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STATUS OF LEAK REPAIRS FOR THE URANYL NITRATE TANK SYSTEM

06/10/94

**C:OP:94-0604
DOE-FN/FERMCO OEPA
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LETTER**



Fernald Environmental Management Project
P.O. Box 398704
Cincinnati, Ohio 45239-8704



June 10, 1994

U. S. Department of Energy
Fernald Environmental Management Project
Letter No. C:OP:94-0604

Mr. Thomas A. Winston, P.E.
District Chief, SWDO
Ohio Environmental Protection Agency
401 E. Fifth Street
Dayton, Ohio 45402-2911

Dear Mr. Winston:

CONTRACT DE-AC05-92OR21972, STATUS OF LEAK REPAIRS FOR THE URANYL NITRATE TANK SYSTEM

- Reference: 1: Letter, DOE-1840-94, J. P. Hamric to T. A. Winston, "Submittal of Removal Action Work Plan for the Uranyl Nitrate Removal Action and Status of Leak Repairs," dated June 3, 1994.
- 2: Letter, DOE-0859-94, J. A. Rasile and J. P. Hamric to R. Fisher, "Response to Deficiencies Identified in December 9, 1993 Inspection of Uranyl Nitrate Tank System and Request for Additional Information," dated January 28, 1994.

In Reference 1, the Fernald Environmental Management Project (FEMP) committed to providing a detailed update on the status of efforts to repair leaks in the Uranyl Nitrate Hexahydrate (UNH) Tank System. The attached table summarizes the status of the leaks identified in Reference 2.

In Reference 2, the FEMP identified 15 leak locations. Of the 24 leaks identified at these locations, 17 have been repaired. Seven leaks remain to be repaired. As was reported in reference 1, repair of the UNH tank system leaks were delayed by the recent safety standdown and independent safety review of the leak repair project. Complications with the use of Plidco rings and oversleeves to repair the leaks, required revised installation methods and re-installation in some cases. The Plidco vendor has visited the site and provided assistance during the repair activities.

A status summary of the remaining repairs is as follows:

- 2 leaks (identified as leaks 2 and 8) are located at 90 degree elbows. The jacket required to repair one of these 2 leaks has been received and the other has been ordered; as the elbow does not appear to be a true 90 degrees, however, difficulties are being



Mr. Thomas A. Winston, P.E.
 Letter No. C:OP:94-0602
 Page 2

experienced in fitting the jacket. Similar difficulties are expected with the other elbow. Consultation with the PLIDCO vendor to remedy this problem is underway. Estimated completion date: July 31, 1994.

- Repairs to 3 leaks at location 9 are underway. Installation of the jacket has been completed and is being filled with sealant. Estimated completion date: June 17, 1994.
- Leak number 13 will be repaired by draining the line. Estimated completion date: July 1, 1994.
- A new leak identified in Work Order 0040-039705 is associated with the sample line from Tank F1-302 in the Hot Raffinate Area. The leak is at a weld and is being reviewed for repair strategies. Estimated completion date: June 24, 1994.

An updated report on the status of these remaining repairs will be provided to your office by July 15, 1994. If you have any questions regarding this information or require additional information, please contact Steve Beckman at (513) 738-6502.

Sincerely,

James W. Thiesing
 Executive Vice President
 Environmental Programs

J. Phil Hamric
 Manager, DOE-FN

JWT:KLA:DKF:mhv
 Attachment

c:	K. L. Alkema, FERMCO/65-2	S. M. Beckman, FERMCO/65-2
	K. A. Chaney, EM-423, TREV	J. Fiore, EM-42, TREV
	D. M. Garrett, FERMCO/73	L. B. Ko, FERMCO/16-3
	J. J. McGuire, FERMCO/35-1	G. E. Mitchell, OEPA/Dayton
	P. E. Pardi, OEPA/Dayton	W. J. Quaider, DOE-FN
	T. Schneider, OEPA/Dayton	E. P. Skintik, DOE-FN
	AR Coordinator, FERMCO	RCRA Operating Record, FERMCO
	File Record Storage Copy 102.1	

STATUS OF UNH TANK SYSTEM LEAK REPAIRS

Location No.*	Work Order No.	Job Description	Status	Leak Count
1 2**	0040-039695	Repair four leaks on 2" sample line from tank F1-301 in Hot Raffinate	a) Installed jacket on 1 1/2" valve. Completely filled jacket with sealant. b) Ordered jacket for 90 deg. elbow. Not received. Anticipate same problem with elbow as for 0040-039705.	3 leaks 1 leak
3	0040-039700	Repair leak on upper flange of drain line coming from 3" discharge line of tank F1-301 in Hot Raffinate	a) Installed jacket on 1/2" valve. Completely filled with sealant.	1 leak
4	0040-039702	Repair two leaks on 3/4" line coming from 3" discharge line of tank F1-301 in Hot Raffinate	a) Inspected valve. No leak observed. b) Installed boss fitting.	1 leak 1 leak
5	0040-039704	Repair leaking flange on 3" discharge line of tank F1-301 in Hot Raffinate	a) Installed 3" ring. Completely filled with sealant.	1 leak
6	No Work Order	Repair leak coming from valve UNH-380	a) Repaired leak by draining line, using approved work plan	1 leak
7 8** NA**	0040-039705	Repair five leaks on 2" sample line from tank F1-302 in Hot Raffinate	a) Installed jacket on 1 1/2" valve. Completely filled jacket with sealant. b) Jacket for 90 deg. elbow received. Jacket will not fit because elbow is not true 90 deg. c) Leak at weld requires further evaluation.	3 leaks 1 leak 1 leak

* Location No. corresponds to locations identified in letter DOE-0859-94, dated Jan 28, 1994 (Attachment 1, Appendix C)

** Repair work is continuing

STATUS OF UNH TANK SYSTEM LEAK REPAIRS

Location No.*	Work Order No.	Job Description	Status	Leak Count
9**	0040-039706	Repair three leaks on 3" discharge valve of tank F1-302 in Hot Raffinate	a) 3" jacket requires special JSA Scheduled to begin installation 08 Jun 94.	3 leaks
10	No Work Order	Repair leak on 2" valve on tank F1-302	a) Repaired leak by draining line, using approved work plan	1 leak
11	0040-039987	Repair flange leak on 2" sample line from tank F1-303 in Hot Raffinate	a) Installed jacket on 3/4" valve. Completely filled with sealant.	1 leak
12	0040-039988	Repair leak on 1" sample line from tank F1-308 in Hot Raffinate	a) Installed jacket on 1" valve. Completely filled with sealant.	1 leak
13**	No Work Order	Repair leak on pressure indicator system on tank F1-308	a) Leak at pressure indicator flange to be repaired by draining line; workplan being developed	1 leak
14	0040-039989	Repair two leaks on 1" sample line from F1-1 in Digestion	a) Installed 1" blind flange. b) Installed 1" jacket. Completely filled with sealant.	1 leak 1 leak
15	0040-039990	Repair leaking flange on 1" sample line on tank D1-1 in Digestion	a) Installed 1" ring and filled with sealant. Sealant leaking out at bolt holes of flange. Will clean flange and observe.	1 leak

SUMMARY

Total number of leaks: 24

Total leaks mitigated through installation of PLIDCO or by draining lines: 17

Leaks remaining to be repaired: 7

* Location No. corresponds to locations identified in letter DOE-0859-94, dated Jan 28, 1994 (Attachment 1, Appendix C)

** Repair work is continuing