



CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

QUALITY ASSURANCE

SURVEILLANCE REPORT

PROJECT NO.: 20.01402.159

REPORT NO.: 2000-13

PAGE 1 OF 2

SURVEILLANCE SCOPE: Review of CNWRA Developed Scientific and Engineering Software to determine whether the documentation present in the CNWRA Software Working Records Folders is adequate.

REFERENCE DOCUMENTS: Technical Operating Procedure-018, Development and Control of Scientific and Engineering (S&E) Software; QAP-004, Surveillance Control; Nonconformance Report 2000-03.

STARTING DATE: 3/7/2000

ENDING DATE: 6/9/2000

QA REPRESENTATIVE: B. Mabrito

PERSONS CONDUCTING TEST/EXAM/ACTIVITY: Various CNWRA staff working on Developed S&E software.

SATISFACTORY FINDINGS: During the course of this surveillance, CNWRA Developed S&E software and documentation was checked and contact made with CNWRA staff who worked with the software. In each case, the particular S&E software folder was reviewed for completeness and where no Design Verification Report (DVR) was located, the objective evidence in the folder was compared to the DVR form questions and discussions were held with cognizant CNWRA staff. The list of Developed S&E software reviewed is included in Attachment A.

In each case, key elements of the DVR were compared against that which was included in each software folder in the QA working records. Also, the previous version of the software code documentation was checked to ensure that the earlier DVR had been properly completed. The later version of the software documentation showed the specific changes made through the Software Change Reports. Based on this review, it is clear that although in a few cases no DVR was accomplished, product quality did not suffer. The minor enhancements and "bug" fixes made to TPA Version 3.2.3 and 3DStress Version 1.3.1 and 1.3.2 software were clearly identified and controlled so that the CNWRA product being delivered met the client's requirements.

UNSATISFACTORY FINDINGS: None.

NONCONFORMANCE REPORT NO.: None.

ATTACHMENTS: Attachment A.

RECOMMENDATIONS/ACTIONS: N/A.

APPROVED: 
CENTER DIRECTOR OF QUALITY ASSURANCE

DATE: 6/12/2000

DISTRIBUTION:

ORIGINAL - CENTER QA DIRECTOR QA Records
ORIGINATOR
PRINCIPAL INVESTIGATORS OF EACH CODE
ELEMENT MANAGERS
B. Sagar, H. Garcia

31/68

ATTACHMENT A

Page 2 of 2

<u>NAME OF S&E SOFTWARE</u>	<u>DESIGN VERIFICATION REPORT</u>	<u>NOTES</u>
3DStress Version 1.2	Present	Dated 5/8/97
3DStress Version 1.3	Present	Dated 8/7/98
3DStress Version 1.3.1	Not Present	Software Release Notice Dated 7/15/99
3DStress Version 1.3.2	Not Present	Software Release Notice Dated 9/16/99
ASHPLUME Version 1.0	Present	Dated 6/23/97
BREATH Version 1.1	Not Present	Software Release Notice Dated 9/21/95
BREATH Version 1.2	Present	Dated 9/17/97
EBSPAC Version 1.0	Present	Dated 5/15/97
EBSPAC Version 1.1	Present	Dated 6/17/97
FAULTING Version 1.0	Not Present	Software Release Notice Dated 1/21/98 Module put under TPA Code and controlled in that manner.
GEOINVRT Version 1.0	Software Code Not Finished	Software Requirements Description only.
HAZINFO Version 1.0	Software Code Not Finished	Software Requirements Description only.
MULTIFLO Version 1.2	Present	Dated 3/2/2000
MULTIFLO Version 2.0	Software Code Not Finished	Software Requirements Description only.
PVHA Version 1.0	Present	Dated 2/15/2000
SUFLAT Version 1.0	Not Present	Element Manager (EM) determined that this software has not been used for regulatory reviews and will not be used for such work. EM requested the folder be archived in QA Records to reflect previous efforts on code.
TECTRAN Version 1.0	Software Code Not Finished	Software Requirements Description only.
TPA Version 3.2	Present	Dated 7/17/98
TPA Version 3.2 (PP) Beta	Present	Dated 11/25/98
TPA Version 3.2.3	Not Present	Software Release Notice Dated 7/14/99
TPA Version 3.3	Present	Dated 11/24/99
TPA Version 4.0	Present	Dated 3/31/2000