

4/61

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

NONCONFORMANCE REPORT

Page 1 of 2 ³⁸²

Project No. 20-1402-871

NCR No. 99-05

PART 1: DESCRIPTION OF NONCONFORMANCE

Contrary to TOP-018, Development and Control of Scientific and Engineering Software, section 5.3, the development of the scientific and engineering software UNSAPRP was begun without a Software Requirements Description being written and approved. This was noted in a UNSAPRP student presentation at the CNWRA on August 18, 1999.

The specific requirement in TOP-018: "For software that will be developed or extensively modified by the CNWRA, the first step involves preparation of the SRD (Software Requirements Description). An SRD is the basis for software development and shall be approved by appropriate CNWRA management and the client. With Element Manager approval, proof-of-concept development and testing of specific components of the software may be permitted to support development of the SRD."

Initiated by: Bruce Mabrito



Date: August 19, 1999

PART 2: PROPOSED DISPOSITION AND CORRECTIVE ACTION (Assigned to S. Mohanty/E. Pearcy)

Disposition: Work performed was purely "exploratory." A name assigned to this effort was needless. Therefore, UNSAPRP is just a name to identify the exploratory work.

Basis of Disposition: Any code developed will be meaningful if it is determined that the calculation can truly be applied to rocks that are representative of Yucca Mountain. The Software Requirements Description was planned to be developed only if the rock experiments (thin-sections, etc.) were successful. An **SRD will** be written if we succeed in preparing such specimens.

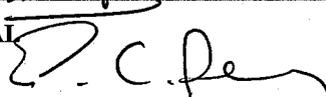
Action to correct nonconformance: Clarify the state of development of this effort. See the attached page further describing the activity.

Target date for completion: 8/20/99

Proposed by: 

Date: 8/20

PART 3: APPROVAL

Element Manager: 

Date: 8/20/99

Director of QA: 

Date: 8/20/99

Comments/Instructions:

PART 4: CLOSE OUT

Comments: Closed out
8/20/99. No further action
required on this NCR.

Verified by:  Date: 8/20/99

Distribution:

- QA Records (Orig.)
- S. Mohanty / D. Turner
- ALL** Element Managers
- B. Sagar
- H. Garcia
- M. Ehnstrom

5/61

Page 2 of 3
BSW

To: Mabrito, Bruce, Turner, David, Mohanty, Sitakanta
Priority: Normal

Bruce,

Regarding your inquiry into the unsaturated surface area work in the Radionuclide Transport KTI, I have been aware of the work since its beginning. David Turner and I have discussed this for some time. We have had multiple interactions with Sitakanta Mohanty as we sought an effective approach to address this difficult problem.

To date progress has been modest. We asked a summer student, Mike Epley, to try out some ideas to discover if they have any merit. Epley has been using rock samples (sandstone and Apache Leap tuff) to evaluate pore volumes and geometries to provide a basis for wetted surface area estimates. As part of that effort, initial exploratory calculations are being made to discover if this will be a useful line of investigation. A code called UNSAPRP is the name for the script being roughed out for these trials.

This work is being conducted consistent with TOP-018 section 5.3.1 which allows "proof-of-concept" development and testing with Element Manager approval. Given the highly unproven state of this method, this small code may actually be exempt from TOP-018 altogether under the provisions of section 5.1.

English

6/61

Date: 8/20/99
Sender: Sitakanta Mohanty
To: English Percy, David Turner
Priority: Normal
Subject: NCR-99-05

3 of 3

English:

I signed the NCR # 99-05 as suggested. To the best of my recollection, I had a verbal approval through Dave Turner. We did not prepare any written document because TOP-018 did not specifically call for any written approval. I am in the TOP-018 revision committee. Naturally, the first thing I will propose at the next committee meeting is to seek written approval for all exploratory work that would need the use of computer.

-Sitakanta

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