



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

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Mr. D. R. Sherwood
Hanford Project Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5, MS B5-01
Richland, Washington 99352

Mr. M. A. Wilson, Program Director
Nuclear Waste Program
State of Washington
Department of Ecology
Post Office Box 47600
Olympia, Washington 98504



Addressees:

**TREATMENT BY GENERATOR (TBG) REPORT FOR ELEMENTARY
NEUTRALIZATION AT THE 200 AREA LIQUID WASTE PROCESSING FACILITY PUMP
STATION NUMBER 2**

This letter is providing the one-time notification and certification required by the U.S. Environmental Protection Agency (EPA) in 40 Code of Federal Regulations (CFR) 268.9(d) and the TBG documentation required by the State of Washington Department of Ecology (Ecology) in Washington Administrative Code (WAC) 173-303-200(1)(f). The EPA requirement is for submittal of a one-time notification and certification (Enclosure 1) with a waste analysis plan to remain on file in the facility operating record. The Ecology requirement is for the submittal of a certification (Enclosure 1) and a waste analysis plan (Enclosure 2).

On February 18, 1999, approximately 1 liter of sulfuric acid (H_2SO_4) was treated to deactivate the corrosivity characteristic by elementary neutralization. This TBG activity occurred at the 200 Area Liquid Waste Processing Facility (LWPF) Pump Station No. 2 sump and resulted from an accidental discharge of sulfuric acid. The Pump Station No. 2 supports operation of the 200 Area Treated Effluent Disposal Facility (TEDF).

The events resulting in this TBG activity were as follows: On Thursday, February 18, 1999, a malfunctioning pH monitor resulted in the release of approximately 1 liter of sulfuric acid (H_2SO_4) into the 225-BA Boiler Annex Sump. The released material was then discharged into the Waste Encapsulation Storage Facility (WESF) Chemical Sewer. The sulfuric acid activated the low pH alarm for the WESF Chemical Sewer monitoring station at the 211-BA Building. A pH reading of 2.0 was reported. Upon learning of the discharge to the WESF Chemical Sewer, the pumps at the 200 Area LWPF Pump Station No. 2 were placed into manual operation. This held up the material in the Pump Station No. 2 sump and prevented discharge of the corrosive material, via the 200 Area TEDF, into the environment.

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Per 40 CFR 268.40, this material would be classified as a wastewater with the D002 waste code for corrosivity. The treatment standard in 40 CFR 268.40 is deactivation and meeting the 40 CFR 268.48 standards for underlying hazardous constituents (UHC). Deactivation of the characteristic of corrosivity was done using elementary neutralization. Neutralization was accomplished by holding the material in the pump station sump while water from the WESF Chemical Sewer entered the sump. During neutralization the total flow from the WESF Chemical Sewer was about 190 liters per minute. With the release being pure sulfuric acid product solution, there are no UHC associated with this wastewater.

The waste analysis plan (Enclosure 2) discusses the methods used to determine when deactivation of the characteristic of corrosivity by elementary neutralization was completed. Successful elementary neutralization was accomplished after two consecutive pH readings from the sump and from the WESF Chemical Sewer were near a neutral pH (i.e., a pH between 6 and 8). The readings used were:

	WESF Chemical Sewer		Pump Station No. 2	
	pH Indication ¹	Time	Sump pH range ²	Time
1 st Reading	6.4	1127	6 to 8	1145
2 nd Reading	7.0	1257	6 to 8	1310

¹ Via WESF Chemical Sewer pH monitor

² Via pH paper

At 1320 on February 18, 1999, the neutralization was determined to be complete and the pumps at Pump Station No. 2 were returned to automatic operation. Successful deactivation of the characteristic of corrosivity by elementary neutralization for WAC 173-216 State Waste Discharge Permit Program was demonstrated by the 200 Area TEDF pH monitor. This end-of-pipe monitor for pH remained between 7 and 7.5 both before and after the discharge at the 225-B Boiler Annex. Additional information about this pH monitor is presented in Enclosure 2.

Discharge under the WAC 173-216 State Waste Discharge Permit Program requirements for the 200 Area TEDF remained in compliance since no dangerous waste (pH less than 2 or greater than 12.5) was discharged into the environment.

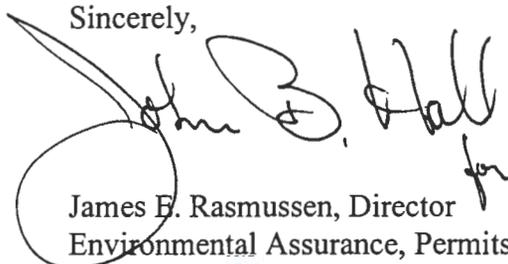
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If you have any questions, please call Gregory L. Sinton, of the Waste Program Division, on (509) 373-7939, Anthony G. Miskho, of Fluor Daniel Hanford, Inc. on (509) 376-7313, or Don L. Flyckt, of Waste Management Federal Services of Hanford, Inc., on (509) 372-3142.

Sincerely,

A handwritten signature in black ink, appearing to read "James E. Rasmussen". The signature is written in a cursive style with a large initial "J".

James E. Rasmussen, Director
Environmental Assurance, Permits,
and Policy Division

ACM:EAP

Enclosures

cc w/encls:

EDMC, H6-08

J. R. Wilkinson, CTUIR

D. S. Dougherty, Ecology

M. N. Jaraysi, Ecology

R. J. Julian, Ecology

S. J. Skurla, Ecology

A. G. Miskho, FDH

D. L. Powaukee, NPT

J. C. Adler, WMH

R. R. Bloom, WMH

D. L. Flyckt, WMH

J. A. Winterhalder, WMH

R. Jim, YIN

Enclosure 1

NOTIFICATION AND CERTIFICATION

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On February 18, 1995, corrosive material was accidentally discharged to the 200 Area Treated Effluent Disposal Facility. The waste originated as an unplanned release of about 1 liter of sulfuric acid into the Waste Encapsulation Storage Facility Chemical Sewer. Both the originating facility and receiving facility are located on the Hanford Site. The Hanford Site is owned by the U.S. Government and operated by the U.S. Department of Energy, Richland Operations Office. The single dangerous waste permit identification number issued to the Hanford Site by the U.S. Environmental Protection Agency and the State of Washington, Department of Ecology is U.S. Environmental Protection Agency/State Identification Number WA7890008967. At the time of disposal, the waste no longer exhibited a characteristic of hazardous waste.

The waste is subject to the land disposal restrictions of Title 40 Code of Federal Regulations (CFR) Section 268. The waste complies with the concentration-based treatment standards specified in Section 268.40. The required information for the waste, as initially generated, that was included in the transfer is identified below:

Hazardous Waste Number	Treatability Group and Subcategory	Underlying Hazardous Constituents
D002	Wastewater corrosive characteristic waste	None

As required by 40 CFR 268.9(d) and 268.7(b)(4)*, the following certification is made for those restricted wastes:

I certify under penalty of law that I have personally examined the am familiar with the treatment technology and operations of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40 without impermissible dilution of prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

Helen E. Birkon

Printed Name

Helen E. Birkon

Authorized Signature

*Note: Due to changes in the Federal Land Disposal Restriction requirements during Phase IV rulemaking activities, the regulatory citation to 40 CFR 268.7 changed so that 40 CFR 268.7(b)(5) is the proper citation to comply with Ecology's program in WAC 173-303-045 and -200(1)(f).

Enclosure 2

WASTE ANALYSIS PLAN

WASTE ANALYSIS PLAN

This waste analysis plan is prepared pursuant to Title 40 Code of Federal Regulations (CFR) Section 268.7(a)(5). Based on the rules in effect in 40 CFR 268 on July 1, 1996 (Washington Administration Code (WAC) 173-303-045). This waste analysis plan requires transmittal to the State of Washington, Department of Ecology in accordance with WAC 173-303-200(1)(f). Otherwise, current 40 CFR 268 requirements indicate treatment-by-generator waste analysis plan must be kept in the facility's on-site files and made available to inspectors [40 CFR 268.7(a)(5)(ii)].

Successful deactivation of the corrosivity characteristic was demonstrated by monitoring devices within the 200 Area Treated Effluent Disposal Facility (TEDF). Monitoring devices exist for operational testing and for end-of-pipe testing.

OPERATIONAL TESTING: Operational testing was demonstrated by the use of the pH monitoring equipment located in the Waste Encapsulation Storage Facility (WESF) Chemical Sewer and use of pH paper at the Pump Station No. 2 sump. The criteria for completion of neutralization was that two consecutive pH readings from the sump and from the WESF Chemical Sewer that were near a neutral pH (i.e., a pH between 6 and 8).

END-OF-PIPE TESTING: The end-of-pipe testing was accomplished using the TEDF end-of-pipe pH monitoring equipment. The TEDF pH monitor operates electrometrically using a combination electrode. The pH monitor undergoes routine preventive maintenance that includes periodic calibrations to maintain accuracy.