**Department of Energy**
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

JAN 26 1996

96-TSD-004

Mr. Mike Wilson, Manager
Nuclear Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Mr. Wilson:

RESPONSE TO THE WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGY) LETTER, ENTITLED, "CREATION OF DANGER", DATED DECEMBER 22, 1995

It is the intent of this letter to address your concerns regarding the U.S. Department of Energy (DOE), Richland Operations Office (RL) invocation of Article XXXII, Creation of Danger, of the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), regarding the flammable gas issue.

Expansion of flammable gas controls and the recommendation to add tanks to the flammable gas "watch list" is justified in light of a recent analysis completed by Pacific Northwest National Laboratory (PNNL) and emergent data collected by Westinghouse Hanford Company (WHC). The PNNL analyses and emergent data have led RL to conclude that more single-shell and double-shell tanks are capable of generating significant levels of flammable gas in the waste. Specifically, the PNNL analysis found that 59 tanks showed waste elevation fluctuations with changes in barometric pressure (increased barometric pressure correlated with decrease in tank level and vice-versus), thereby resulting in the conclusion that these tanks contained significant amounts of flammable gas in the waste. Prior to the PNNL analysis, it was thought that only 25 tanks had the capability to produce significant quantities of flammable gas.

The WHC data included multiple findings of flammable gas in the drill string of the push-mode sampling device and voids within core segments as revealed by radiographic inspection. This occurred with 4 different tanks, 3 of which were not previously thought to contain significant amounts of flammable gas. While the push-mode sampling device is qualified to sample in a flammable gas environment, the unexpected high frequency and high concentrations of flammable gas has caused RL to question the safety of our operations. Source documents for all this information were previously transmitted to Ecology on December 12, 1995.

RL's response to this new data is on 2 levels: assuring worker safety; and assuring public safety. Both are required to perform work at Hanford, though the administrative requirements for ensuring each are somewhat different. Worker safety involves preventing the accumulation and ignition of volumes of flammable gas which are large enough to cause potential hazard to workers in the immediate vicinity, but not large enough to cause a concern to the general public. Based on the disparity between previous analyses and the new analyses and data presented above, RL concluded that it no longer could ensure the safety of workers performing operations which were not authorized in a flammable gas environment. Thus, operations which are not specifically designed and authorized in flammable gas environments have been terminated until they are either analyzed and proven to be safe in a flammable gas environment, or until tank is certified to be safe for entry of non-flammable gas qualified equipment. Operations which are currently not authorized in a flammable gas environment include: salt well pumping; and rotary mode core sampling.

Ensuring public safety requires the prevention of the accumulation and ignition of relatively large volumes of flammable gas. The definition of what constitutes a public safety concern (relevant to this matter) is contained in the Public Law 101-510 Sec. 3137. This amendment states, "...the Secretary of Energy shall identify which single-shell or double-shelled high-level nuclear waste tanks at the Hanford Nuclear Reservation, Richland, Washington, may have a serious potential for release of high-level waste due to uncontrolled increases in temperature or pressure". If a tank is determined to meet established criteria, then it must officially be designated as a "watch list" tank. DOE Headquarters (HQ), is the approval authority for the addition of tanks to the "watch list". RL has completed a survey of the data presented above for 43 high-priority tanks, and has recommended to HQ that 25 tanks be added to the current flammable gas "watch list", (this decision is pending in HQ). Controls to ensure the safety of these tanks have already been implemented. It should be noted that the remaining 134 tanks will be reviewed by March 31, 1996. It is possible that other tanks will be recommended to be added to the "watch list".

These actions have been deemed necessary and were implemented to ensure the safety of Hanford workers and the general public. For these safety reasons, the controls were put into place in advance of fully understanding their impact on planned work, including Hanford Federal Facility Agreement and Consent Order (Tri Party Agreement) commitments. A preliminary recovery plan was developed and informally presented to Ms. Alicia Huckaby and Dr. Alex Stone of your staff on January 19, 1996. The recovery plan is expected to be fully developed by February 16, 1996, and formally submitted to you for your information. It will include dates for submittal of Tri Party Agreement change requests. We are holding regular working meetings to manage progress to the recovery plan and have invited Ms. Huckaby, Dr. Stone, and other Ecology staff to attend.

JAN 2 6 1996



In RL's December 21, 1995 letter to you, Creation of Danger, Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) a list of affected milestones was officially submitted to Ecology. This list has been expanded by one milestone, M-40-09 (September 30, 1998) and is being re-submitted in its entirety as Attachment 1.

In light of the above, RL seeks immediate concurrence from Ecology on the work stoppage for the following near-term Tri Party Agreement commitments: Target Date M-41-01-T02 (November 30, 1995), Milestones M-41-09 (January 31, 1996), and M-41-10 (April 30, 1996). Upon completing the recovery plan noted above, RL will revise and re-submit Attachment 1, and seek Ecology's concurrence for milestones affected by the flammable gas issue.

If you have additional questions regarding this matter, please call me on (509) 376-7591, or Mr. Jon Peschong, of my staff, on (509) 376-9327.

Sincerely,

Jackson Kinzer

Jackson Kinzer, Assistant Manager
Office of Tank Waste Remediation System

TSD:JCP

Attachment

cc w/attach:

L. D. Arnold, WHC
G. D. Johnson, WHC
M. A. McLaughlin, WHC
T. Michelena, Ecology
G. T. Tebb, Ecology
D. Sherwood, EPA

9613493.1023

# CORRESPONDENCE DISTRIBUTION COVERSHEET

| Author | Addressee | Correspondence No. |
|---|---|---|
| J. E. Kinzer, RL | M. A. Wilson, RL | Incoming: 9600299 |

Subject: RESPONSE TO THE WASHINGTON STATE DEPARTMENT OF ECOLOGY (ECOLOGY) LETTER, ENTITLED, "CREATION OF DANGER", DATED DECEMBER 22, 1995

## INTERNAL DISTRIBUTION

| Approval | Date | Name | Location | w/att |
|---|---|---|---|---|
| | | Correspondence Control | A3-01 | X |
| | | L. D. Arnold | B2-35 | X |
| | | B. A. Austin | B3-03 | X |
| | | R. F. Bacon | S7-85 | X |
| | | L. E. Borneman | R1-52 | X |
| | | L. F. Ermold | S7-84 | X |
| | | K. A. Gasper | G3-21 | X |
| | | C. J. Geier | R2-36 | X |
| | | J. O. Honeyman | S7-81 | X |
| | | G. D. Johnson | S7-14 | X |
| | | R. E. Lerch | S7-85 | X |
| | | M. A. McLaughlin | B2-35 | X |
| | | G. A. Meyer | S2-48 | X |
| | | T. Morton | S8-05 | X |
| | | R. J. Murkowski | H5-03 | X |
| | | R. D. Powell | G3-21 | X |
| | | M. W. Stevenson | B2-35 | X |
| | | A. M. Umek | S7-81 | X |
| | | J. H. Wicks | R2-50 | X |
| | | R. D. Wojtasek | S7-84 | X |
| | | EPIC | H6-08 | X |

## TRI-PARTY AGREEMENT MILESTONES
## POTENTIAL EFFECTS OF FLAMMABLE GAS ISSUE

| MILESTONE | TITLE | DUE DATE |
|---|---|---|
| M-40-10 | Complete Vapor Space Monitoring of All Flammable Gas Generating Tanks. | 1/31/97 |
| M-40-09 | Close all unreviewed Safety Questions (USQ) for Double-Shell and Single and Single-Shell Tanks. | 9/30/98 |
| M-41-01-T02 | Complete Interim Stabilization of 5 Single Shell Tanks. | 11/30/95 |
| M-41-08 | Start Interim Stabilization of 1 Non-Watch List Tank in 241-U Tank Farm. | 8/31/96 |
| M-41-08-T01 | Complete Interim Stabilization of 1 Non-Watch List Tank in 241-U Tank Farm. | 4/30/97 |
| M-41-09 | Start Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm. | 1/31/96 |
| M-41-09-T01 | Complete Interim Stabilization of 7 Non-Watch List Tanks in 241-S Tank Farm. | 4/30/97 |
| M-41-10 | Start Interim Stabilization of 2 Flammable Gas Watch List Tanks in 241-A/AX Tank Farms | 4/30/96 |
| M-41-10-T01 | Complete Interim Stabilization of 2 Flam. Gas Watch List Tanks in 241-A/AX Tank Farms. | |
| 12/31/98 | M-41-11 Start Interim Stabilization of 4 Flammable Gas Watch List Tanks in 241-U Tank Farm. | 8/31/96 |
| M-41-11-T01 | Complete Interim Stabilization of 4 Flammable Gas Watch List Tanks in 241-U Tank Farm. | 9/30/97 |
| M-41-12-T01 | Complete Interim Stabilization of 4 FeCN Watch List Tanks in 241-BX/BY Tank Farms. | 12/30/97 |
| M-41-13 | Start Interim Stabilization of 3 Organic Watch List Tanks in 241-U Tank Farm. | 8/31/96 |
| M-41-13-T01 | Complete Interim Stabilization of 3 Organic Watch List Tanks in 241-U Tank Farm. | 1/31/98 |
| M-41-14 | Start Interim Stabilization of 7 Flammable Gas Watch List Tanks in 241-S/SX Tank Farms | 6/30/97 |
| M-41-14-T01 | Complete Interim Stabilization of 7 Flam. Gas Watch List Tanks in 241-S/SX Tank Farms | 11/30/99 |
| M-41-15 | Start Interim Stabilization of 2 Organic Watch List Tanks in 241-S/SX Tank Farms. | 6/30/97 |
| M-41-15-T01 | Complete Interim Stabilization of 2 Organic Watch List Tanks in 241-S/SX Tank Farms. | 3/31/99 |
| M-41-16 | Start Interim Stabilization of 2 Non-Watch List Tanks in 241-T Tank Farm. | 3/30/98 |
| M-41-16-T01 | Complete Interim Stabilization of 2 Non-Watch List Tanks in 241-T Tank Farm. | 8/31/98 |
| M-41-17-T01 | Complete Interim Stabilization of 1 Ferrocyanide Watch List Tank in 241-T Tank Farm. | 5/31/98 |
| M-41-18 | Start Interim Stabilization of 1 Flammable Gas Watch List Tank in 241-T Tank Farm. | 4/30/98 |
| M-41-18-T01 | Start Interim Stabilization of 1 Flammable Gas Watch List Tank in 241-T Tank Farm. | 7/31/98 |
| M-41-19 | Start Interim Stabilization of 1 Organic Watch List Tank in 241-C Tank Farm. | 9/30/98 |
| M-41-19-T01 | Complete Interim Stabilization of 1 Organic Watch List Tank in 241-C Tank Farm. | 3/31/99 |
| M-44-09 | Issue 40 TCRs in Accordance with the Approved TCPs. | 9/30/96 |
| M-44-10 | Issue 40 TCRs in Accordance with the Approved TCPs. | 9/30/97 |
| M-44-11 | Issue 30 TCRs in Accordance with the Approved TCPs. | 9/30/98 |
| M-44-12 | Issue 30 TCRs in Accordance with the Approved TCPs. | 9/30/99 |
| M-45-03A | Initiate Sluicing Retrieval of C-106. | 10/31/97 |

ref. 95-PRI-235