



Tri-Party Agreement

FEB 16 2005

Mr. Alton Haymaker  
Email: Aljohay@aol.com

Dear Mr. Haymaker:

COMMENTS ON THE ENGINEERING EVALUATION/COST ANALYSIS (EE/CA)  
FOR THE U PLANT ANCILLARY FACILITIES

Thank you for submitting comments on the Engineering Evaluation/Cost Analysis (EE/CA) for the U Plant Ancillary Facilities. The Tri-Parties appreciate the time and effort you took to review and provide input on this document.

Your comments are incorporated in the enclosed Comment and Response document. They were considered in the development of the Action Memorandum that is also enclosed. These documents are also available at <http://www2.hanford.gov/arpir/>.

If you have any questions, please contact Larry Romine on (509) 376-4747, [Larry\\_d\\_romine@rl.gov](mailto:Larry_d_romine@rl.gov), or Craig Cameron on (509) 376-8665, [cameron.craig@epa.gov](mailto:cameron.craig@epa.gov).

Sincerely,

Kenneth A. Klein, Manager  
U.S. Department of Energy  
Richland Operations Office

Nicholas Ceto, Program Manager  
Office of Environmental Cleanup  
U.S. Environmental Protection Agency

Rick Bond, Project Manager  
Nuclear Waste Program  
State of Washington  
Department of Ecology

Enclosures

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**Enclosure 1**

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## **RESPONSIVENESS SUMMARY**

### **Introduction**

The purpose of this Responsiveness Summary is to summarize and respond to public comments on the Engineering Evaluation/Cost Analysis (EE/CA) for the U Plant Ancillary Facilities. This EE/CA was provided for public comment on August 25, 2004.

The Tri-Parties announced the issuance of the EE/CA in the Tri-City Herald. A 30-day public comment period was held during which time the public had the opportunity to read, review, and submit comments on the U Plant Ancillary Facilities EE/CA. There were no requests for a public meeting; therefore, no public meeting was held. The document evaluates the alternatives for a non-time critical removal action for 17 facilities and structures under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). These ancillary facilities and structures were used to support the UO3 process and/or U Plant activities.

### **Public Involvement**

A newspaper ad was placed in the Tri-City Herald on August 25, 2004 announcing the availability of this EE/CA and the start of the public comment period. Approximately fifteen hundred copies of a fact sheet describing the EE/CA were mailed or sent out electronically. A public comment period was held from August 25 through September 24, 2004. No requests were received for a public meeting. No public meeting was held.

### **Comments and Responses**

The agencies received four written comments during the public comment period. Comments included: 1) questioning how comparison costs were calculated for the various alternatives, 2) considering the historical value of the facilities, 3) support for the recommended remedy and 4) requesting the agencies consider a new alternative, a combination of alternatives 3 and 4 to address the slabs and soils under and around the slabs. Based on a comment received by the agencies, the Action Memorandum reflects various discounted rates more accurately. Commenters received responses to the comments submitted.

**COMMENTS AND RESPONSES TO THE U PLANT ANCILLARY FACILITIES  
ENGINEERING EVALUATION/COST ANALYSIS (EE/CA)**

**COMMENTER:**

RICHARD I. SMITH, P.E.

**Comment 1:** The document was generally quite complete and contained information appropriate for this consideration. However, several of the facility descriptions in Section 2 were incomplete in that they did not state whether or not the facility had a concrete slab floor, e.g., 211-U and 211-UA, 222-U, 2709-A, 2716-U, 2726-U. Also, for 203-UX, it was not clear whether this facility was on-grade or was set into the ground, or whether the facility was enclosed by walls and a roof or was open to the environment. As a result, it was not possible to get an understanding about the volumes of material (slabs, footings, soil) associated with each of the alternatives. From the Cost Estimates Backup report, the estimated cost for removal below slab increased by \$700K over the slab case and the estimated cost for removal below footings increased by \$1.64 M over the slab case, for an increase by a factor of 2.3. The estimated cost for waste disposal (which should be proportional to waste volume) for the below slab case increased by \$940K over the slab case, and the below footings case increased by \$1.19 M over the slab case, an increase of a factor of 1.27. I would have expected both removal and disposal costs to have increased by similar factors, since we are talking about similar activities and materials.

**Response to Comment 1:** Thank you for your comments on the U Plant Ancillary Facilities EE/CA. In response to the facility description questions, the 211-U, 211-UA, 222-U, 2709-A, 2716-U, and 2726-U Buildings each have a concrete slab floor. The 203-UX structure is open to the environment and at grade level.

The removal cost is not proportionate to the disposal cost. In the removal of the 'below footing' alternative, there is a large amount of clean soil removed (i.e., lay back area) and shoring installed to allow for the safe removal of contaminated materials to an approximate depth of 20 feet. Moving clean soil and installing adequate shoring to get to the point of disposing of even a small amount of contaminated materials increases costs.

**Comment 2:** The annual funding arrangements used by DOE make present-value analyses for these and other DOE projects on the Hanford site nonsensical. There never is any money deposited now to pay for future expenditures, thus there is no interest earned between now and the eventual expenditure in the future. As a result, the constant-dollar estimates better represent the true cost than the present-value estimates. Neither will accurately estimate the actual costs at the future year because inflation is not considered. Expenditures forecast to occur in the future should be escalated from the current-year estimate to the expected future year. If two alternatives differ significantly in the number of years from now to complete the effort, then neglecting inflation will distort (improve) the cost appearance of the longer-term alternative.

**Response to Comment 2:** The calculation of both discounted (present-value) and non-discounted costs are provided for under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process to account for alternatives that are implemented over different time scales. In this case, the continued Surveillance and Maintenance alternative spanned several more years than the alternatives that involved more immediate demolition and so the costs were incurred over a longer time period. Escalation to the expected future year is not included in the calculation, in accordance with Office of Management and Budget Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis for Federal Programs.

**Comment 3:** The D&D to -1 Meter case represents an upper-bound cost. In actual practice, it would make good sense to deal with each facility on a case-by-case basis, remove the slab and characterize the soil beneath the slab before removing to the -1 meter depth, or to whatever depth was found to be

necessary. I expect that a number of these facilities would have no significant contamination underneath their slabs, and the costs attributed to the removal, clean backfill, and waste disposal could be reduced significantly. In addition, not having the slabs (with whatever additional covering material might be emplaced) in place could greatly simplify the maneuvering of heavy equipment and materials associated with the future work on D&D of the 221-U facility and its servicing structures.

**Response to Comment 3:** The U.S. Department of Energy and the U.S. Environmental Protection Agency will be implementing Alternative 3 and evaluating the need for Alternative 4 on a case-by-case basis. The actual costs incurred will depend on the extent to which further removal is required. After the facilities are removed, samples will be taken and analyzed from beneath the slab and surrounding soils. The results will be compared to industrial clean-up standards. These standards are the ones that have been selected for use in the 200 Area remedial actions (Final Hanford Comprehensive Land-Use Plan Environmental Impact Statement, DOE/EIS-0222-F, 1999). If the results are below the industrial clean-up standards and protective of groundwater, then no further action will be done under this removal action and the results will be documented in the Administrative Record. However, if the results are above industrial clean-up standards, then a work plan addendum will be negotiated between the U.S. Department of Energy and the U.S. Environmental Protection Agency to identify follow-on actions. These actions may include performing additional removal work (e.g., implementing Alternative 4), or deferring to a later remedial action. Both Alternatives 3 and 4 are consistent with future removal and remedial actions being considered in the area.

This removal action is one step in a coordinated cleanup of the U Plant area. Even if the limited sampling performed during this removal indicates no contamination above industrial cleanup levels, the Tri-Parties will consider the results when determining whether to conduct further investigations and cleanup under future remedial action (for example, in a Record of Decision (ROD) amendment to the 200-UW-1 operable unit) or a removal action (for example, pipelines and subsurface structures removal action).

There are some waste sites and pipelines near and/or directly beneath the U Plant Ancillary Facilities. These facilities must be removed in order to be able to access some of waste sites and pipelines for potential subsurface remediation. The U Plant Ancillary Facilities EE/CA was the first in a series of U Plant Area remedial and/or removal actions documents. The 221-U Canyon Proposed Plan recently went out for public review and future documents include a proposed plan on the U Plant Area waste sites and an EE/CA on the pipelines.

**Comment 4:** I believe the list of contaminants given on pages 2-8, 2-9 is incomplete. Experience at the gaseous diffusion plants with the recycled uranium showed that there was a lot of  $^{236}\text{U}$  and  $^{99}\text{Tc}$  included, as well as trace amounts of  $^{237}\text{Np}$  and  $^{239}\text{Pu}$ . Thus, the potential presence of  $^{236}\text{U}$  and  $^{99}\text{Tc}$  should be considered. (Smith, R.F. 1984. Historical Impact of Reactor Tails on the Paducah Cascade. Paducah Gaseous Diffusion Plant Report KY/L-1239)

**Response to Comment 4:** The key radionuclide contaminants are uranium-234, uranium-235, and uranium-238, and mixed fission products such as strontium-90 and cesium-137. Additional characterization will be done as part of the removal action activities in accordance with an approved sampling and analysis plan. Uranium-236 was added to the list of isotopes, and the presence of technetium-99 is being evaluated for each structure based on the activities that were conducted in the facility. Additional sampling and characterization will be used to support waste designation and determine if the removal action objectives and stabilization requirements were met.

**Comment 5:** There are discrepancies between the EE/CA document and the Cost Estimates Backup report as regards the discount rates used in the analyses. The EE/CA appears to use 3.2% for all alternatives. The Backup report appears to use 3.2% for the 24-year long-term S&M, 1.9% for the 6-year D&D to Slab case without stating which rate was applied to the post-D&D S&M period, and appears to use 2.2% for the 7-year D&D to -1 meter case, again without stating the rate for the post-D&D S&M period.

**Response to Comment 5:** Thank you for the correction. We made certain that the various discounted rates are accurately reflected in the Action Memorandum for the U Plant Ancillary Facilities.

**COMMENTER:**

MARVIN SEDA

**Comment 1:** I think the building is of historical value and the destruction of it would not only cost a lot more than leaving it and decontaminating it. Some day we may even have tours of the facility and explain how the process went to make solid Uranium.

I was in favor of restarting the plant to process the existing Uranium in solution, but the government chickened out in face of the environmentalist extremist activities. And took it off the Pu inventory list. Uranium is a good energy source and could be put to many uses.

**Response to Comment 1:** Thank you. We appreciate your interest in the U Plant Ancillary Facilities EE/CA. The U Plant Ancillary Facilities were determined to be a contributing property to the Hanford Site Manhattan Project/Cold War Era Historic District. All mitigation, which included reviewing the need for individual documentation on each building and field walk downs to locate and identify any artifacts which may have interpretive or educational value as exhibits within local, state or national museums, has been completed per the Programmatic Agreement for the Maintenance, Deactivation, Alteration, and Demolition of the Built Environment on the Hanford Site (DOE/RL 1996). In addition, the 222-U Building was listed as needing a completed Historic Property Inventory Form which chronicled its processes and historical significance, which has been completed.

**COMMENTER:**

ALTON HAYMAKER

**Comment 1:** Alternative (3) seems to my mind to be the route to follow.

**Response to Comment 1:** Thank you for your comment. Alternative 3 (D&D to grade, excluding building foundations and underlying soils and structures) is the recommended removal action.

**COMMENTER:**

RUSSELL JIM, MANAGER

Environmental Restoration and Waste Management Program  
Confederated Tribes and Bands of the Yakama Nation

**Comment 1:** The Yakama Nation appreciate the opportunity to review and provide comments on the proposed actions for the Ancillary Facilities at U Plant.

The Confederated Tribes and Bands of the Yakama Nation is a federally recognized sovereign pursuant of the Treaty of June 9, 1855 made with the United States of America (12 Stat. 951). The U.S. Department of Energy's Hanford site was constructed on ceded land of the Yakama Nation. The Yakama Nation retains reserved rights to this land under the Treaty.

The Yakama Nation supports efforts by USDOE to remediate the U Plant Ancillary Facilities that will allow full exercise of Tribal Treaty rights. Unfortunately, the selected Alternative 3 fails to achieve this objective. Alternative 3 consists of: D&D (to grade, excluding building foundations and underlying soils/structures), which addresses removing the non-radiological and radiological hazardous substances from the facilities, removing equipment and associated piping, demolishing the structure to slab and stabilizing the area.

**Response to Comment 1:** Thank you for your review and comment on the proposed removal action for the U Plant Ancillary Facilities. All of the aboveground structures will be removed as described in Alternative 3 of the EE/CA. Once the structures are removed, samples will be collected from below each slab and soil surrounding the slab, and analyzed to determine whether contamination is present and whether further removal actions (e.g., Alternative 4) or remedial actions are needed.

This removal action is one step in a coordinated cleanup of the U Plant area. Even if the limited sampling performed during this removal indicates no contamination above industrial cleanup levels, the Tri-Parties will consider the results when determining whether to conduct further investigations and cleanup under future remedial action (for example, in a Record of Decision (ROD) amendment to the 200-UW-1 operable unit) or a removal action (for example, pipelines and subsurface structures removal action).

**Comment 2:** The Yakama Nation recommends that USDOE perform an analysis of a new alternative that combine Alternatives 3 and 4. The YN support USDOE in implementing Alternative 3 for structures/areas that are not radiologically contaminated, and support Alternative 4 for radiologically contaminated structures/areas. Alternative 4 involves removal of all contamination, equipment, structures (including the foundation and footings) down to 1 meter. This action needs to be followed by soil sampling to determine additional cleanup planning is required.

The Yakama Nation cannot and will not support cleanup activities that create small and chemically contaminated waste sites throughout the 200 Areas making the entire area a sacrifice zone. Leaving contamination at these sites does not meet regulatory requirements for a radiologically LLW or MLLW burial ground.

**Response to Comment 2:** The U.S. Department of Energy and the U.S. Environmental Protection Agency will be evaluating a combination of Alternatives 3 and 4. After the facilities are removed, samples will be taken and analyzed from beneath the slab and surrounding soils. The results will be compared to industrial clean-up standards. These standards are the ones that have been selected for use in the 200 Area remedial actions (Final Hanford Comprehensive Land-Use Plan Environmental Impact Statement, DOE/EIS-0222-F, 1999). If the results are below the industrial clean-up standards and protective of groundwater, then no further action will be done under this removal action and the results will be documented in the Administrative Record. However, if the results are above industrial clean-up standards, then a work plan addendum will be negotiated between the U.S. Department of Energy and the U.S. Environmental Protection Agency to identify follow-on actions. These actions may include performing additional removal work (e.g., implementing Alternative 4), or deferring to a later remedial action. Both Alternatives 3 and 4 are consistent with future removal and remedial actions being considered in the area. The removal action will be conducted in accordance with applicable and relevant and appropriate requirements evaluated in the EE/CA and finalized in the Action Memorandum.

There are some waste sites and pipelines near and/or directly beneath the U Plant Ancillary Facilities. These facilities must be removed in order to be able to access some of waste sites and pipelines for potential subsurface remediation. The U Plant Ancillary Facilities EE/CA was the first in a series of U Plant Area remedial and/or removal actions documents. The 221-U Canyon Proposed Plan recently went out for public review and future documents include a proposed plan on the U Plant Area waste sites and an EE/CA on the pipelines.