WVNSCO
West Valley Nuclear Services Company

10282 Rock Springs Road
West Valley, New York USA 14171-9799
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Alice C. Williams, Director
U. S. Department of Energy
West Valley Demonstration Project
10282 Rock Springs Road
West Valley, New York 14171-9799

WV-48
WD:2002:0400
July 30, 2002

ATTENTION: J. J. May, WV-DOE

Dear Ms. Williams:

SUBJECT: Contract No. DE-AC24-81NE44139; Completion of FY2002 Contract Milestone HLW-8; Install Equipment and Flush Melter Feed Hold Tank (MFHT), due August 31, 2002

REFERENCES: 1) Letter WD:2002:0343, P. C. Weddle to M. J. Scouten, "Contract No. DE-AC24-81NE44139; Modification No. M293," dated July 2, 2002

2) WVNS-IRP-005, "HLW Processing Systems Flushing Operations Run Plan," Rev. 4

West Valley Nuclear Services Company (WVNSCO) has completed Contract Milestone HLW-8 (Reference 1), requiring WVNSCO to:

> Complete MFHT water flush.

In addition, the description in the milestone reads:

> Complete installation of flushing equipment and conduct flush of the MFHT using high-pressure water spray.
>
> Successful completion of this milestone shall be defined as performing a minimum of one high-pressure demineralized water spray cycle of the MFHT upper internal surfaces.

As part of the scope of work identified in Reference 2 above, cleaning of the MFHT internals to remove residual radionuclides was planned. The intent was to remove the residual radionuclides, transfer it back to the Concentrator Feed Make-up Tank (CFMT), and ultimately use it as feed stock to the melter.

In order to accomplish this activity, two special spray assemblies were designed and fabricated, a high-pressure water turbine driven rotary nozzle cleaner was procured, the high-pressure pump and associated high-pressure hoses and fittings used during Vitrification Cell Pit flushes were utilized, and a remote TV inspection camera was specially adapted for remote deployment and operation inside the tank.

The evolution was specified in Work Order (WO) VFS-65708, and included all preparatory jumper removal activities required to gain access to the tank internals as well as the deployment and operating requirements of the TV inspection camera. It also involved the use of the cleaning fixtures to position the spray heads in the MFHT to clean the upper internal surfaces as required. The cleaning fixtures could be positioned in different tank penetrations in order to maximize the areas that would receive direct spray from the high-pressure cleaner.

Upon initial inspection of the MFHT internals prior to flushing, it was noted that a significant amount of dried slurry was present on the interior surface of the vessel. There was a general coating over the entire length of the vessel and a concentrated buildup at "crud" traps such as the demister inlet, structural bracing of the vessel head, and the nozzle and insert sites. The flushing was initiated in such a manner as to direct the high-pressure water spray in these areas.

The MFHT flushing work order has been completed which included three cleaning cycles of the tank internal surfaces. Each cleaning cycle was approximately one hour long, enabling the rotary nozzle to make two complete passes through the inside surfaces of the tank. The results of this flushing were very effective as indicated by the before and after photos taken of the inside of the tank. Copies of photos are included as Attachment A. In addition, the dose rate at the MFHT lid was reduced from 250 R/hr to 22 R/hr. The combination of visual inspection and radiation probe data indicates that the majority of the residual radionuclides were removed from the vessel surfaces. Flush water processing through the CFMT and reinstallation of process jumpers completed this activity which will be followed by the final cold chemical batch to be processed through the melter.

This work was safely and effectively implemented using ISMS and Project Management techniques, as evidenced by the completion of the activity without incident and ahead of schedule.

If there are any comments or questions regarding this transmittal, please contact the undersigned at Ext. 4448.

Very truly yours,

WEST VALLEY NUCLEAR SERVICES COMPANY

Signature on File in Records

J. Paul, Manager
High-Level Waste Completion Project

JP:KMG

Attachment A: Photo 1 - High-Pressure Pump
Photo 2 - TV Inspection Camera
Photo 3 - Tank Spray Wand Assembly
Photo 4 - MFHT Grid Before Flushing
Photo 5 - MFHT Grid After Flushing
Photo 6 - MFHT Demister Before Flushing
Photo 7 - MFHT Demister After Flushing
Photo 8 - MFHT Baffle Before Flushing
Photo 9 - MFHT Baffle After Flushing

cc: A. J. Misercola, OH/WVDP, WV-DOE
M. J. Scouten, OH/WVDP, WV-DOE

WD:2002:0400

bcc:	G. F. Centrich	WV-51
	J. P. Curcio	WV-VH3
	A. S. Fountain	WV-07
	L. B. Jablonski	AOC-14
	T. F. Kocialski	WV-53
	J. L. Little	WV-07
	J. Paul	WV-48
	L. L. Petkus	WV-48
	D. E. Steffen	WV-07
	C. L. Streczywilk	AOC-14
	P. J. Valenti	WV-53
	K. M. Gerwitz	WV-53 (file)

ATTACHMENT A

PHOTOS

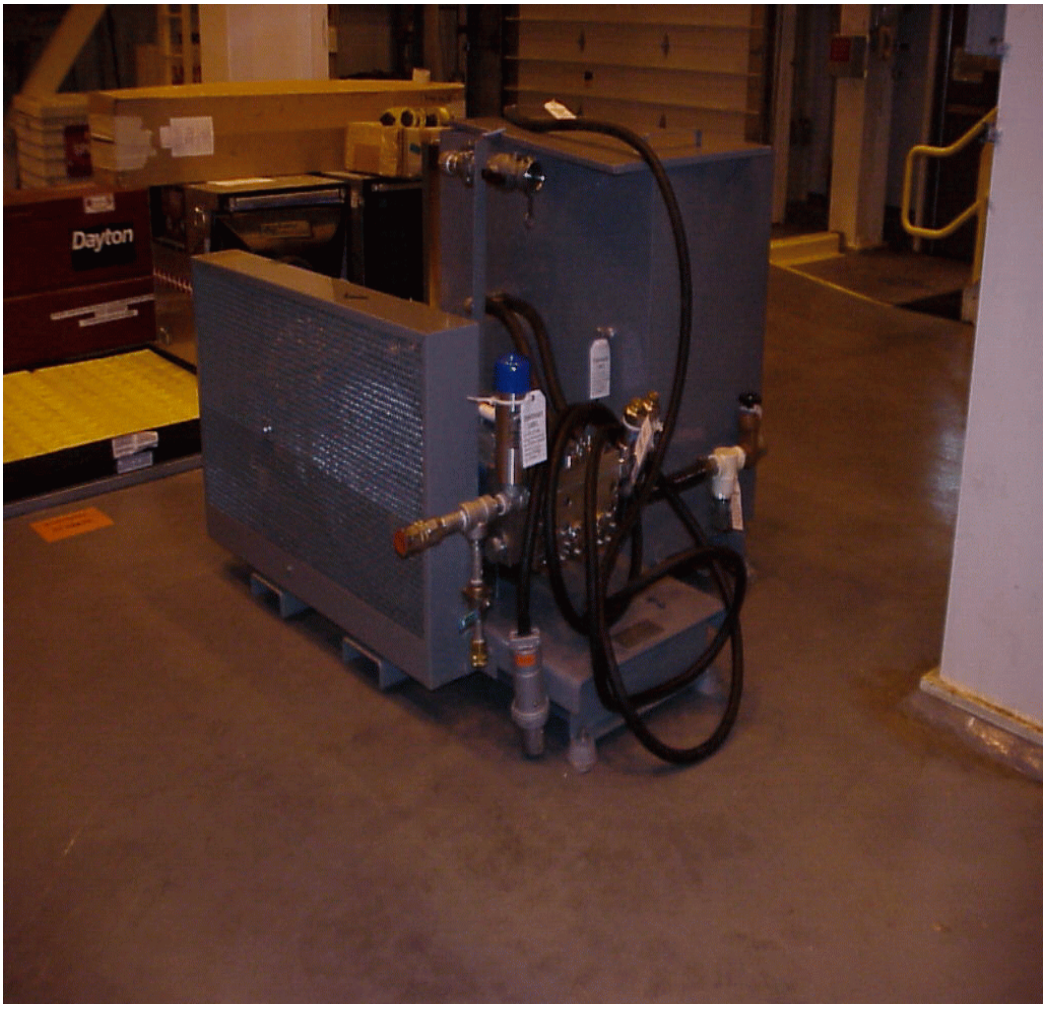

PHOTO 1

High-Pressure Pump

PHOTO 2

TV Inspection Camera

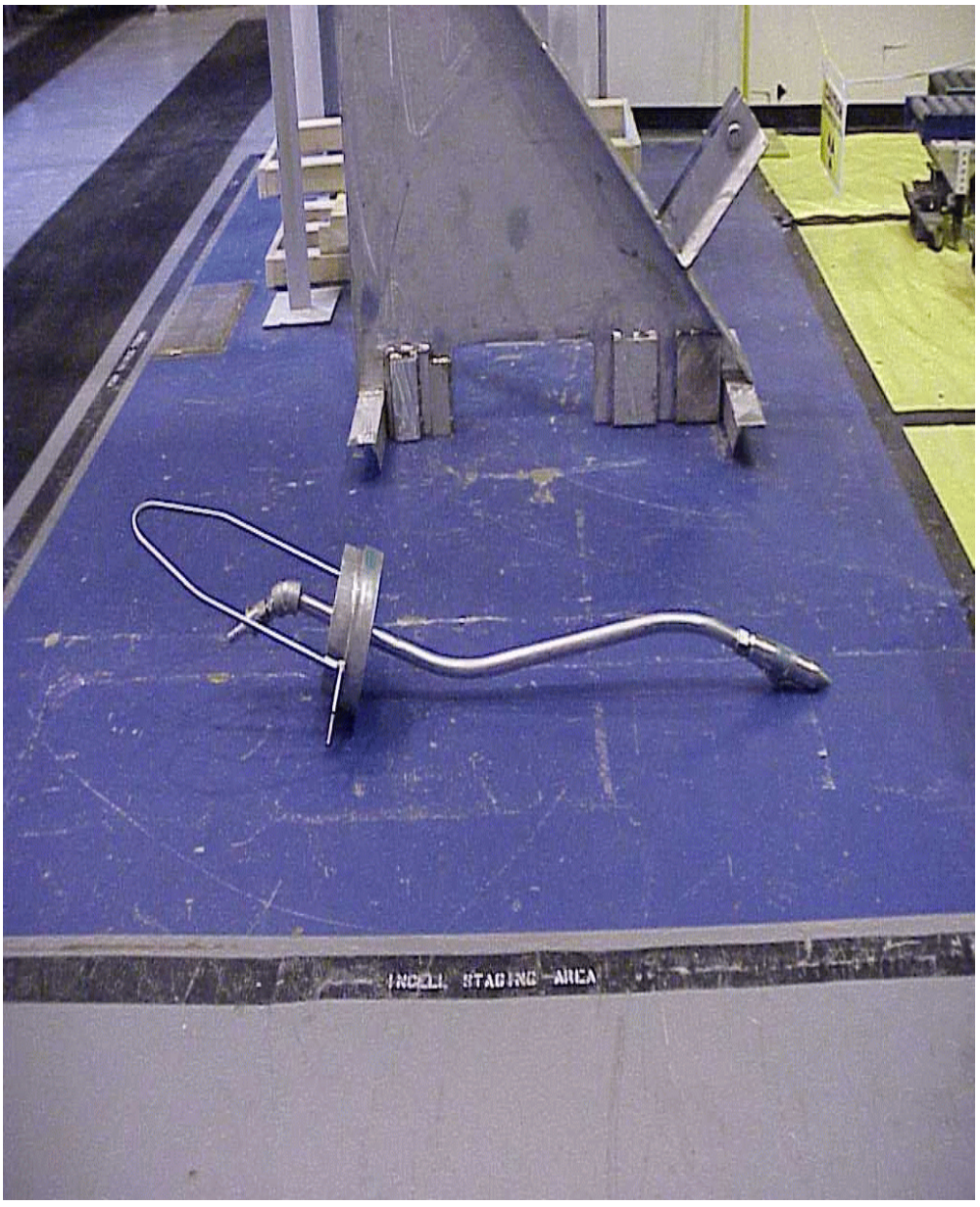

PHOTO 3

Tank Spray Wand Assembly

PHOTO 4

MFHT Grid Before Flushing

PHOTO 5

MFHT Grid After Flushing

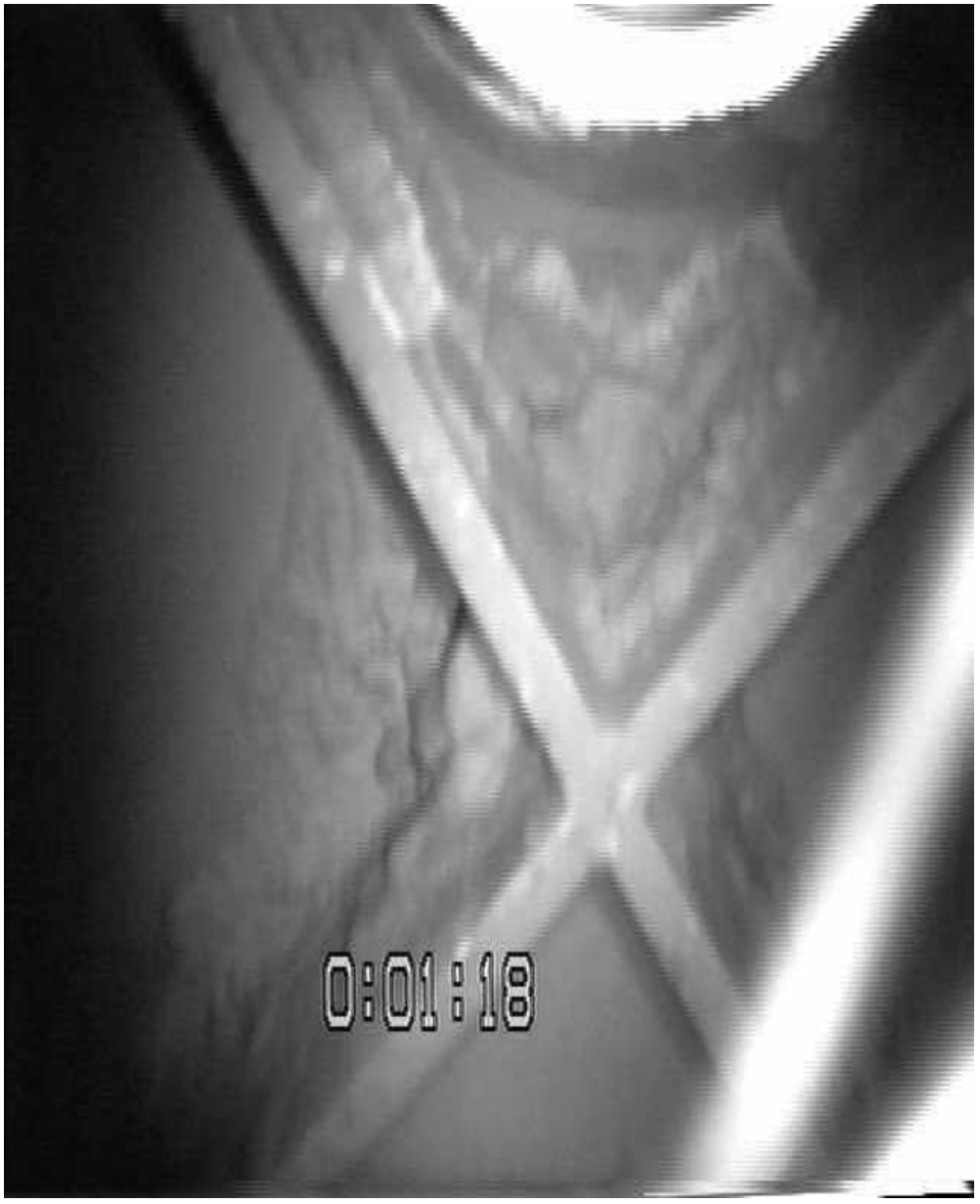

PHOTO 6

MFHT Demister Before Flushing

PHOTO 7

MFHT Demister After Flushing

PHOTO 8

MFHT Baffle Before Flushing

PHOTO 9

MFHT Baffle After Flushing

CORRESPONDENCE CONTROL SHEET
(Printed on Pink Paper)

1. **CORRESPONDENCE CODE:** WD : 2002 : 0400 2. **DATE:**

3. **SUBJECT:** Completion of FY2002 Contract Milestone HLW-8; "Install Equipment and Flush MFHT," due August 31, 2002

4. **ADDITIONAL INSTRUCTIONS AND/OR COMMENTS:**

Small Board Review early next week.

Please bring your comments and/or questions to that meeting.

5. **DOES THIS CORRESPONDENCE REQUIRE AN ACTION RESPONSE?**

[X] NO
[ ] YES DATE: _____ ACTION NO.: _____

6. **DOES THIS CORRESPONDENCE RESPOND TO ANY DOE OR REGULATOR CORRESPONDENCE?**

[X] NO
[ ] YES, DOE IDENTIFICATION NUMBER: _____

COMPLETES ACTION NO.: _____

7. **DOES THIS CORRESPONDENCE RESPOND TO ANY WVNS CORRESPONDENCE?**

[X] NO
[ ] YES, CORRESPONDENCE CODE: _____

COMPLETES ACTION NO.: _____

8. **REVIEW - RESPONSE REQUIRED BY:** **July 29, 2002**

MS	Reviewer	Signature	Date	Concur	Concur W/Comments	Nonconcur
WV-53	P. J. Valenti	***Signature on File in Records***	07/23/02	[X]	[ ]	[ ]
WV-51	G. F. Centrich	***Signature on File in Records***	07/26/02	[ ]	[X]	[ ]
AOC-14	C. L. Streczywilk	***Signature on File in Records***	07/29/02	[ ]	[X]	[ ]
AOC-14	L. B. Jablonski	***Signature on File in Records***	07/29/02	[ ]	[X]	[ ]
WV-53	T. F. Kocialski	***Signature on File in Records***	07/29/02	[ ]	[X]	[ ]
WV-07	D. E. Steffen	***Signature on File in Records***	07/26/02	[X]	[ ]	[ ]
WV-07	A. S. Fountain	***Signature on File in Records***	07/29/02	[X]	[ ]	[ ]

Reviewer initial & date indicating approval from original nonconcur: _____ *Initials* _____ *Date*