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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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October 5, 2000

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Mr. Steve Wisness  
U.S. Department of Energy  
Richland Operations Office  
P.O. Box 550, MSIN: A5-58  
Richland, Washington 99352

Mr. Michael Hughes  
Bechtel Hanford, Incorporated  
355 George Washington Way, MSIN: H0-09  
Richland, Washington 99352

Dear Messrs. Wisness and Hughes:

Re: 100 K Area/Purgewater Discharge Investigation - July 20, 2000

On July 20, 2000, the Washington State Department of Ecology (Ecology) conducted an investigation within the 100 K Area Facility. The investigation, in response to a notification received through an Ecology Environmental Report, concerned a purgewater discharge to contaminated soil in the 100 K Area, and a possible violation of State Wastewater Discharge Permit #4508. Ecology performed a general investigation of the event. Representatives from Bechtel Hanford, Inc. (BHI), Fluor Hanford (FH), Waste Management Federal Services (WMS), and Pacific Northwest National Laboratory (PNNL) participated in the investigation. The investigation focused on the regulations and requirements under Washington Administrative Code (WAC) 173-216 - State Waste Discharge Permit and WAC 173-200 - Ground Water Quality Criteria.

A closeout meeting was conducted September 26, 2000. During which, Ecology, USDOE, and FH discussed the compliance issues resulting from the investigation. Subsequent to this meeting, Ecology reviewed the regulations and permit. Ecology has determined no violations occurred; however, Ecology has the following six (6) concerns:

- 1) Spent Nuclear Fuel (SNF) Process Standard #409 provides direction for compliance with *State Waste Discharge Permit Number 4508* for discharges to the ground at SNF project sites (i.e., K-Basins). This Process Standard also provides direction to preclude the mobilization of underground contamination at the existing waste sites. The Process Standard covers purgewater.

*Investigation of the purgewater discharge, and interviews with the different participates, revealed this guidance document had not been provided and/or reviewed with the necessary contractors. SNF Project needs better integration of Process Standard #409 with all contractors and sub-contractors performing work on site.*

- 2) When performing well maintenance activities on the SNF project site, and particularly the K-basin area, Ecology received conflicting responses on the procedure currently followed upon arrival to the site.

*Process Standard #409 states that, "the shift manger shall be advised prior to any discharge to the ground for the purpose of assuring the requirements of this standard are met."*

- 3) ST Wastewater Permit # 4508's Best Management Practice (BMP) Plan outlines, in Section 10 - Exemptions, that purgewater shall be managed in accordance to the *Purgewater Management Plan* for the Hanford site.

*Investigation of the purgewater discharge indicates this plan is not properly communicated, followed, and/or understood by contractors and subcontractors throughout the Hanford site. The Purgewater Management Plan should be reviewed for clarity, understood and followed, particularly when it is referenced in permits and used for direction of work activities.*

- 4) The Purgewater Strategy Implementation List provided by PNNL is compiled based on the constituents in the groundwater data. Preparation of the Purgewater Strategy Implementation List does not consider the location of a well or the *Purgewater Management Plan*.

*The Purgewater Strategy Implementation List is a controlled document that contains purgewater action information indicating the wells that require containment of purgewater. BHI, PNNL, and WMS use the list in their daily well work activities. Purgewater on the Hanford site should be managed according to the Purgewater Management Plan and should be used in preparation of the Purgewater Strategy Implementation List.*

- 5) The review of the Purgewater Management Plan, written in July 1990, indicated the program should have an evaluation after one (1) year to check its effectiveness. In addition, the tri-parties were committed to incorporate any necessary changes.

*In the ten years since implementation of the Purgewater Management Plan, approved industrial technologies were developed (i.e., Effluent Treatment Facility (ETF) and Treated Effluent Disposal Facility (TEDF) for the treatment and disposal of purgewater, contaminated or not). Currently, purgewater is transported and stored in Modutanks located in the 600 Area. Groundwater well activities will continue for an indefinite period of time on the Hanford site. Therefore, USDOE needs to be more vigorous in actively revising the Purgewater Management*

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*Plan to be consistent with current policy and regulations, be clear and understandable, and promote cost-effective approaches.*

- #6) The permittee failed to prevent a discharge within a surface contaminated area in accordance with the Purgewater Management Plan and Section S4 - Special Conditions, Pollution Prevention, and BMPs For All Discharges within State Waste Discharge Permit 4508, Section S4.A.

*During well maintenance activities in the 100-K Area, purgewater was discharged to the contaminated soil in the K-Area; a known soil contaminated area. Wells affected by the activity were 199-K-27 and 199-K-30 groundwater wells.*

Ecology considers the investigation of the 100 K Area/Purgewater Discharge conducted July 20, 2000, closed. Any questions concerning this letter should be directed to Kathy Conaway at (509) 736-3045.

Sincerely,



Kathy Conaway, Compliance Inspector  
Nuclear Waste Program

KAC:sdb

cc: Doug Sherwood, EPA  
Cliff Clark, USDOE  
Alex Temouri, USDOE  
Michael Thompson, USDOE  
Jane Borghese, BHI  
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Steve Szendre, FH  
John Fruchter, PNNL  
Stuart Luttrell, PNNL  
Martin Gardner, WMS  
Mary Lou Blazek, OOE  
Administrative Record: State Waste Discharge Permit #4508