



Westinghouse
Hanford Company

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P.O. Box 1970 Richland, WA 99352

January 18, 1989

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Mr. R. E. Gerton, Director
Waste Management Division
U.S. Department of Energy
Richland Operations Office
Richland, Washington 99352

Dear Mr. Gerton:

PLAN TO UPDATE AND ISSUE PNL-5441, "COMPLEXANT STABILITY INVESTIGATION, TASK 1, FERROCYANIDE SOLIDS"

- References:
- (1) Letter, R. E. Gerton to J. E. Nolan and W. R. Wiley, "Request to Update and Issue PNL-5441," WMD:JEN, January 3, 1989.
 - (2) Letter, D. D. Wodrich to R. E. Gerton, "Information Concerning Ferrocyanide in Single-Shell Tanks," November 22, 1988.
 - (3) PNL-5441, Uncleared, Complexant Stability Investigation, Task 1, Ferrocyanide Solids, 1984, L. L. Burger, Pacific Northwest Laboratories, Richland, Washington.

As requested in Reference 1, a schedule to revise and issue PNL-5441 (Reference 3) is attached. The document addresses the potential hazards due to the presence of ferrocyanide in Hanford single-shell tanks. The revision plan is the result of a joint effort by Westinghouse Hanford Company (WHC) and Pacific Northwest Laboratories (PNL).

Because of its speculative nature, PNL-5441 was not originally cleared and released. It will be revised to include the results from the investigations recommended in Reference 2. The investigations are:

- o A laboratory study on the energetic/kinetics of ferrocyanide (FeCN) reactions. This study was initiated in fiscal year (FY) 1988. The laboratory work is currently scheduled to be completed in September 1989. A separate technical report with the results of this study will be prepared by PNL, approved by WHC and PNL, and delivered to the U.S. Department of Energy - Richland Operations Office (DOE-RL) by December 1, 1989 for review and clearance approval. The clearance will allow it to be used as a reference in PNL-5441.



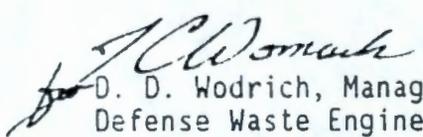
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- o Analysis of archived core samples of two tanks suspected of containing ferrocyanide. This work has been completed. The results verify records of the FeCN presence in the tanks. The analytical results will also be used to support the energetics/kinetics study.
- o Analysis of thermal data for tanks suspected of containing FeCN. The purpose of the analysis is to determine the thermal conditions of the wastes in these tanks, such as temperature and heat generation rate. The results will be used to support the energetics/kinetics study. The analysis is scheduled to be completed by January 31, 1989 and the results will be included in PNL-5441.
- o A large scale explosion test. This will be done to supplement the energetics/kinetics study. The test will be completed by July 1989.

The document, PNL-5441, is scheduled to be revised and delivered to DOE-RL by February 1, 1990, as agreed by Mr. J. E. Newson of your staff, for review and clearance approval. The revised PNL-5441 will recommend technical operating limits within which the FeCN explosive potential is acceptably low. These limits are expected to bound current operating conditions of the single-shell tanks.

If additional information is needed, please contact L. A. Mihalik at 373-2447.

Very truly yours,


D. D. Wodrich, Manager
Defense Waste Engineering
Defense Waste Management

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Attachment

DOE-RL - A. W. Kellogg (W/O Attachment)
G. J. Bracken
J. E. Newson

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PLAN TO REVISE PNL-5441

