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CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
San Antonio Office

TRIP REPORT
April 27, 1992

SUBJECT: Sludge Wash Phase II Observers Meeting and Preview of Sludge Wash Cement Waste Form (20-3706-001)

DATE AND PLACE: April 16, 1992
West Valley, New York

AUTHOR: Prasad Nair

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SUBJECT: Sludge Wash Phase II Observers Meeting and Preview of Sludge Wash Cement Waste Form (20-3706-001)

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PERSONS PRESENT:

CNWRA

P. Nair

NRG

G. Comfort
M. Adams
J. Roth

Presenters included DOE staff from the West Valley Project Office and the contractor staff from the West Valley Nuclear Services Company, Inc. Other observers included staff from DOE, Idaho Operations and HQ, and NYSERDA.

BACKGROUND AND PURPOSE:

The meeting was held as part of DOE's readiness review for the resumption of operations for the sludge wash process at West Valley. The focus of the current activity is to remove the sulfate salts by sludge washing and dispose the salts in a cement waste form. The sludge and other HLW will be blended and a vitrified waste form will be produced. The plans are for the vitrification to take place in the 1996-1998 time period.

SUMMARY OF PERTINENT POINTS AND ACTIVITIES:

The DOE staff presented the details of the extensive reviews undertaken by both the West Valley Nuclear Services and the DOE to evaluate the next phase of the sludge processing effort. After the first sludge wash, the washing system was adequately checked out. A problem in the past of the lack of pH control in the 8D2 tank has been rectified. The pH control has enabled the fissile material to remain in the sludge and not be transported into the ion exchange columns. Titanium treated zeolite columns are planned to ensure the trapping of Pu in the supernatant. The Ti-treated zeolite will not affect the vitrification process. With the technical specifications evaluated, the required permits in place, tracking of fissile material planned and the training of operational personnel completed, the IRTS is scheduled to resume operation on April 27, 1992.

Delays to the planned IRTS operations may occur if the analysis of the test data on the new cement recipe for the low level waste is found inadequate and if there is no timely approval of the SAR for this operation. The new cement recipe with 20% total dissolved solids meets the required 28-day and the 90-day immersion tests compressive strength requirements for cored out specimens. However, the laboratory specimen tests on the 90-day immersion test for compressive strength did not pass. Depending on the outcome of the data analyses, the waste will be

classified as Class A or as Class C waste. Plans are to increase the percentage of the total dissolved solids in the cement to reduce the volume loading of the Drum Cell. Additional testing is planned. As part of this activity, DOE will seek NRC concurrence of the cement recipe.

A short meeting was held with the West Valley Nuclear Services staff to develop a list of seismic analyses information available and a potential future meeting to review the data and analyses.

IMPRESSIONS/CONCLUSIONS:

This was a well conducted meeting. The multiple reviews undertaken by the DOE and the contractor have enabled the IRTS activity to be a well documented and rigorous process. However, it is both time consuming and expensive. NRC staff reviews provide a balance on the health and safety issues that may be overlooked during system process evaluations.

PROBLEMS ENCOUNTERED:

None

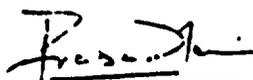
PENDING ACTIONS:

NRC LLW to review data from the cement waste form testing. DOE/NRC/CNWRA to review completeness of available vitrification system seismic analyses data/reports.

RECOMMENDATIONS:

Participation in the review meetings provide a better understanding of site problems and solutions. Active involvement of NRC/Center staff in such meetings should be encouraged.

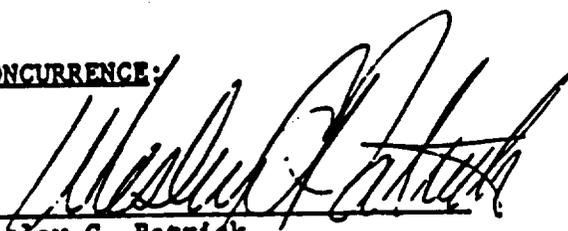
AUTHOR:



Prasad K. Nair
Element Manager, EBS/WSS, CNWRA

Date: 4/29/92

CONCURRENCE:



Wesley C. Patrick
Technical Director

Date: 4/30/92

REFERENCES:

None