.

**UNSATISFACTORY FINDINGS:**

None

**NONCONFORMANCE REPORT NO:** None

**ATTACHMENTS:** None

**RECOMMENDATIONS/ACTIONS:**

See page 2.

APPROVED:   
CENTER DIRECTOR OF QUALITY ASSURANCE

DATE: 4/1/2003

**DISTRIBUTION:**

ORIGINAL - CENTER QA DIRECTOR/ QA RECORDS  
ORIGINATOR - R. Folck  
PRICIPAL INVESTIGATORS  
ELEMENT MANAGERS  
TECHNICAL & ADMINISTRATIVE DIRECTORS  
M. Ehnstrom

**RECOMMENDATIONS/ACTIONS:**

1. When burning CDs, staff should ensure options are checked to allow for long file names. This prevents file names from becoming truncated.
2. Ensure installation instructions include all version numbers of support software such as "Makefile4.2" or FORTRAN Version 4.2, etc.
3. Future surveillance activities should continue to verify adequacy of installation instructions of CNWRA scientific and engineering software.
4. Though not specifically required by TOP-018, the Software Development Plan for PCSA Tools development should be revised to reflect current activities, specifically configuration management practices.
5. The following recommendations apply to TPA software testing activities.
  - a. Technical staff should review test cases for the most critical software modules for adequacy.
  - b. The SCR forms used by TPA should be modified to include a check box indicating that applicable test cases (.t & .h files) have been reviewed and modified as needed when changes to the TPA software are made.
  - c. Test logs should indicate, in addition to test failures, which test cases were run and how often.
  - d. The SDP for TPA should be updated to reflect the new testing strategy.