



Oregon

Theodore R. Kulongoski, Governor



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Mr. Joe Franco
Assistant Manager for the River Corridor
U.S. Department of Energy, Richland Operations
P.O. Box 550, MS A3-04
Richland, WA 99352

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EDMC

Re: WCH-8, River Corridor End State Strategy

Dear Mr. Franco:

In March 2006, Oregon and other Hanford Trustees received copies of the River Corridor End State Strategy, a document prepared by Washington Closure Hanford (WCH). The document did not come with any explanation of its significance, or with any information regarding whether or when WCH or DOE sought review of the document. Recently, in the context of other work, we have read this document in detail, and identified several issues of substantive concern. Many of our concerns listed below echo remarks from Oregon in 2003-04 regarding the DOE risk-based end states documents. The WCH document reiterates, and in many ways exacerbates, issues that were of concern in the DOE documents, especially with regard to the level of cleanup at Hanford and with land use decisions. In addition to the concerns listed here, we have also attached a number of more specific technical comments regarding the report.

1. **Who is in charge?** The first page of the Executive Summary states that "Unless directed otherwise, WCH will implement the strategy outlined in this document." The implications of this statement are enormous, because the document proposes or advocates widespread changes to ongoing policies and procedures. By placing DOE in a reactive mode, having to respond to decisions by WCH, DOE seems to be losing control of the decision-making process. What will happen if (when) DOE misses something and fails to "direct otherwise" to tell WCH not to undertake a proposed action?

We also note that in several cases (e.g., Section 3.1.5), the document seems to be committing DOE to take actions in the future. Since the section does not make reference to DOE reports, it cannot be determined if these reflect existing DOE plans and commitments.

2. **Limited scope of the WCH strategy** Because the scope of the WCH vision is severely limited in terms of area, issues, and time frames, we believe it will be difficult to develop a comprehensive or defensible end state strategy for the river corridor. We understand that WCH is constrained by work scope of their contract in this regard, and look to DOE to define

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a path forward that will lead to a reliable cumulative risk assessment and to planning and implementation of a final cleanup that is protective of human health and the environment throughout the river corridor.

- Key components of the river corridor, most notably the Columbia River and groundwater units in the 100 and 300 Areas, are not included in the RCCC scope. The scope also excludes design activities for groundwater remedial actions. We don't understand how a viable strategy or closure plan can exclude or ignore these fundamental elements of the river corridor.
- It is unlikely that reliable model forecasts for plumes from 200 Area groundwater will be available in a timely manner for consideration. How will this affect the WCH strategy and plans for closure?
- Page ES-1 notes that "Designation of future land use in the river corridor is fundamental to the end state strategy..." There seems to be no effort here or elsewhere, however, to resolve the different viewpoints on future land uses in the 300 Area that are held by DOE (industrial use) and the City of Richland (mixed use, cleanup to unrestricted use standard). If land use is "fundamental," this disagreement must be resolved prior to any attempt to develop and implement a strategy for closure. This issue is especially important as WCH is proposing to look for "opportunities" for a lower level of cleanup in the 300 Area, based on an assumption that it need be cleaned only to an industrial use standard.
- Cleanup under interim RODs has left considerable amounts of contaminants in place in the vadose zone at many of the reactor areas in the 100 and 300 Areas. Section 3.1.2 identifies cleanup to a depth of 15 feet as meeting the point of compliance as described by WAC 173-340-740. WAC 173-340-730 also requires, however, that for protection of groundwater, the point of compliance includes all soils above the water table. RAOs for protection of groundwater (Section 3.1.3) also require removal of "sources of groundwater contamination" (e.g., soils). Assuming that WCH is responsible for removal of contaminants from the vadose zone to achieve short- and long-term goals to protect (or recover) groundwater, it is difficult to reconcile these requirements with WCH's strategy of doing less cleanup.
- The final bullet on page 1 states that the baseline risk assessment for the 100 and 300 Areas will include "Consideration of risk of groundwater *at current conditions...*" (emphasis added). We fail to understand how WCH or DOE can assess long-term risk to human health and the environment without considering future changes in groundwater quality, nor how they can develop a credible strategy to insure long-term protection of resources without understanding long-term risks associated with groundwater.

3. **Document advocates a reduced level of cleanup** Tri-Party policies have clearly established a preference for cleanup in the river corridor, calling for removal, treatment (when necessary) and appropriate disposal of wastes (RTD). Page one of the document states that WCH will "Remediate waste sites and burial grounds in accordance with interim and final regulatory decisions." In addition, the executive summary notes that existing Records of Decision (RODs) are consistent with the bias for cleanup and require RTD as a remedy. In this document, however, WCH consistently advocates, and proposes to expend resources looking for "opportunities" for a decreased level of cleanup. Regardless of the WCH motivation, any retreat from the RTD policy is unacceptable, and we encourage DOE

to “direct otherwise” (see item one, above) should WCH follow through with any plan that would lead to a reduced level of cleanup. There are many examples of language we believe advocates less cleanup, a few of these include:

- “Develop a map that allows for consideration of revised cleanup levels...” (Section 4.0)
- “Integrating with the groundwater program to identify any changes that could result in modified cleanup levels...” (Section 4.0)
- The entire thrust of Section 4.2 is to look for, or at least look for rationales to justify, a lower level of cleanup. Among the troubling words in this section:
 - “Evaluate potential changes to remedial alternatives...”
 - “Modify exposure scenarios”
 - “Evaluate the potential for leaving waste in place ...”
 - “WCH believes that consideration of certain criteria (e.g., adverse impacts on cultural resources or the environment) may also be relevant to contamination at depths less than 15 ft below ground surface...”
- “It is possible that shallow excavations in selected areas identified for specific future uses (e.g., paved parking lot) could be protective of future site users in an industrial setting. Consistent with this potential opportunity, WCH will conduct an evaluation of the 300 Area complex to assess if there are areas where modification of the cleanup approach may be appropriate...” (Section 4.3)
- “Selection of alternative points of compliance or cleanup standards for remediation ... could impact the remedial actions for source sites in the 100 and 300 Areas. If a decision was made not to remediate groundwater to drinking water standards, for example, less restrictive soil cleanup levels might be appropriate for selected contaminants at source waste sites.” (Section 4.6).

Along the same line, Section 3.1.5 describes the likely need for long term institutional controls and monitoring of “...source areas where residual contaminants preclude unrestricted use. This applies to a limited number of sites where residual contamination begins at a depth at least 15 feet below the surrounding surface elevation.” As we read it, WCH is proposing to leave waste in place where interim cleanup removed contaminants only to a depth of 15 feet, even if it results in cleanup to a standard lower than unrestricted use. If allowed, this would abandon the policy of RTD in the river corridor and of clean up to an unrestricted use standard. Such a move would result in “cleanup” that would likely not be protective of groundwater or the environment; moreover, it would be inconsistent with existing policy and regulatory decisions. We disagree strongly with this proposed strategy and urge DOE to disallow such an approach.

4. **Section 4.5 presupposes the outcome of ongoing risk assessments** “Continuation and completion of a baseline risk assessment by WCH to address 100 and 300 Area source units *will support conclusion regarding protectiveness* of past and future cleanup actions based on...existing interim action RODs.” (emphasis added). We have seen similar statements in other recent WCH documents; these kinds of comments raise questions as to the objectivity of WCH assessment analyses.

5. **Protectiveness of the environment** Implementation of the strategy outlined in this document would likely result in actions that are not protective of the environment. Oregon is skeptical that ongoing work will be protective of the environment in the long term in the 100 and 300 Areas. Implementation of actions described in this strategy, specifically the widespread reductions in cleanup standards and heavier reliance on institutional controls (which do not control exposure to natural flora and fauna), would further reduce the likelihood that cleanup would be protective of the environment.
6. **Cumulative risk assessment** The document gives no insight into how WCH proposes to do an integration of risk assessments for the river corridor, and there is no mention of cumulative risk assessments for the Hanford Site. These analyses must precede, and be considered in, any viable plan for closure of the river corridor.

We look forward to working with you to resolve these issues and to reach final closure of the river corridor. Should you have any questions or wish to discuss any of these comments, please contact Paul Shaffer of my staff at 503-378-4456.

Sincerely,



Ken Niles
Assistant Director

cc: John Price, Washington Department of Ecology
Larry Gadbois, EPA
Hanford Natural Resource Trustee Council

Technical comments

1. Unrestricted land use - The definition on page 7 for "unrestricted use," in fact describes something else, perhaps unrestricted surface use. "Unrestricted use" should be unambiguous, and should not be associated with any restrictions on use (e.g., digging sub-basements, drilling wells, irrigation) that might result from leaving waste in place. It is unclear what the second part of the definition means ("The rural-residential exposure scenario also includes use of underlying groundwater."), as there is not an apparent connection to unrestricted use.
2. Section 3.2.5 includes a discussion of caps to prevent infiltration and describes the need for institutional controls "...unless or until it can be demonstrated that there will be no negative impact on groundwater or river water quality from residual contamination at former waste site locations. *Otherwise, remedial action goals/soil cleanup levels must be reevaluated and modified using different evaporation coefficients.*" (emphasis added?) The last sentence implies that WCH plans to simply tweak model coefficients to get different forecasts. Is this a proposal that would allow WCH to modify (back off) cleanup goals and remedial action objectives (RAOs) to accommodate increased concentrations of contaminants in groundwater?
3. Sections 3.1.3 and 3.1.4 discuss removal of soil contaminants to protect/restore groundwater resources in the 100 Area. It is important to recognize that actions taken in the 100 Area, specifically removal of contaminants only to a depth of 15 feet), may not be protective of groundwater quality. This strategy should fully acknowledge and consider the potential need to remove contaminants throughout the vadose zone.
4. Section 4.5 describes risk assessment and resulting cleanup decisions as representing "completion of CERCLA activities to be performed by WCH for source areas and by other Hanford site contractors for groundwater OUs." This statement completely ignores the post-remediation phase of CERCLA that includes Natural Resource Damage Assessment (NRDA) and restoration to mitigate for damages. Is this an oversight by WCH, or are NRDA and restoration activities outside the scope of contracts for WCH and the contractors working with groundwater OUs?
5. Section 3.1.4 states that Post-cleanup risks are estimated to be 3×10^{-4} or lower for exposure to radionuclides, consistent with the CERCLA 10^{-4} to 10^{-6} range. We fail to see how an allowable value three times higher than the maximum allowable risk under CERCLA is "consistent with" the CERCLA standard.