



# Oregon

Theodore R. Kulongoski, Governor



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November 17, 2009

Matthew S. McCormick  
Assistant Manager for the Central Plateau  
U.S. Department of Energy  
P.O. Box 550, MS A6-38  
Richland, WA 99352

Dear Mr. McCormick:

Oregon appreciates the opportunity to comment on the “Central Plateau Cleanup Completion Strategy” (DOE/RL-2009-81, Rev. 0). We believe there is a need for a reasonable, well-considered, and broadly-supported strategy for moving forward with cleanup within Hanford’s Central Plateau. Unfortunately, this plan fails to meet that need.

One of the key shortcomings of this document is that it does not clearly state the U.S. Department of Energy’s (DOE) full intentions for cleanup – or lack of cleanup – within the area being referred to as the “Inner Area.” We are forced to infer those intentions. Nowhere in this document do we find a strong commitment by DOE to conduct a rigorous, high-quality cleanup within the Inner Area. Table 3.1 barely even acknowledges clean-up activities within the Inner Area – it focuses instead on decision-making and the decision processes.

In September 2004, Fluor Hanford published a draft plan for Central Plateau Closure. While we had strong objections to that plan’s proposal to cap as many as 1,700 acres of the Central Plateau, there was no ambiguity within that plan. The intent was clear. The current proposal lacks the clarity and detail that is necessary to ensure a full, open and frank discussion.

As best we can determine, DOE’s intent with the proposed Central Plateau strategy has not strayed far from that of the 2004 Fluor document. It appears that DOE’s intent is to conduct minimal cleanup activity within the Inner Area, with the exception of building demolition and shallow surface excavation. The proposed strategy pre-supposes that large areas within the Central Plateau would then be capped, including every tank farm, each of the canyon structures, all the old waste trenches, and many of the ponds and other areas within the Central Plateau, leaving waste to move through the vadose zone and groundwater and potentially impacting generations to come.

Additionally, we have a number of specific concerns.

#### **“Dedicated Waste Management Area” designation**

Designation of the Inner Area as a “dedicated waste management area” where “waste and residual contamination will (perpetually) remain in place” is not an appropriate approach for the Hanford Site. To meet acceptable risk levels in groundwater and soil (vadose zone) will require that the whole of Hanford be cleaned up as much as possible.

Oregon has always maintained that the areas where waste will remain should be as few and as small as possible, while acknowledging that certain areas within the Central Plateau will have caps and that waste would remain beneath them forever. This would include the Environmental Restoration Disposal Facility, the Integrated Disposal Facility, the two RCRA mixed-waste disposal trenches and the canyon facilities. The capped areas may eventually also include some of the tank farms and some areas of the pre-1970 burial grounds, although we would prefer these areas be much better characterized before risk analyses are performed and before any such determination is made. The recently released draft Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS) indicates that there could be significant future impacts from some of these wastes if left in place.

DOE states that the Inner Area should be as small as practical. However, creating a contiguous area to contain all of the permanent waste areas artificially expands the area and is therefore not consistent with that goal. If DOE chooses to manage the entire Inner Area as a contiguous unit so as to prevent future intrusion into the capped waste sites, we could support that concept. However, we strongly oppose a concept of not having to conduct a rigorous cleanup within the area just because it is managed as a contiguous Waste Management Area.

#### **The draft TC&WM EIS already documents unacceptable consequences**

In our first cursory review of the draft TC&WM EIS, we are struck by the projected extent of contaminants above regulatory standards across much of Hanford and entering the Columbia River for hundreds to thousands of years. However, if we understand this cleanup strategy correctly, DOE plans little exhumation and treatment of this waste from the Inner Area and instead proposes to use large scale capping, which the EIS included as its basis for analysis.

#### **Proposed worker exposure scenarios are unrealistic and will result in an inadequate cleanup**

The proposed new DOE “industrial exclusive” scenario, using a monitoring technician and a trespasser as examples, would leave substantially more radioactive and chemical contamination in waste sites. This is inconsistent with federal and state environmental laws which call for cleanups that are protective, and that only allow for institutional controls when cleanup cannot be made sufficiently protective. The use of standard industrial worker (40 hours/week), Native American subsistence, residential farmer and unrestricted user scenarios provides a more conservative exposure risk level, adheres more closely to CERCLA requirements, and is more encompassing as an estimate of the actual future uses of the area.

#### **DOE proposes widespread use of caps without knowing fully what is being capped**

Figure 3-1 and other graphics used within the proposed strategy show DOE anticipates that widespread areas within the Inner Area will have permanent disposal of waste. This includes burial grounds, liquid waste disposal sites, and the tank farms. There is no indication within this strategy that extensive characterization of waste sites will first be conducted so as to inform decisions on whether to construct caps or instead remediate these waste sites. Many waste sites in the Central Plateau contain randomly distributed disposed materials that have extremely complex waste stream chemistries; contain a variety of radioactive and chemically dangerous compounds; involve a deep

and geologically complex vadose zone; and sometimes involve tanks and buildings with complex uses and floor plans.

In July 2005, the Oregon Hanford Cleanup Board published a “Position Paper on Capping Waste Sites” at Hanford. The Board expressed the opinion that “capping a waste site is an acknowledgement of failure in cleanup.” The Board further stated that:

“considering that many contaminants at Hanford will remain dangerous for hundreds or thousands of years, the Board is concerned about the ability of a cap to isolate the waste for that period of time. The Board is also concerned that many waste sites at Hanford are inadequately characterized to fully and properly understand the risks resulting from leaving waste in place beneath a cap. For these reasons, the Board strongly opposes establishing any cleanup plans at Hanford that designate capping as the default position. Instead, each waste site must be approached with the goal of waste retrieval.”

The Board added that any decision to cap could only be made if there was sufficient characterization of the contaminants to be left behind. DOE clearly does not have sufficient characterization of its pre-1970 burial grounds, leaked waste beneath the tanks, or of many other waste sites to be able to move forward with a decision to cap.

In addition, the widespread use of caps reverses the U.S. Environmental Protection Agency (EPA) guidance and bias for action; ignores the evidence that waste moves laterally in Hanford soils; and ignores the poor performance of caps and covers over periods as short as 20 years, while presuming these will be effective for an extremely long period.

**The draft strategy apparently does not take into account all of the CERCLA criteria**

The draft strategy mentions that for cleanup within the Inner Area, it will use a CERCLA decision process. The document says DOE’s strategy will protect human health and the environment and meet applicable laws. The only other CERCLA criteria specifically mentioned is cost. We found no discussion within the document of how DOE’s strategy will meet long-term effectiveness and permanence or how it will reduce toxicity, mobility or volume through treatment. Given widespread concerns expressed in the past about extensive use of caps, it is hard to believe this proposal would achieve state and community acceptance.

**The draft strategy takes an unacceptable, passive approach to vadose zone contamination**

We have concerns that the “defense-in-depth” approach outlined in the strategy will result in cleanup of contaminants in the vadose zone within the Inner Area *only* in response to some release to the groundwater, instead of using an aggressive, proactive approach towards these wastes. The plan only includes: (a) infiltration barriers (caps) to limit downward water flow, (b) vadose zone monitoring, (c) groundwater monitoring, and (d) that DOE will be “ready to implement (groundwater) remediation when necessary.” In other words, no remediation is being planned for vadose zone contamination, and no remedy will be planned until contaminants have moved into and have contaminated the groundwater. There is a stated plan “to develop and apply deep vadose zone treatment technologies,” but at this point little effective research is being done on this important part of the cleanup picture.

### **Proposed decision units**

The strategy divides the Central Plateau into three major decision units; 200-West Inner Area, 200-East Inner Area, and the Balance of the Inner Area including contamination underneath the tank farms (excluding the 200-PW-1,3,6 and 200-CW-5 areas). This is not a reasonable decision-making approach as the large variety of distinct types of waste sites including buildings, trenches and cribs, and burial grounds makes it far too complex to be considered under one unified decision.

One significant danger of employing this approach across such large, contiguous waste management areas is that DOE might essentially start with a presumptive, pre-decisional remedy about how types of waste sites are approached rather than doing a careful examination of each individual waste site. This approach can then bias the detailed investigation and analysis.

This also leads to serious decision jeopardies. Should one waste site of the many included in the area cause a delay in the decision, everything in the larger area will be held up from remediation, or (as noted many times in the plan), amendments to Records of Decision or explanations of significant differences would be required. This does not provide an efficient or consistent approach despite statements that this is one of the benefits of the strategy.

Other divisions of the areas, such as by major facility and associated waste sites, or by waste site type as proposed by EPA, appear to have a greater chance of success. DOE has already created such divisions by dividing the large 200 Area decision units into smaller geographic areas. One possible solution might be to divide the central plateau units into reasonably sized areas aggregating adjacent sites and facilities that are amenable to common solutions within a similar timeframe under one regulatory framework. It is essential to proceed with cleanup of areas where the type and amount of waste has been well identified and where remedies are well defined, while not holding up progress in areas with more difficult waste sites requiring more investigation or study.

### **Source control for the Outer Area needs to be more aggressive**

The draft strategy indicates that the Outer Area will be remediated to unrestricted surface levels comparable to what was done along the River Corridor. Unfortunately, focusing cleanup levels to allow unrestricted surface use does not always result in aggressive action against contaminant source terms that are deeper than a few feet. We have seen instances in the River Corridor cleanup where chromium concentrations have increased in groundwater because the source term was not aggressively remediated. We strongly urge DOE to more aggressively remediate source terms within the Central Plateau, which are more complicated and concentrated than in the River Corridor, to prevent further contamination of the groundwater. Simply deciding to leave waste at depth does nothing to prevent its movement and later impact to groundwater or the Columbia River.

### **DOE constrains cleanup decisions through use of the Comprehensive Land-Use Plan (CLUP)**

The CLUP has not been agreed to as a constraining document by anyone but DOE. Its use to dictate the level of cleanup is inappropriate. DOE can and does control access and uses of land at Hanford today. DOE can reasonably plan to continue these controls for some period of time into the future. It is unreasonable to assume that DOE will be able to control the uses of the land more than a century in the future. Beyond then, land use must be presumed to resort to unrestricted use for all purposes, unless specific robustly engineered features are put in place to prevent such use. Robust

protective barriers may be possible over limited areas of the Central Plateau, though they would be quite expensive to implement. Robustly engineered protectiveness would not be possible over an area the size of the proposed Inner Area. Existing institutional controls at Hanford have repeatedly failed to prevent uncontrolled releases of contaminants by animals (for example, badgers and rabbits at the B/C Control Area) and by plant life (contaminated tumbleweeds). It is reasonable to assume that such failures will continue to occur in the future.

We have long been concerned with DOE's use of the CLUP and other methods to project a future anticipated use of the land within the Hanford Site in order to adjust the level of cleanup within that area. Instead, the goal of the cleanup that we envision should be to conduct the highest level of cleanup possible. Once the cleanup is completed, if some constraints or restrictions are necessary, only then should Institutional Controls be put into place. We believe that cleanup laws support our vision as well.

It is troubling that the strategy describes consultation with Natural Resource Trustees as "an important element of selection and implementation of remedial actions," but trustees are never mentioned except in Section 4.8. It is more troubling that DOE, as reflected in the strategy, seems not to fully understand or embrace the role of trustees. Under CERCLA, the role of trustees is to protect the public interest and to make the public whole (by restoration of injured resources), not to merely identify injuries or "desired" efforts required for restoration.

We look forward to working with DOE to develop a reasonable and broadly-supported Central Plateau cleanup plan. If you have any questions or comments about our recommendations, please contact Dale Engstrom of my staff at 503-378-5584.

Sincerely,



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Assistant Director

Cc: Dennis Faulk, U.S. Environmental Protection Agency  
Jane Hedges, Washington Department of Ecology  
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Susan Leckband, Chair, Hanford Advisory Board  
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