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<<The Standard Review PlanFinal.doc>>

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Suzanne Dahl

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# Washington State Department of Ecology

## Comments on the

### USNRC Standard Review Plan

The Washington State Department of Ecology appreciates the opportunity to provide scoping comments on the USNRC Standard Review Plan (SRP). The State of Washington would like the USNRC to consider the following scoping comments in creating a SRP:

1. Although State of Washington is excluded from the National Defense Authorization Act of Fiscal Year (2005) (NDAA) waste classification language, we have great interest in USNRC reviews of waste reclassification issues. The State of Washington acknowledges and supports USNRC's review of reclassification issues at Hanford, regardless of Washington State's exclusion from the NDAA. Two circumstances where USNRC has either already reviewed or is currently reviewing waste reclassification Washington State are:
  - 1) 1993 – 1997 USNRC review of possibility of near surface disposal of immobilized low activity tank waste after it had been retrieved from high-activity tank waste, pretreated by removing radionuclides to specific criteria and immobilized in borosilicate glass; and
  - 2) The ongoing USNRC review of an "Appendix H" waiver in the retrieval of single shell tank waste for tank C-106, as required by Hanford Federal Facility Agreement and Consent Order.

We ask that USNRC be consistent with past and ongoing review activities concerning Hanford, such as like the ones mentioned above. Specifically, we would like you to apply the same criteria as previously applied in 1993-1997 in determining that a high level waste can be left in near surface disposal after: extensive tank waste retrieval; radionuclide separation; and permanent immobilization.

We appreciate and support the basic tenants of 1993-1997 USNRC/ USDOE approach which was to remove as much radionuclides as technically possible, first – then and only then consider the risk of the waste that will be left on Hanford. We think this is the right approach whether the subject is pretreated immobilized low activity waste or waste residuals in tanks and ancillary equipment.

When considering environmental and human health risk issues, we ask that USNRC apply 10 CFR Part 61, Subpart C. We also ask that USNRC specify that the disposal of any potential remaining tank waste residuals or immobilized low activity waste be protective of ground water resources, with

concentrations to not exceed any appropriate standards (including federal drinking water standards 40 CFR 141 and 143, "National Primary Drinking Water Regulations, and National Secondary Drinking Water Regulations,") In examining appropriate performance standards for inadvertent intruders, we ask USNRC to examine the buried depth of the waste in question. As examples, at Hanford: 1) tank waste residuals would likely be located at depth 50 plus feet below current ground surface; 2) ancillary (pipeline etc.) residuals may be located significantly closer to current ground surface; and 3) immobilized low activity tank waste (that has been pretreated and vitrified) that is disposed of in a near surface disposal landfill unit will be located in close proximity to current ground surface.

The point is that the waste and its location relative to the intruder establish the surface exposure scenario. Two factors are important: 1) the proximity to the surface; and 2) the nature of contaminants presents in the waste form. Waste forms with high activity contaminants such as Cs/Sr or Actinides such as Pu, Ur are less likely to be acceptable in the very near surface than contaminants such as iodine or technetium. But, these high activity radionuclides (Cs/Sr and Actinides) may be acceptable at greater depth from surface depth (e.g., 50 ft below surface) because the likelihood of human contact is reduced with depth and these contaminants are less mobile and may not impact ground water. On the other hand, very mobile, long lived radionuclides such as iodine or technetium may not be acceptable left in the near surface (because of their impact on groundwater resources) unless they are significantly immobilized.

One other point in regard to risk, we ask you to consider the basic environmental ethic of no environmental impact involved in disposal of newly treated waste in a new landfill. The planning and operations of such a unit should be done with an eye to the risk budget for that unit and the planned end result should be - that the landfill unit and the waste contained within are protective of the groundwater below and the adjacent surface water bodies.

2. The SRP should include criteria to address the issues and assumptions in risk evaluations where long term radionuclides when disposal actions take place, and include direct exposure scenarios and guidelines for periods beyond 1000 years.
3. Immobilization is a requirement for any residuals or low activity waste disposed in a landfill and standards defined in the SRP, should include criteria that consider the length of immobilization based on the residual characteristics of the waste. The application of these criteria should clearly indicate any assumptions of mixing and placement of immobilization material and the performance standards anticipated from this process should include the application of the tank shell, the concrete enclosure and the method of material addition to the wastes.

4. Acceptable concentration limits left behind at Hanford should consider the contaminant: mobility, longevity, risk to intruder, risk to groundwater, and effectiveness of the immobilization method.
5. Modeling criteria should include assumptions for the application of scenarios that extend beyond the typical modeling periods, that institutional controls will eventually fail, and that uncertainty criteria or factors be established for guidelines in the modeling portion of the SRP. Modeling assumptions should also include the existing contamination (cumulative risk) and conditions of the up-gradient groundwater.
6. As you continue to develop this review plan, we encourage you to work with affected states such as Washington, as they have concurrent permitting activities and there will be opportunities to utilize same evaluation documents and opportunities to learn from one another.
7. We appreciate your open and transparent approach addressing these issues.