



# Oregon

Theodore R. Kulongoski, Governor

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OREGON  
DEPARTMENT OF  
ENERGY

November 10, 2004

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Rick Bond  
Washington State Department of Ecology  
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Subject: Comments on the "Alternatives Evaluated for the Plutonium Finishing Plant Above-Grade Structures Engineering Evaluation / Cost Analysis (EE/CA)," DOE/RL-2004-05, Revision 1, Re-Issue October 5, 2004.

Dear Ms. Charboneau and Mr. Bond:

We appreciate the opportunity to provide comments on the proposed action. We believe the EE/CA can provide a reasonable path forward for the expedited removal of the above grade Plutonium Finishing Plant (PFP) structures with some changes.

The proposed action is a non-time-critical removal under the Comprehensive, Environmental Response, Compensation and Liability Act (CERCLA) section 104. As such, we believe alternatives five (Entombment) and six (Collapse and Cover) are inappropriate for consideration and should be removed from the document prior to final issuance. These alternatives are only appropriate under a Final Action under CERCLA section 106. These alternatives greatly complicate or preclude access to wastes released to the soils under the facilities, characterization of these wastes and final remediation of these areas. Accordingly, they also fail the EE/CA Remedial Action Objective Number Six (facilitate and not preclude future remediation at the PFP Facility, including remediation of sub-grade portions of the PFP Facility and sub-grade waste sites).

If these alternatives are to be considered, they must be analyzed under the appropriate regulatory processes and frameworks, including an:

- 1) Environmental Impact Statement evaluation (under the State Environmental Policy Act and the National Environmental Policy Act), a
- 2) Remedial Investigation / Feasibility Study (under CERCLA, as amended), and a
- 3) Remedial Field Investigation / Focused Feasibility and Corrective Measures Study (under the Resource Conservation and Recovery Act).

We agree in general that it is both appropriate and prudent to clean out and tear down these facilities in the near term to meet the remedial action objectives detailed in the document. Doing so greatly reduces the risks from any potential accident and lowers the risk that future workers with less knowledge of the site and plant systems may be injured in remediating these facilities.

We support aggressively moving forward with this action, however, we do have a number of reservations and suggest several changes be made in the plans.

### **Transuranic waste definition and ARAR's**

We previously commented on the 232-Z EE/CA and expressed our concern that the definition of transuranic wastes used may be inappropriate and that the Atomic Energy Act appears to be the appropriate source authority for this definition. We recommend that Table 5-1 detailing the Applicable or Relevant and Appropriate Requirements (ARARs) be revised to specifically include the:

- 1) Atomic Energy Act (AEA) as amended in 1954 (42 USC 2011 et seq.) as an ARAR for the definition of transuranic (AEA-TRU) waste, the
- 2) Waste Isolation Pilot Plant (WIPP) Land Withdrawal Act as amended in 1996 (PL 102-579) as an ARAR for definition of WIPP-TRU acceptable waste,
- 3) DOE Order 435.1 as a "To Be Considered" (TBC) standard for DOE requirements and definitions for on-site storage and handling of wastes not covered under 1) or 2), and the
- 4) Washington State Model Toxics Control Act (MTCA) closure and post closure requirements as an ARAR if alternatives five and six are retained.

We expect little of the waste generated will be contaminated with transuranic elements at levels between those defined under the Atomic Energy Act and the WIPP Land Withdrawal Act. Careful consolidation of these wastes should allow all such wastes to meet the WIPP Waste Acceptance Criteria and eliminate the need for either:

- a) indefinite on-site storage of this waste as orphan waste, or
- b) specific risk studies of the waste and signature approval by the Secretary of Energy and the Director of EPA for these wastes to be disposed in the near surface at the Environmental Restoration Disposal Facility (ERDF).

The ERDF Waste Acceptance Criteria limits these wastes to concentrations nearer the AEA-TRU definition than to the WIPP-TRU definition. Therefore, there should be no need for on-site disposal of transuranic elements (AEA-TRU not meeting WIPP-TRU requirements) to ERDF.

### **Z-9 Crib**

The 216-Z-9 structures were used to mine large amounts of plutonium out of the Z-9 crib. The EE/CA proposes tearing down and disposing of these facilities. We encourage the agencies to carefully evaluate the potential for use of these facilities and the equipment they contain for further mining of the Z-9 crib as part of the remedial actions needed to remove the hazards associated with the crib.

The Z-9 crib received a very large quantity of RCRA and CERCLA regulated wastes and poses a significant on-going environmental hazard. The co-disposal of chlorinated solvents and other wastes may serve to mobilize the plutonium and other contaminants making this a particularly troublesome site. We separately commented on the unexpectedly rapid movement of contaminants in the 200-PW-2 and 200-PW-4 waste sites. We encourage the agencies to carefully consider whether similar chemical processes may be occurring at these PFP sites. The results of these analyses may (and likely will) necessitate further source removal from the crib, which in turn may argue for retention of the 216-Z-9 facilities for that work.

Additionally, we are not yet persuaded that CERCLA alone provides sufficient regulatory coverage to ensure that the Z-9 crib and other PFP waste sites are adequately cleaned up. Many of these sites were part of RCRA regulated tank systems and will need to be cleaned up to meet the significant requirements for closure analysis under RCRA and MTCA.

### **Grouting of sub-grade vaults and structures**

We disagree with and oppose the grouting of sub-grade vaults and structures in the proposed alternative (alternative 4). Grouting fails Remedial Action Objective Number Six (facilitate and not preclude future remediation at the PFP Facility, including remediation of sub-grade portions of the PFP Facility and sub-grade waste sites) as we previously noted for alternatives 5 and 6. We recommend the sub-grade structures either be cleaned out and covered with a watertight and intrusion resistant cover, or that they be exhumed and removed as a part of the actions taken under this EE/CA.

### **Land Disposal Restrictions**

Many of the wastes at PFP have the potential to contain solvents, particularly chlorinated solvents. These wastes need to be treated to meet land disposal restrictions prior to being disposed. Some solvents, particularly chlorinated solvents, are not retained or retarded by the synthetic liner materials used at ERDF. These solvents can act to solvate metals and contaminants and migrate them through the liner materials. The presence of such solvents even in "stabilized" waste forms can seriously degrade the performance of the disposal cell. Simple sorption is insufficient to prevent the movement of many of these solvents as vapors, and their consequent potential mobilization through the liner system, with or without other contaminants.

Project engineers examine liner materials for compatibility (what damage occurs to the liner material). They must also remember to carefully consider liner permeability (whether the liner can contain the contaminants); and contaminant interactions. Untreated (undestroyed) solvents should not be allowed in ERDF.

### **Dangers**

Recent Occurrence Notification Center Reports raise concerns for worker safety and the potential for serious accidents. We strongly encourage the agencies to review the last several years worth of reports for lessons learned. PFP contains a large amount of plutonium, americium and hazardous and radioactive materials. These dangers and the on-going radiation dose to workers at PFP provide additional justification and incentive for early action to clean up, dismantle and dispose of these facilities.

Recent reports on the non-destructive assay for plutonium at Hanford show a history of underestimating the amount of plutonium present in both facilities and wastes using non-destructive assay techniques. We encourage the agencies to exercise extra caution in the safety margins used in analyzing the risks as the work moves forward.

We look forward to working closely with you as you develop the specific work plans and emergency hazard assessments for this work. If you have questions regarding our comments, please contact Dirk Dunning at (503) 378-3187.

Sincerely,

Ken Niles  
Assistant Director

Cc:

Nicholas Ceto, EPA Program Manager  
Michael A. Wilson, Ecology Nuclear Waste Program Manager  
Todd Martin, Chair, Hanford Advisory Board  
Stuart Harris, CTUIR Program Manager  
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