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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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April 20, 1994

Mr. John L. Erickson, Head  
Environmental Radiation Section  
Division of Radiation Protection  
State of Washington Department of Health  
Airdustrial Center, Bldg. 5  
P.O. Box 47827  
Olympia, WA 98504-7827



Dear Mr. Erickson:

The Washington State Department of Ecology (Ecology) is pleased to receive your comments on the Remedial Investigation/Feasibility Study Work Plan for the 200-UP-1 Groundwater Operable Unit, Hanford Site, Richland, Washington (Work Plan). We appreciate your willingness to be involved with this review process and to work with us to achieve site cleanup. Your comments and questions are addressed in this letter.

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As you are aware, the recent Tri-Party Agreement (TPA) incorporated many aspects of the groundwater remediation (e.g., pilot-scale pump and treat for uranium and technetium, as well as lab and bench scale studies for the nitrate removal of the IRM plumes, in the 200-UP-1 Operable unit, etc.) in order to accelerate the groundwater remediation at Hanford. The initial copy of the 200-UP-1 Work Plan did not cover many aspects of the new TPA agreements. The results of the recent TPA negotiations related to the 200-UP-1 were finally incorporated in the revised Work Plan. As you know, some the related groundwater issues are still being discussed by the three parties, stake holders, the Hanford Advisory Board, and the public, under the "refocusing of the environmental restoration program" and "groundwater strategy planning." Any future changes to the work plan that might arise as a result of these discussions will be made accordingly.

In regard to the accessibility of certain referenced documents, there are four information repositories and three additional information centers where interested parties can review Hanford documents. Documents that are made available for purposes of public comment, as well as any supporting documents, are routinely placed in these locations prior to the initiation and the announcement of associated public comment periods. In

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Mr. John L. Erickson  
April 20, 1994  
Page 2

START

regard to providing free copies of documents to interested parties, federal agencies charge a fee to cover the cost of reproducing documents. Ecology always tries their best to provide any available copies to interested parties. Since the publication of the 200-UP-1 Work Plan, the situation has been improved.

The concentration of nitrate in 200-UP-1 has reached more than 1200 ppm. Ion exchange is the most common remediation technique for uranium and technetium. Although anionic resins remove both uranium and nitrate, nitrate ions compete with uranium for exchange sites on the resin. High nitrate can therefore adversely affect the process of removal of uranium. Thus the nitrate removal is one of prime importance for the success of the removal of other contaminants of concern.

Your concerns on installation of new wells in three aquifers, without causing any migration of contaminants between the aquifers, is appropriate. Under the new plan, these wells will be drilled in phases pending cleanup of the upper level (s) of contaminated aquifer(s) wherever applicable.

**Task 2 and 4: Source characterization and vadose zone investigation**

200-UP-1 is a groundwater operable unit, therefore it was decided that the details of the limited field activities for vadose zone characterization will be dealt within the work plan for 200-UP-2, a source operable unit. However, it was also decided that the results of this investigation, which might relate to any groundwater contamination, will be presented in the Limited Field Investigation Report.

**Task 6: Air Investigation**

Ecology personnel expect Department of Health (DOH) personnel to be active in implementing the air emissions regulation program. Permits for activities at the operable unit will be discussed through the interactive meetings between DOH and the WHC Regulatory Compliance Group. Air pathways by which a Hanford Site worker could potentially be exposed to contamination at the waste site management units are evaluated. This was considered the most conservative route vs. the general public in the city of Richland.

**Tasks 7, 8, 9, and 10: Data Evaluation, Qualitative Risk Assessment, Identification of Potential Contaminant - Location Specific ARARS, and LFI Report**

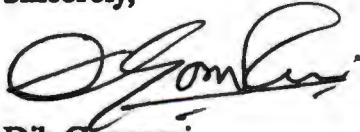
It is expected that DOH's participation will be integral in establishing the radioactive contaminant standards through MTCA.

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Mr. John L. Erickson  
April 20, 1994  
Page 3

Ecology appreciates your response on the 200 UP-1 Work Plan. If you have any questions, please feel free to call me (509) 736-3015.

Sincerely,



Dib Goswami  
Unit Manager  
Nuclear and Mixed Waste management Program

DG:mf

cc: Paul Pak, USDOE  
Dave Einan, EPA  
Administrative Record (200-UP-1)

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Subject: REMEDIAL INVESTIGATION/FEASIBILITY STUDY WORK PLAN FOR THE 200-UP-1  
GROUNDWATER OPERABLE UNIT, HANFORD SITE

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