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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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November 3, 1993

Mr. F. R. Cook
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Dear Mr. Cook:

The Washington State Department of Ecology (Ecology) is pleased to receive your comments on the *RCRA Facility Investigation/Corrective Measures Study Work Plan for the 200-UP-2 Operable Unit, Hanford Site, Richland, Washington* (Work Plan). Your comments and questions are addressed in this letter. 26244

1. The occurrence of irrigation and safe use of groundwater at the Operable Unit any time in the future cannot be evaluated at this time. The remediation alternatives will be evaluated in the Focused Feasibility Study (FFS).

This Work Plan is limited to providing the rationale and direction for collecting information at specific waste management units designated for limited field investigations (LFI). The Vadose Zone Investigation is one of the LFI activities for the 200-UP-2 Operable Unit. The primary objective of this task is to define the nature and vertical extent of contamination in the vadose zone. This includes characterizing contamination in vadose zone soils and in perched water zones. The majority of the vadose zone data will be collected during boring and subsurface geophysical field activities.

All information gathered during the LFI will be integrated and evaluated for the LFI report and FFS. This Work Plan will not determine risk to groundwater. Groundwater evaluation and remediation will be decided after the source operable units are completed. The groundwater evaluation for this area will be part of the 200-UP-1 and 200-ZP-1 Operable Units study plans.

The Focused Feasibility Study will be undertaken to develop a range of potential remedial action alternatives that are protective of human health and the environment. These will be based on refinement of the preliminary remedial alternatives developed before the LFI activities, data gathered during the LFI, and the results of the qualitative risk assessment. The alternatives developed during the FFS based on this information

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will then be evaluated or screened against effectiveness, implementability, and relative cost. These three criteria, future land use designation, and the groundwater remediation will be used to determine whether the occurrence of irrigation and use of groundwater at the operable unit any time in the future is safe for the users.

The results of the analyses feed into the re-evaluation of data adequacy to make an Interim Remedial Measure (IRM) determination. If the data are inadequate, further investigation will be performed. If the data are adequate, a qualitative risk assessment (QRA) will be performed. Because the IRM will produce a wealth of data to refine the conceptual model, the qualitative risk assessment tools will remain available throughout the IRM process.

A requirement for the QRA is that sufficient information be known from which a defensible decision to perform an IRM can be made. The QRA will be performed to determine if contaminant concentrations are high enough and exposure pathways exist such that interim measures are needed to reduce a potential exposure pathway. If the risk is low, the waste management unit will be evaluated during the final remedy selection for the operable unit. If the risk is considered high, the waste management unit is assessed to determine an acceptable remedial action.

All sites, whether selected for an IRM or not, will be evaluated as part of a comprehensive baseline risk assessment. This assessment will be conducted before a final remedy selection is determined for an operable unit or aggregate area. However, the QRA is neither intended to be as comprehensive as a baseline risk assessment, nor is the QRA intended to replace the baseline risk assessment.

The QRA will be conducted using the *Hanford Site Baseline Risk Assessment Methodology*, Appendix C (DOE/RL 1992), and any new guidance specific to qualitative risk assessments as it becomes available. The latest version of the *Hanford Site Baseline Risk Assessment Methodology* will be sent to you by the U. S. Department of Energy (DOE).

2. The commercial/industrial exposure scenario will be adapted to the 216-U-10 Pond site. The specific physical characteristics of the site, and applicable transport pathways, exposure routes, and receptors will be defined. Additional exposure scenarios may be evaluated as agreed upon by the regulatory and DOE unit managers.

The FFS will detail the range of potential remedial action alternatives that are protective of human health and the environment. Definition of institutional controls during evaluation of preliminary remedial alternatives involves the use of physical barriers or access restrictions to reduce or eliminate public exposure to contamination. Many access

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and land use restrictions are currently in place at the Hanford Site and will remain in place during implementation of remedial actions. Because the 200 Areas are already committed to waste management for the long term, institutional controls will also be important for final remedial measure alternatives.

3. A list of contaminants of potential concern for the 200-UP-2 Operable Unit has been established. These contaminants were selected based upon known presence in water, disposal in waste management units, historical association, or detection in environmental media. This list included carbon tetrachloride and tritium. The carbon tetrachloride will be directly analyzed as part of the volatile organic contaminants of concern. Perched water samples will be analyzed for tritium.

4. Innovative technologies may be applicable at this operable unit. Should an innovative technology provide for fewer environmental impacts, demonstrate better treatment, or lower costs over a conventional technology, it could progress through the screening process. A Focused Feasibility Study will be conducted to identify suitable remediation technologies for a waste management unit or group of similar waste management units. This study is conducted to provided a comprehensive evaluation of technologies. New technologies will be evaluated in this study.

5. When evaluating remedial alternatives in the feasibility study, revegetation using native plants will be considered. Proper soil placement will be selected for successful revegetation of the area.

No formal process is presently in place to perform a Natural Resource Damage Assessment. A Trustee Council is meeting regularly to offer guidance on moving these assessments through the Remedial Investigation/Feasibility Study process at the Hanford Site.

6. Special consideration will be given to approaches minimizing the use of land for waste management. The FFS will be developed to recommend a range of potential remedial action alternatives that are protective of human health and the environment. The following specific types of information, as well as minimization of land use for waste management, will be developed in the evaluation of alternatives: 1) size and configuration of onsite removal and treatment systems, 2) identification of contaminants that impose the most demanding treatment requirements, 3) size and configuration of containment structures, 4) time frame in which treatment, containment, or removal goals can be achieved, 5) treatment rates or flow rates associated with treatment processes, 6) special requirements for construction of treatment or containment structures, staging construction materials, or excavation, 7) distances to disposal facilities, and 8) required permit and imposed limitations.

7. DOE has been requested to send you *U Plant Source Aggregate Area Management Study Report*, DOE/RL-91-52. Rev. O.

8. DOE, Ecology, and the U. S. Environmental Protection Agency (EPA) agreed that the Work Plan, while maintaining the title RFI/CMS, presents the background and direction for conducting a LFI in the 200-UP-2 Operable Unit. This is the first part of the process leading to a final remedy selection. With the traditional approach, cleanup actions would not commence until the Record of Decision (ROD) was issued following the RFI/CMS (RI/FS), which raised the concern that too much time and too large a portion of a limited budget would be spent before actual cleanup would occur.

The LFI approach is an attempt to expedite cleanup by placing more emphasis on initiating and completing cleanup at high priority sites. In the LFI path, minimum site data are needed to support interim remedial measures (IRMs) or other decisions, and data can be obtained in a less formal manner than needed to support an operable unit ROD.

The *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) and the *Hanford Site Past Practice Strategy* (Strategy) are observed for operations at the Hanford Site. The new Strategy is for streamlining the past practice corrective action process.

Responses to "Detailed Comments on 200-UP-2 Investigation/Corrective Measures Study Work Plan"

1. The purpose of the Aggregate Area Management Study Report (AAMSR) was to compile and evaluate the existing body of knowledge to support the Past-Practice Strategy decision making process. Each waste management unit and unplanned release within the aggregate area was assessed to determine the most expeditious path for remediation within the statutory requirements. A data evaluation process was established that uses existing information to develop preliminary recommendations on the appropriate remediation path for each waste management unit.

The U Plant Source Aggregate Area Management Study provided recommendations for further investigations at waste management units based on the extent of available data and the apparent risk to human health and the environment.

2. The source waste management units of the 200-UP-1 Operable Unit were reassigned to the 200-UP-2 Operable Unit. Currently, the groundwater beneath the consolidated source operable unit is assigned to 200-UP-1. As a result, the 200-UP-1 Operable Unit

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waste management units are covered in the 200-UP-2 Work Plan. This Work Plan included evaluating 216-U-1 and -U-2 cribs, 216-U-14 ditch, and 241-U-361 settling tank.

3. The 241-UX-154 Diversion Box and the 241-UX-302A Catch Tank are part of the tank waste cross-site transfer line and are likely to be operating for several years. These waste management units were, therefore, recommended for inclusion in the decontamination and decommissioning of the cross-site transfer lines and encasements after operations are discontinued.

4. The 241-WR vault is administered under the Hanford Surplus Facilities Program and will likely be closed under that program's decontamination and decommissioning schedule. The 241-WR vault will likely be dispositioned with the U-Plant canyon. The Hanford Surplus Facilities Program and the Decontamination and Decommissioning Project will control all inactive waste sites and facilities and conduct routine surveillance and maintenance until decommissioning.

5. The Unplanned Release UN-200-W-138 has been reassigned under the Tri-Party Agreement to the 216-U-17 French Drain and is now considered part of that waste management unit. The release occurred as a result of operations during the use of the 216-U-7 French Drain and will be covered by the investigation of that facility.

6. The U Plant Source AAMSR recommended that the 241-U-151 and the 241-U-152 Diversion Boxes be grouped with the 200-UP-3 Operable Unit. These two diversion boxes are located on the eastern edge of the 200-UP-3 Operable Unit and are historically connected with the operations at the 241-U single-shell tank farm. Due to the technologies involved and schedule for remediation, the 200-UP-3 Operable Unit will be handled under the Single Shell Tank System Closure/Corrective Action Work Plan. The Work Plan and subsequent characterization will be part of this document.

7. Unplanned release UN-200-W6 is associated with the diversion boxes and will likely be moved to the 200-UP-3 Operable Unit because of the association with the 241-U tank farm.

8. The 216-S-4 French Drain and the 216-S-21 Crib received wastes for the S Plant Aggregate Area and are located near related waste management units that will be addressed in the S Plant remedial activities.

The explanations in numbers 6, 7, and 8 are listed in the Hanford Federal Facility Agreement and Consent Order Change Control Form Reassignment of Waste

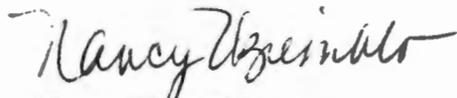
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Management Units Associated with the 200-UP-2 Operable Unit, Change Number C-93-03B.

9. Reverse wells, also called injection wells, were used briefly in the 1940s at Hanford to inject wastes deep into the ground. The 216-U-4 Reverse well will be studied as a high priority unit LFI.

Ecology appreciates your input on the 200-UP-2 Work Plan. If you have any questions, please feel free to call me at (509) 736-3014.

Sincerely,



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Unit Manager
Nuclear and Mixed Waste Management Program

NU:mf

cc: Paul Pak, DOE
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Administrative Record (200-UP-2)

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 THE 200-UP-2 OPERABLE UNIT, HANFORD SITE, RICHLAND, WASHINGTON

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