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P.O. Box 550
Richland, Washington 99352

MAR 14 1995

Mr. Steve M. Alexander
Perimeter Areas Section Manager
Nuclear Waste Program
State of Washington
Department of Ecology
1315 W. Fourth Avenue
Kennewick, Washington 99336-6018

Dear Mr. Alexander:

PROPOSAL TO MANAGE CONTAMINATED MEDIA FROM THE 300 AREA PROCESS TRENCHES (APT)

This letter provides a summary of the issues and a proposal from the U.S. Department of Energy, Richland Operations Office (RL), for addressing regulatory concerns related to the management of contaminated media from the 300 Area Process Trenches.

According to State of Washington, Department of Ecology (Ecology), guidance provided in "Guidance for Clean Closure of Dangerous Waste Facilities" Publication #94-111, August 1994, "Environmental media which contain listed dangerous waste must be managed as dangerous waste unless, or until, they no longer contain the waste and do not exhibit a dangerous waste characteristic or criteria, or are delisted." In that guidance, in Section 4.2.1, Ecology also noted, "Facility owners/operators may demonstrate that contaminated environmental media generated during closure activities no longer contain dangerous waste, and therefore, are not subject to further regulatory control or decontamination (this demonstration is referred to as a "contained-in demonstration")." Under this guidance, Ecology can compare the concentrations of hazardous substances of concern in the media to Model Toxics Control Act (MTCA) cleanup standards as the basis for its contained-in determinations. If the contaminated media in question no longer contain listed dangerous waste constituents in concentrations that exceed the MTCA cleanup levels, Ecology can determine that the media no longer needs to be managed as a dangerous waste. In making such a determination, Ecology will use the exposure assumptions found in the regulations and verify that the media does not exhibit a dangerous waste characteristic. Contingent management (i.e. allowing application of the contained-in policy provided the media is managed in a specific manner which further reduces risk to human health and the environment) may be considered by Ecology when listed waste constituents do not meet MTCA B cleanup levels.



Mr. Alexander

-2-

MAR 14 1995

The 300 Area Process Trenches received spent halogenated and non-halogenated solvents (carbon tetrachloride, chlorobenzene, methyl ethyl ketone, tetrachloroethane, toluene, xylenes and trichloroethene), which were used to remove lubricants from reactor fuel elements. Tetrachloroethane was also discharged to the trenches when the chemical was discarded accidentally. Tetrachloroethane was the only solvent from those listed above, that was discharged to the trench in any significant volume (470 L). The remaining solvents discharged to the trenches from February 1975 to February 1986, totalled less than one kg (2.2 lbs) each. Discharges of tetrachloroethane began in February 1975 and ceased in September 1986. Since tetrachloroethane was the only organic solvent discharged in significant quantities, it is the only listed waste constituent that is suspected to remain in the soil (environmental media) of the process trenches. However, as shown on the attached table, the maximum level of tetrachloroethane detected in the soil of the process trenches, through laboratory analysis, was 1.1 parts per million (ppm). The concentrations of all other constituents mentioned above were less than 1.1 ppm. An enclosure is provided which summarizes data for the constituents of concern obtained from samples taken before and after the Expedited Response Action at the process trenches. The concentration of tetrachloroethane detected in the process trenches is well below the limits for risk-based standards under Method B Formula Values. (Method B limit for tetrachloroethane in the soil is 19.6 ppm.) The concentrations of other solvents are also well below Method B levels.

In addition to being far below MTCA Method B residential cleanup levels, the current 'listed' waste concentrations in trench soils do not otherwise threaten groundwater or the environment as determined by the 300-FF-1 and the 300-FF-5 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Operable Unit (OU) remedial action process. Closure of the 300 APT is being performed in conjunction with the 300-FF-1 OU remedial action. MTCA, as an Applicable or Relevant and Appropriate Requirements to the CERCLA action, requires consideration of the potential for cross-media contamination (e.g., migration of soil contaminants to groundwater and/or to environmental receptors). The CERCLA Remedial Investigation/Feasibility Study process, in considering this potential, performed a risk assessment that has determined that current concentrations of "listed" waste contaminants in surface soils do not exist in, or otherwise cannot be transported to, groundwater in quantities that exceed drinking water standards or that threaten environmental receptors.

Given the information provided above, RL requests Ecology to consider a determination that the process trench soils do not contain listed dangerous waste and, therefore, do not need to be managed as a listed dangerous waste per the contained-in policy. Such a contained-in determination will resolve significant Resource Conservation and Recovery Act listed waste issues for closure of the trenches. An expeditious evaluation of the facts and an early determination is being requested of Ecology.

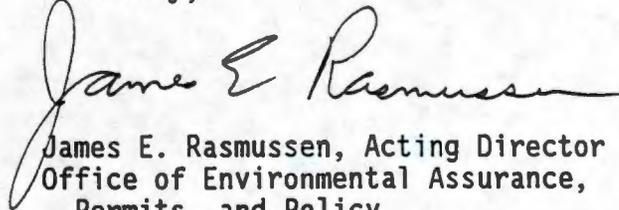
Mr. Alexander

-3-

MAR 14 1995

If you have any questions, please contact Mr. R. G. McLeod, RL, on 372-0096.

Sincerely,



James E. Rasmussen, Acting Director
Office of Environmental Assurance,
Permits, and Policy
DOE Richland Operations Office

PRD:RGM



W. T. Dixon, Manager
Environmental Services
Westinghouse Hanford Company

Enclosure

cc w/encl:

R. Buck, Wanapum
C. Burford, CTUIR
R. Cook, YIN
D. Duncan, Ecology
D. Einar, EPA
M. Janaskie, EM-442
M. Jaraysi, Ecology
R. Jim, YIN
D. Powaukee, NPT
D. Sherwood, EPA
J. Witczak, Ecology
T. Wooley, Ecology

cc w/o encl:

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W. Burke, CTUIR
J. Dunkirk, BHI
J. James, BHI
S. Liedle, BHI
L. Mihalik, BHI
F. Ruck, WHC
H. Rueben, NPT
G. Van Sickle, BHI

Attachment I

The following tables from the 300-FF-1 Remedial Investigation Report represent data developed from the 300 Area Process Trenches Expedited Response Action Sampling Plan. Samples were analyzed for the Contract Laboratory Program (CLP) target compound list and the target analyte list for organic and inorganic constituents. CLP methods, target detection limits, and minimum values for precision and accuracy were as specified in the statement of work for CLP services (EPA 1988, 1989a). An EPA letter to DOE-RL specified sampling depths for both pre and post ERA sampling.

Data qualifiers for the data are as follows.

- U The material was analyzed for but was not detected. The associated value is the sample quantification limit (SQL).
- J The associated value is an estimated quantity.
- UJ The material was analyzed for but was not detected. The SQL is an estimated quantity.
- R The data are unusable.
- N/R Not reported and/or not requested.

LOCATION 316-5E PRE ERA SAMPLES

Parameter	Sample# Depth	B01038R 0.50	B01040 0.50	B01040DL 0.50	B01040R 0.50	B01043 0.50	B01046 0.50
	Units	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
2-Butanone	UG/KG	16 UJ	15 UJ	N/R	15 UJ	10 U	10 U
Carbon Tetrachloride	UG/KG	8 UJ	8 UJ	N/R	8 UJ	5 U	5 U
Trichloroethene	UG/KG	8 UJ	8 UJ	N/R	8 UJ	5 U	5 U
Tetrachloroethene	UG/KG	20 J	18 J	N/R	9 UJ	5 U	5 U
Toluene	UG/KG	8 UJ	8 UJ	N/R	8 UJ	5 U	4 JU
Xylenes (Total)	UG/KG	8 UJ	8 UJ	N/R	8 UJ	5 U	5 U
Chlorobenzene	UG/KG	8 UJ	8 UJ	N/R	8 UJ	5 U	5 U

Attachment I

LOCATION 316-5E PRE ERA SAMPLES

Parameter (Volatiles)	Sample# Depth	B01034 0.50	B01034DL 0.50	B01034R 0.50	B01037 0.50	B01038 0.50	B01038DL 0.50
	Units	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
2-Butanone	UG/KG	14 U	N/R	14 UJ	13 U	16 UJ	N/R
Carbon Tetrachloride	UG/KG	7 U	N/R	7 UJ	6 U	8 UJ	N/R
Trichloroethene	UG/KG	7 UJ	N/R	7 UJ	6 U	8 UJ	N/R
Tetrachloroethene	UG/KG	14 J	N/R	18 J	4 JU	17 J	N/R
Toluene	UG/KG	7 UJ	N/R	7 UJ	6 U	8 UJ	N/R
Xylenes (Total)	UG/KG	7 UJ	N/R	7 UJ	6 U	8 U	N/R
Chlorobenzene	UG/KG	7 UJ	N/R	7 UJ	6 U	8 UJ	N/R

LOCATION 316-5E PRE ERA SAMPLES

Parameter (Volatiles)	Sample# Depth	B01033 3.00	B01036 3.00	B01036R 3.00	B01042 3.00	B01045 3.00	B01032 5.00
	Units	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
2-Butanone	UG/KG	12 U	17 UJ	17 U	11 U	11 U	11 U
Carbon Tetrachloride	UG/KG	6 U	8 UJ	8 U	5 U	5 U	5 U
Trichloroethene	UG/KG	6 U	8 UJ	5 JU	5 U	5 U	5 U
Tetrachloroethene	UG/KG	6 U	34 J	28 J	5 U	5 U	5 U
Toluene	UG/KG	6 U	8 UJ	8 UJ	5 U	5 U	5 U
Xylenes (Total)	UG/KG	6 U	8 UJ	8 UJ	5 U	5 U	5 U
Chlorobenzene	UG/KG	6 U	8 UJ	8 UJ	5 U	5 U	5 U

Attachment I

LOCATION 316-5E PRE ERA SAMPLES

Parameter	Sample# Depth	B01035 5.00	B01035DL 5.00	B01035R 5.00	B01041 5.00	B01044 5.00
(Volatiles)	Units	Result Q	Result Q	Result Q	Result Q	Result Q
2-Butanone	UG/KG	11 U	N/R	11 UR	11 U	10 U
Carbon Tetrachloride	UG/KG	5 U	N/R	5 UR	5 U	5 U
Trichloroethene	UG/KG	5 U	N/R	5 UR	5 U	5 U
Tetrachloroethene	UG/KG	5 UJ	N/R	5 UR	5 U	5 U
Toluene	UG/KG	5 UJ	N/R	5 UR	5 U	5 U
Xylenes (Total)	UG/KG	5 UJ	N/R	5 UR	5 U	5 U
Chlorobenzene	UG/KG	5 UJ	N/R	5 UR	5 U	5 U

LOCATION 316-5W PRE ERA SAMPLES

Parameter	Sample# Depth	B01020 0.50	B01020DL 0.50	B01021 0.50	B01022 0.50	B01022DL 0.50	B01023 0.50
(Volatiles)	Units	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
2-Butanone	UG/KG	16 UJ	81 UJ	99 U	16 UJ	40 UJ	14 UJ
Carbon Tetrachloride	UG/KG	8 UJ	40 U	50 U	8 U	20 U	7 UJ
Trichloroethene	UG/KG	78 J	77.000	85.000	78	150.000	7 UJ
Tetrachloroethene	UG/KG	670 JE	580	680	610 JE	1100 J	2 J
Toluene	UG/KG	8 UJ	40 U	50 U	8 UJ	20 UJ	7 UJ
Xylenes (Total)	UG/KG	8 UJ	40 U	50 U	8 UJ	20 UJ	7 UJ
Chlorobenzene	UG/KG	8 UJ	40 U	50 U	8 UJ	20 UJ	7 UJ

Attachment I

LOCATION 316-5W PRE ERA SAMPLES

Parameter	Sample# Depth	B01023DL 0.50	B01019 3.00	B01018 5.00
(Volatiles)	Units	Result Q	Result Q	Result Q
2-Butanone	UG/KG	34 UJ	18 UJ	11 UJ
Carbon Tetrachloride	UG/KG	17 UJ	9 U	5 U
Trichloroethene	UG/KG	17 UJ	9 U	5 U
Tetrachloroethene	UG/KG	17 UJ	20	5 U
Toluene	UG/KG	17 UJ	9 U	5 U
Xylenes (Total)	UG/KG	17 UJ	9 U	5 U
Chlorobenzene	UG/KG	17 UJ	9 U	5 U

LOCATION 316-5 VPT-1

Parameter	Sample# Depth	B01016 0.50	B014Q3 1.50	B014Q2 4.50	B014Q4 6.50	B014Q5 11.00	B014Q8 17.00
(Volatiles)	Units	Result Q	Result Q				
2-Butanone	UG/KG	11 UJ	11 UJ	11 UJ	540 U	560 U	12 UJ
Carbon Tetrachloride	UG/KG	5 U	6 U	6 U	270 U	280 U	6 U
Trichloroethene	UG/KG	5 U	6 U	6 U	100 J	280 U	6 U
Tetrachloroethene	UG/KG	5 U	6 U	6 U	110 J	280 U	6 U
Toluene	UG/KG	5 U	6 U	6 U	270 UJ	280 UJ	6 U
Xylenes (Totals)	UG/KG	5 U	6 U	6 U	270 U	280 U	6 U
Chlorobenzene	UG/KG	5 U	6 U	6 U	270 U	280 U	6 U

Attachment I

LOCATION 316-5E Post ERA

Parameter	Sample# Depth	B01025 0.50	B01027 0.50	B01029 0.50	B01031 0.50
(Volatiles)	Units	Result Q	Result Q	Result Q	Result Q
2-Butanone	UG/KG	11 UR	11 UR	11 UR	11 UR
Carbon Tetrachloride	UG/KG	5 U	5 U	5 U	5 U
Trichloroethene	UG/KG	5 U	5 U	5 U	5 U
Tetrachloroethene	UG/KG	5 U	5 U	5 U	5 U
Toluene	UG/KG	5 U	5 U	5 U	5 U
Xylenes (Total)	UG/KG	5 U	5 U	5 U	5 U
Chlorobenzene	UG/KG	5 U	5 U	5 U	5 U

References

DOE/RL-88-21, Rev. 4, 06/30/94, Part A Dangerous Waste Application for the
300 Area Process Trenches

DOE/RL-92-43, Rev. 0, Phase I Remedial Investigation Report for the 300-FF-1 Operable
Unit

DOE/RL-92-73, Rev. 0, 300 Area Process Trenches Closure Plan

DOE/RL-94-49, Rev 0 (Draft), Phase III Feasibility Study for the 300-FF-1 Operable Unit

Hanford Facility Permit for the Treatment, Storage, and Disposal of Dangerous Waste

WAC 173-303, "Dangerous Waste Regulations," Washington Administrative Code,
as amended.

Eaton, Tom, 1993, Contained-In Policy, [Letter to All Ecology Hazardous Waste Staff],
Washington State Department of Ecology, Olympia, Washington.