

9513339.0544



START

Department of Energy

Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

FEB 22 1995

Mr. Steve M. Alexander, Section Manager  
Nuclear Waste Program  
State of Washington  
Department of Ecology  
P.O. Box 1386, MSIN N1-05  
Richland, Washington 99352

Mr. Douglas R. Sherwood  
Hanford Project Manager  
U.S. Environmental Protection Agency  
712 Swift Boulevard, Suite 5  
Richland, Washington 99352



Dear Messrs. Alexander and Sherwood:

WASTE DESIGNATION OF CONCRETE AND SOIL AT 183-H SOLAR EVAPORATION BASINS

In accordance with Resource Conservation and Recovery Act (RCRA) Permit Number WA7890008967, the U.S. Department of Energy, Richland Operations Office (RL), is conducting a RCRA closure of the 183-H Solar Evaporation Basins located in the 100-H Area of the Hanford Site. RL has concluded that the concrete and soils of the 183-H Solar Basins should not be designated as, or require management as, listed waste. RL requests that the State of Washington, Department of Ecology (Ecology), and the Environmental Protection Agency, Region X (EPA), concur with this conclusion in accordance with 40 Code of Federal Regulation (CFR) 261.3(f)(2). This conclusion is based on the small quantities of listed wastes at the basins compared to the total volume of waste treated and stored, and constituents causing the wastes to be listed are either not detected in the concrete or are detected at levels generally considered to be below health-based levels.

18517

Environmental media which contain listed dangerous waste must be managed as dangerous waste unless, or until, they no longer contain the waste, do not exhibit a dangerous waste characteristic, or are delisted. According to 40 CFR 261.3(f), 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 regulation. (This demonstration is referred to as a "contained-in demonstration.") Under this rule, 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 Washington Administrative Code 173-340-740. For the 183-H Solar Evaporation Basins, RL

and Ecology verbally agreed in a 1990 Unit Manager's Meeting that the concrete would not be subject to listed waste designation because of the small quantities managed, pending sampling analysis of the material.

The 183-H Solar Evaporation Basins were used to treat both characteristic (toxicity) wastes and listed wastes. Listed dangerous wastes are defined by WAC 173-303-080. Codes for types of wastes managed at the basins are given in the Part A permit application for the 183-H Solar Evaporation Basins. The codes, types, and volumes of listed wastes managed at the basins are included in the following table:

RCRA LISTED WASTES

Waste	Volume	Dangerous Waste Code
Formic Acid	2 pounds	U123
Cyanide Solutions	less than 3 gallons	P029, P030, P098, P106
Aqueous Vanadium Pentoxide Solution	0.25 gallons	P120

Formic acid, cyanides, and vanadium pentoxide are the only listed wastes known to have been managed at the basins. The quantities are very small relative to the 2.6 million gallons of wastes estimated to have been transferred to the basins during active operations.

In order to appropriately designate the basin concrete during closure, the Unit Managers for RL and Ecology agreed to a sampling and analysis program, which is described in the 183-H Closure Plan (RL 1991). In accordance with the Closure Plan, approximately 10% of the basin concrete samples were analyzed for cyanide and formate. Vanadium was routinely analyzed in all samples. The analytical results are described in the draft data evaluation report for the 1989 and 1991 183-H Solar Evaporation Basins sampling efforts (Westinghouse Hanford Company 1994), and are believed to adequately represent listed waste constituent concentrations at the 183-H basins. The following is a summary of the data:

- Chemical analyses of 10 basin interior concrete samples indicate that formate was not detected in any sample in excess of the method detection limit of 30 parts per million (ppm) (Pacific Northwest Laboratory 1993; Technical Procedure PNL-ALO-212).
- Chemical analyses of thirteen basin interior concrete samples produced 3 cyanide results above the contract detection limit of 1 part per million; the maximum datum is 4 ppm. For comparison, the MTCA Method B

Messrs. Alexander and Sherwood

-3-

FEB 22 1995

soil cleanup level for copper cyanide is 400 ppm (formula value, direct soil exposure).

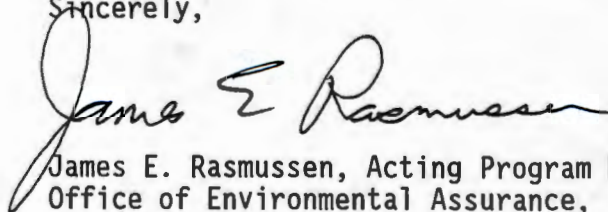
- Chemical analyses of 88 basin interior concrete samples yield a maximum and mean vanadium concentration of 340 and 41 ppm, respectively. For comparison, typical soil concentrations are 20-500 ppm (Dragun 1988). The MTCA Method B soil cleanup level for vanadium is 560 ppm (formula value, direct soil exposure).

In addition, listed waste constituents may previously have been released in small quantities to the soil as a result of stray leakage or spillage; however, the soil is expected to be less contaminated than the concrete, because the waste inventory was managed within the confines of the basin concrete structure. Relatively slight soil contamination is evidenced by the analysis of (non-listed) indicator constituents such as nitrate in the concrete and basin soil (mean nitrate data are 4120 ppm and 2230 ppm, in concrete and soil samples, respectively).

Given the information provided above, RL requests that EPA and Ecology concur with our determination that the 183-H Solar Evaporation Basins concrete and soils do not contain listed dangerous waste and, therefore, do not need to be managed as a listed dangerous waste, per the contained-in rule. A contained-in determination that the concrete and soils no longer need to be managed as dangerous waste will resolve significant RCRA listed waste issues for closure of the basins.

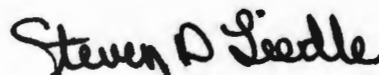
We appreciate your assistance in resolving this item, and look forward to proceeding with closure of the basins. Your expeditious evaluation of the facts and an early determination is requested. Our schedule for completing closure requires a response by March 1, 1995. If you have any questions regarding this matter, please call Ms. Nancy Werdel on (509) 376-5500.

Sincerely,



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

RSD:NAW



Steven D. Liedle, Manager of Projects  
Bechtel Hanford, Inc.

cc: See page 4

Messrs. Alexander and Sherwood

-4-

FEB 22 1995

cc: L. Miller, BHI  
W. Burke, CTUIR  
S. Alexander, Ecology  
R. Cordts, Ecology  
D. Lundstrom, Ecology  
J. Witczak, Ecology  
S. Balone, EM-442  
D. McKenzie, EM-442  
D. Duncan, EPA  
D. Sherwood, EPA  
D. Powaukee, Nez Perce  
R. Jim, YIN