

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

TRIP REPORT

SUBJECT: Review of Safety Analysis Report for Vitrification Operations and High-Level Waste Interim Storage
20-5706-003

DATE/PLACE: West Valley, NY: May 10-11, 1994
Buffalo, NY: May 12, 1994

AUTHORS: Emil Tschoepe III and Prasad Nair

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PERSONS PRESENT:

The participants were: P. Nair and E. Tschoepe from the CNWRA, and G. Comfort, K. Hardin, B. Troskoski, and J. Furia from the Nuclear Regulatory Commission (NRC). The list of all the attendees at the review is presented in Attachment A.

BACKGROUND AND PURPOSE OF TRIP:

The purpose of this trip was to attend presentations at the West Valley Demonstration Project (WVDP) concerning the "Review of Vitrification Safety Analysis." The WVDP Safety Analysis Report (SAR) on vitrification operations (SAR-003) has been drafted, and these presentations were made in anticipation of review of the draft SAR-003 by NRC and the U.S. Department of Energy (DOE) Technical Review Group (TRG). The CNWRA will support NRC in this SAR review.

SUMMARY OF PERTINENT POINTS:

The meeting was conducted in two parts. The first two days were devoted to presentations by WVDP on vitrification systems and hardware, and the final day was restricted to NRC and DOE TRG personnel for discussions on the logistics of conducting the respective reviews of the SAR on Vitrification. The draft SAR was planned by WVDP to have been made available to reviewers at the meeting, but it was not ready at that time. The draft SAR was expected to be mailed the week of May 23, 1994.

Copies of viewgraphs from WVDP presentations are available from the authors of this report. A copy of the meeting agenda is attached. Presentations began with an overview of the process for treatment of HLW and an overview of the vitrification process and schedule. The WVDP schedule calls for the Safety Evaluation Report (SER) to be issued by NRC in the third quarter of FY95 and radioactive operations at the Vitrification Facility to begin in the second quarter of FY96 (ending in the third quarter of FY98).

Technical presentations covered the following details of the vitrification facility:

- WVNS vitrification process overview, including a comparison of the WVDP melter design with the design of the Defense Waste Processing Facility (DWPF) melter

- Canister turntable refurbishment and installation, including remote replacement of turntable motors with spares, if necessary
- High efficiency mist eliminator (HEME)
- Vitrification cell shielding design, including penetrations
- Tour of the vitrification and support facilities, including the cold chemical area, the vitrification facility, and the vitrification mock-up facility
- Operations and HLW interim storage, including canister handling
- HLW transfer from the tank farm to the vitrification facility
- Process flow feed make-up, including the cold chemical system
- Off-gas processing, radiation protection program, and industrial hygiene and safety
- Industrial safety, emergency preparedness
- Safety envelope overview and classification (per DOE Std-1027-92 as Class 2)
- Training and qualifications standards
- Quality assurance (QA) program and classifications of vitrification components for QA and hazard category

During the tour of the vitrification plant and support facilities, it was noted that the inspection of the canister autogenous weld was planned to be a visual (video) inspection only. Also, the ventilation flow path from the Vitrification Plant included an elastomeric tube, apparently for seismic isolation.

The final meeting day was dedicated to a discussion of the logistics of a coordinated review by both the DOE TRG and NRC. Independence of the NRC review is required, and details of coordination as a result were not finalized during the meeting. The plan calls for the discussion of comments on the draft SAR-003 to be considered during a meeting tentatively scheduled for August 1994.

IMPRESSIONS AND CONCLUSIONS:

The schedule set by WVDP appears optimistic and may be affected by the TRG review process. Activities will be accelerating at WVDP, and NRC review activities are expected to accelerate accordingly. Technical details noted during the tour and identified above indicate that modifications to the facility and/or process may be needed.

PENDING ACTIONS:

The CNWRA will review the SAR-003 draft, which was received on May 27, 1994. CNWRA comments are expected to be forwarded through NRC by mid-summer, to accommodate potential coordination with TRG in August.

RECOMMENDATIONS:

The NRC/CNWRA should plan to attend future meetings with the TRG on coordination of review comments on the draft SAR-003 so that any issues dealing with radiological health and safety can be incorporated in the final SAR-003.

PROBLEMS:

None.

SIGNATURES:



Emil "Chuck" Tschoepe, III
Senior Research Engineer

6/3/94

Date

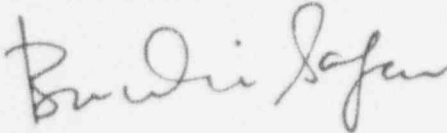


Prasad K. Nair
Element Manager, EBS

6/3/94

Date

CONCURRENCE SIGNATURE:



Budhi Sagar
Technical Director

6/3/94

Date

**DEPARTMENT OF ENERGY EM-30 SAFETY ANALYSIS REPORT
TECHNICAL REVIEW GROUP (TRG)**

**West Valley Demonstration Project
Conference Room**

May 10, 1994

<u>Name</u>	<u>TRG/Affiliation</u>	<u>Location</u>	<u>Telephone</u>
1. Mazzetti, August L.*	TRG/PDC	Oak Ridge, TN	615-482-9004
2. Kapila, Vishwa M.*	DOE/EH-331	Germantown	301-903-3639
3. Williams, Alan K.*	TRG/SAIC	Germantown	301-353-8228
4. Velen, Steve *	TRG/CAI	Livermore, CA	510-443-5071
5. Panesko, J. Vince*	TRG/WHC	Richland, WA	509-376-8123
6. Baxter, John T.*	TRG/WHC	Richland, WA	509-376-3350
7. Freshwater, David E.*	TRG/SAIC	Germantown	202-488-6626
8. Tulodieski, Donald B.*	TRG/VPA	Washington DC	703-438-3911
9. Patterson, Malcolm D.*	Intech/EM-23	Germantown	301-903-7482
10. Weinstein, Gerald L.*	TRG-CAI	Livermore, CA	510-443-5071
11. Thorne, Steve D.*	TRG/CAI	Seattle, WA	206-831-5068
12. Smith, Daniel W.*	TRG/CAI	Livermore	510-443-5071
13. Hardin, Kimberly J.*	NRC	Washington, DC	301-415-8119
14. Troskoski, William*	NRC	Washington DC	301-415-8197
15. Deem, Richard*	BNL	Upton, NY	516-282-2820
16. Davis, Richard*	BNL	Upton, NY	516-282-4950
17. Armstrong, Mark*	OSR	Germantown	301-428-1493
18. Ledwig, David W.*	RPI	Germantown	703-527-8780
19. Sen, Subir K.	DOE	Germantown	301-903-6571
20. Mukherjee, Subir K.*	DOE/ASTA	Malvern, PA	215 993-8300
21. Sutton, Donald K.*	DOE/ASTA	Malvern, PA	215 993-8300
22. Wong, See-Meng*	BNL	Upton, NY	516 282-2111
23. Comfort, Gary*	NRC	Washington DC	301-415-8106
24. Nair, Prasad*	CNWRA	San Antonio, TX	210-522-5150
25. Tschoepe, Emil "Chuck"*	CNWRA	San Antonio, TX	210-522-5470
26. Moran, Thomas J.	ANL	Argonne, IL	708-252-5901
27. Bertell, Tom	SAIC	Germantown	301-601-5608

* Members of the combined review team

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<u>Name</u>	<u>TRG/Affiliation</u>	<u>Location</u>	<u>Telephone</u>
28. Einerson, Jeff	INEL	Idaho Falls, ID	208-526-9798
29. Ketola, W. Stephen	DOE-WV	West Valley, NY	716-942-4314
30. Prowse, James J.	Dames & Moore	West Valley, NY	716-675-7130
31. Jackson, T. J.	DOE-WVPO	WVPO	716-942-2135
32. Lazzaro, Joe A.	WVNS	West Valley, NY	716-942-2215
33. Hummel, Jack P.	WVNS	West Valley, NY	716-942-4421
34. Yeazel, Alan	WVPO	West Valley, NY	716-942-4780
35. Kocialski, Tom	WVNS	West Valley, NY	716-942-4275
36. Lawrence, R. E.	WVNS	West Valley, NY	716-942-4390
37. Provencher, R. B.	DOE/WVPO	WVPO	716-942-4101
38. Miller, Chester E.	DOE/EM-323	Germantown	301-903-7194

* Members of the combined review team

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1. Mazzetti, August L.	TRG/PDC	Oak Ridge, TN	615-482-9004
2. Comfort, Gary	NRC	Washington DC	301-415-8106
3. Nair, Prasad	CNWRA	San Antonio, TX	210-522-5150
4. Tschoepe, Emil "Chuck"	CNWRA	San Antonio, TX	210-522-5470
5. May, Joseph	DOE-WVPO	WVDP	716-942-2161
6. Bertell, Tom	SAIC	Germantown	301-601-5608
7. Einerson, Jeff	INEL	Idaho Falls, ID	208-526-9798
8. Deem, Richard	BNL	Upton, NY	516-282-2820
9. Armstrong, Mark	OSR	Germantown	301-428-1493
10. Moran, Thomas J.	ANL	Argonne, IL	708-252-5901
11. Troskoski, William	NRC	Washington DC	301-415-8197
12. Sutton, Donald K.	DOE/ASTA	Malvern, PA	215 993-8300
13. Ledwig, David W.	RPI	Arlington, VA	800-848-0032
14. Mukherjee, Subir K.	DOE/ASTA	Malvern, PA	610 993-8300
15. Hummel, Jack P.	WVNS	West Valley, NY	716-942-4421
16. Furia, Joseph	NRC-RI	King of Prussia, PA	610-337-5041
17. Davis, Richard	BNL (EH-11)	Upton, NY	516-282-4950
18. McIntosh, Ted	DOE EM-323	Germantown	301-903-7189
19. Wong, See-Meng	BNL	Upton, NY	516 282-2111
20. Psaras, John	DOE-HQ	Germantown	301-903-2702
21. Hardin, Kimberly J.	NRC	Washington, DC	301-415-8119
22. Damerow, Fred	WVNS	West Valley, NY	716-942-4796
23. Prowse, James J.	Dames & Moore	West Valley, NY	716-675-7130
24. Freshwater, David E.	TRG/SAIC	Germantown	202-488-6626
25. Weinstein, Gerald L.	TRG-CAI	Livermore, CA	510-443-5071
26. Thorne, Stephen	TRG/CAI	Seattle, WA	206-831-5068

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27. Smith, Daniel W.	TRG/CAI	Livermore	510-443-5071
28. Patterson, Malcolm D.	Intech/EM-23	Germantown	301-903-1027
29. Tulodieski, Donald B.	TRG/VPA	Washington DC	703-438-3911
30. Baxter, John T.	TRG/WHC	Richland, WA	509-376-3350
31. Velen, Steve	TRG/CAI	Livermore, CA	510-443-5071
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33. Panesko, J. Vince	TRG/WHC	Richland, WA	509-376-8123
34. Williams, Alan K.	TRG/SAIC	Germantown	301-353-8228
35. Meigs, Richard A.	Vit. Eng.	West Valley, NY	716-942-4307
36. Shugars, D. L.	WVNS Eng.	West Valley, NY	716-942-4827
37. Lawrence, R. E.	WVNS	West Valley, NY	716-942-4390
38. Carl, D. E.	WVNS Vit. Sys.	West Valley, NY	761-942-4393
39. Jackson, T. J.	DOE-WVPO	WVPO	716-942-2135
40. Provencher, R. B.	DOE/WVPO	WVPO	716-942-4101
41. Miller, Chester E.	DOE/EM-323	Germantown	301-903-7194

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Conference Room**

May 12, 1994

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1. Mazzetti, August L.	TRG/PDC	Oak Ridge, TN	615-482-9004
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