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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 HANFORD PROJECT OFFICE
712 SWIFT BOULEVARD, SUITE 5
RICHLAND, WASHINGTON 99352

December 2, 1993

Eric D. Goller
100 Area Unit Manager
U.S. Department of Energy
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Richland, Washington 99352

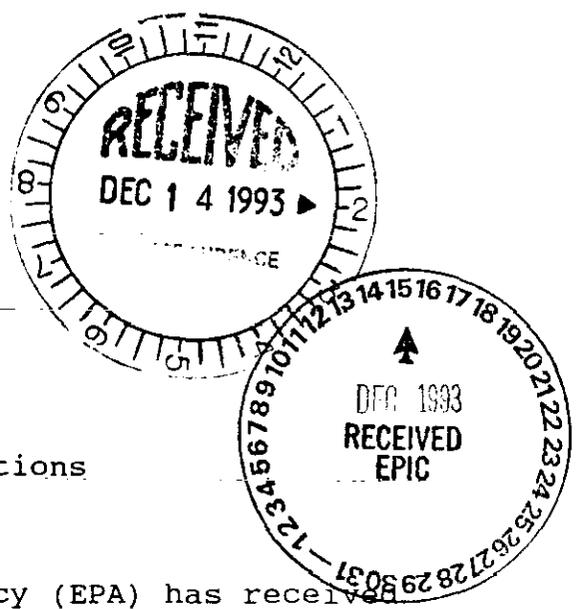
Jack Donnelly
100 Area Unit Manager
Washington State Department of Ecology
7601 W. Clearwater Suite 102
Kennewick, Washington 99336

Re: 100 Areas CERCLA Ecological Investigations

Dear Messrs. Goller and Donnelly,

The U.S. Environmental Protection Agency (EPA) has received and read a portion of the Westinghouse Hanford Company (WHC) document (WHC-EP-0620, September 1993) entitled "100 Areas CERCLA Ecological Investigations". We do not approve several methods used in the data interpretation. If the affected data interpretations of this document are used by unit managers within the Tri-Parties, (U.S. Department of Energy [DOE], EPA, and the Washington Department of Ecology [Ecology]) the ecological impacts due to contaminants will have been improperly assessed. This in turn could lead to improper remedial decisions. This letter serves to alert the unit managers to the unapproved methods used in this document; retract the September, 1993 version of this document from the administrative record; request that DOE revise this document in consultation with the regulators; and request that the contaminant section of this document not be referenced in Tri-Party documents until the document is revised. This document was transmitted six months later than scheduled. Thus, the time frame to produce a revision is extremely tight in order to support upcoming 100 Area records of decision.

The remainder of this letter points out the primary instances of data interpretation methods that EPA does not approve. Since this was not initially produced as a Tri-Party document, it has not undergone a Tri-Party review. However, because of its importance as a 100 Area document, EPA has done an initial review. That review resulted in the concerns expressed in this letter. It is important that the administrative record document the data and data evaluation that supports the records of decisions. This document contains several data evaluation methods that EPA does not approve, and thus is not appropriate material for the administrative record in its current version.



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The evaluation methods EPA does not approve are contained primarily in sections 7, 8, and 9 (with corresponding figures, tables, and appendices). This letter does not illustrate them all, however the illustration is sufficient for EPA to not approve the discussion portion of the document.

In the review of figures A-1 through A-3 for riparian vegetation, it is notable that most of the samples were not collected in the immediate vicinity of the reactor areas. The text discusses the non-reactor area samples in a way that appears to make conclusions about the state of vegetation within the reactor areas. The non-reactor area vegetation data cannot be overlain on reactor areas to make conclusions about reactor area vegetation. This document needs to emphasize that it primarily discusses data from samples collected away from waste sites. There is waste site data contained in the appendix portion of this report, however the text of the report needs a better reference to this data. Also the document needs to identify when summary statements about the reactor and overall 100 Area are and are not based on the data collected by these other programs.

Another caution of this letter is that the vegetation sampled is more often than not biased towards areas where contamination has been diluted by river mixing. The three parties' unit managers need to decide how to extrapolate data collected at some distance from the reactor area to vegetation that is or could grow within the reactor area. A direct overlay of vegetation collected at a distance from the reactor area (and after a river dilution process) to the reactor area is not appropriate.

Comparisons of average values results in the loss of most of the information that unit managers need. Tables 9-11 provide an easy-to-use data summary. Unfortunately, they provided a biased representation of the reactor area contamination because (as already noted) many of the samples that these tables equate with a reactor area were actually collected at some distance from it, sometimes upstream. Samples were grouped according to the closest reactor area to provide reference but that does not mean that they are a representation of these media actually within the reactor area. Much of the value, and a focus for unit managers, is the identification of areas with elevated levels of contaminants in vegetation. Tables that compare average values that seem to show "no contamination" may lure the reader into thinking that the individual sites within the averaged area also show "no contamination".

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The last significant concern expressed in this letter is the comparison of contaminants among different media derived from different areas. There is extensive comparison of biota tissue data with the Hanford sitewide 95% threshold values for soil to determine if the biota tissue should be considered contaminated. EPA does not approve the 95th percentile for Hanford soil as a screen for biological tissue. In addition, the 95% threshold is contained in a document that clearly states that riparian soil/sediment is markedly different from the soil on which the threshold is calculated. Thus this comparison would not even have merit for the calculation of biological concentration factors. This method reaches a climax on page 54 wherein coyote and raptor scat from the horn area is compared to soil from the 200 area's 2101-M pond -- to determine that lead concentrations were not much different. The EPA does not approve comparison of horn area fecal material to 2101-M pond sediment.

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In addition to the 2101-M pond comparison, the same paragraph identifies how the lead could be associated with roadways. Citations of highway studies back in the leaded gasoline era showed elevated lead in soil and vegetation adjacent to the highway. "Some of the raptor pellets and coyote scat collected in the 100 Areas were along roads that are used frequently." If a raptor or coyote has left their mark adjacent to a road, the document implies that this road is the significant habitat and has impacted these notoriously wide-ranging animals. The document implies that the "roads that are used frequently" in the 100-D, H, and F area are similar to the highway in the referenced study. These three examples (95% soil threshold values, 2101-M pond soil, and highway studies) are provided as the comparative basis in support of the opening statement of section 8.6 that "coyote scat and raptor pellets indicated low levels of metals". The EPA does not approve any three of these methods.

Again, EPA reiterates our request that this document be revised in consultation with the regulators. Remedial decisions will be well served if a corrected version is produced and can be placed in the administrative record. If you have any questions, please contact me at (509) 376-9884.

Sincerely,
Laurence E Gadbois
 Laurence E. Gadbois
 Unit Manager

- cc: Steve Wisness, DOE
- Steve Cross, Ecology
- Roger Stanley, Ecology
- Becky Austin, WHC
- Administrative Record (100 Area)

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Subject: 100 AREAS CERCLA ECOLOGICAL INVESTIGATIONS

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