



# Oregon

Theodore R. Kulongoski, Governor



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May 29, 2009

Ms. Paula Call  
U.S. Department of Energy  
P.O. Box 550 MS A7-50  
Richland WA 99352

Dear Ms. Call:

We appreciate this opportunity to review and comment on the proposed Amendment to the Environmental Restoration Disposal Facility (ERDF) Record of Decision, DOE/RL-2009-23.

Oregon recognizes the critical role of ERDF in Hanford's clean-up efforts and waste management and supports expansion of ERDF so long as it can be done in a manner protective of human health and the environment now and in the future. Therefore, Oregon supports the *Proposed Amendment to the Environmental Restoration Disposal Facility Record of Decision* (ROD) by the Tri-Parties to allow the planned expansion of ERDF into the next two "super cells" (cells 9 and 10). However, we disagree with the proposed change to the ROD to provide authorization for construction of the remainder of the cells as more capacity is needed within the 1,024 acre design with no further ROD amendments. We believe that the performance assessment (PA) for ERDF must be completed and the Tri-Parties need to thoroughly review the status of waste inventories at ERDF – relative to existing waste limits for the facility – before proposing additional expansion of ERDF beyond cells 9 and 10. Additionally we recommend that the Tri-Parties use the formal ROD amendment and comment process for any substantive future changes to the facility design, such as changes in cell design, alignment, or modification of the waste acceptance criteria.

The concentrations of some key contaminants in ERDF's leachate are increasing. The leachate concentration of uranium has been recorded at 2,100 pCi/L (about 70 times the maximum contaminant levels); is on the increase; and raises concerns about the potential for leachate eventually reaching groundwater. These high concentrations suggest that uranium in the waste is substantially more soluble and more mobile in Hanford's soils and wastes than was previously believed. Because the concentration of uranium in the leachate is higher than was expected, Oregon strongly urges that the Tri-Parties, before considering a final authorization for expansion beyond cells 9 and 10: (1) reexamine the CERCLA / PA limits for uranium, technetium 99, carbon 14 and iodine 129, (2) reevaluate the waste inventory placed in ERDF to date, and (3) reconsider pre-treatment of material to be put in ERDF to remove or more effectively immobilize the elements that pose a potential of exceeding the limits in the future.

ERDF has been a success story. To help ensure its continued success, we have several recommendations:

### Inventory tracking and disposal

The Tri-Parties should create a tracking and planning tool for key contaminants (a cumulative record for each key contaminant, such as uranium, technetium-99, carbon-14 and iodine-129). This tool would be employed to demonstrate how much of ERDF's capacity for certain contaminants in the wastes has been consumed and how much remains. To date, ERDF has filled a small fraction of the total volume originally sited. It appears likely that ERDF's ultimate capacity may be limited more by the inventories of key radionuclides, rather than the volume of wastes disposed. The current inventory of these key radionuclides already in ERDF exceeds 60-70 percent of the ultimate capacity of the landfill based on the current PA risk assessment limits.

### Early problem identification

ERDF is now operated such that leachate is sampled from a common collection tank before the leachate is piped to disposal. Samples should be collected from individual cells so that unanticipated peaks in contaminants could be tracked to individual problem areas within the ERDF cells.

### Planning for eventual failure.

Landfill liners and caps will eventually fail and there is no reason to believe ERDF will be an exception. We encourage the Tri-Parties to begin now to plan for response to any detected failure of ERDF's containment. As one facet of this effort we recommend installation of under-cell, below-membrane leak detection monitors in future cells to provide early warning of leachate leaks into the vadose zone beneath the facility.

### Revised and updated Performance Assessment

DOE should complete the ERDF performance assessment in consultation with the U.S. Environmental Protection Agency and the Washington Department of Ecology, by incorporating more of the recently acquired understanding of preferential transport through the vadose zone and groundwater, and of the higher solubility and mobility of uranium in Hanford soils. The Tri-Parties should together consider the timing, modes of occurrence and consequences of the release of wastes to the vadose zone through ERDF's liner and barrier systems. Based on this release, the Tri-Parties should reconsider needed reactions to leaks, possible changes in the design of the facility, and possible treatment of wastes entering the facility to assure that the facility continues to be protective of human health and the environment.

### Operating philosophy

Modeling for ERDF should seek to minimize groundwater contamination, not "model up to the limit."

### Natural resource habitat mitigation

Results of habitat mitigation for the most recent expansion at ERDF have been discouraging. We recommend that DOE commit to a more robust mitigation design and that it adopt success criteria for mitigation to insure replanting in the event of future failures. Oregon supports continued coordination between the Tri-Parties and the Hanford Natural Resources Trustee Council to insure effective early (and likely less expensive) mitigation for habitat impacts caused by ERDF's continuing construction.

We appreciate DOE's Hanford clean up efforts, and look forward to continuing discussion of Hanford issues as the program proceeds in the coming months. If you have questions or wish to discuss any of our comments, please contact Dale Engstrom of my staff at 503-378-5584.

Sincerely,

A handwritten signature in black ink, appearing to read "Ken Niles". The signature is fluid and cursive, with the first name "Ken" being more prominent than the last name "Niles".

Ken Niles  
Assistant Director

cc: Craig Cameron, U.S. Environmental Protection Agency  
John Price, Washington Department of Ecology