STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

1315 W. 4th Avenue • Kennewick, Washington 99336-6018 • (509) 735-7581

September 12, 1996

Mr. Rich Holten, Director
Environmental Restoration Division
U.S. Department of Energy
P.O. Box 550
Richland, WA 99352

Dear Mr. Holten:

Re: 1301-N and 1325-N Liquid Waste Disposal Facilities Limited Field Investigation Report, (DOE/RL-96-11, Draft A) 44963

The Washington State Department of Ecology has completed its review of the above referenced document. Enclosed are the specific comments generated from that review.

Should you or your staff have questions regarding this submittal, please do not hesitate to contact me at (509) 736-3029.

Sincerely,

Phillip Staats

Phillip Staats
N Area Project Manager
Nuclear Waste Program

PS:sl
Enclosure

cc: Paul Pak, USDOE
David Olson, USDOE
Pam Innis, EPA
Administrative Record, 1301-N and 1325-N

1. Page ES-2, fourth paragraph

The statement is made that there is uncertainty regarding the properties and travel time associated with chromium. Isn't the information available from the HR-3 treatability test or from other chromium studies? If so, please provide the information.

2. Page 1-7, second paragraph

The statement that there was no standing water observed on the soil surface of the 1325 crib is an inadequate description of the conditions observed. The soil was damp to muddy in several locations.

3. Page 3-4, fifth paragraph

Do the concentrations and distribution of metals correspond to the total inventory discharged? (re: Part As)

4. Page 4-3 through 4-5, section 4.1.2

What is the explanation for the relatively high concentrations of Cobalt-60 at depth at the mounded area above the water table in wells N-35 and N-45, adjacent to the 1325-N crib? This radionuclide should probably not be showing up at this depth when Cesium-137 does not show up at all and 1325-N is a new facility with less discharge history than 1301-N. There is no explanation provided within the text.

5. Page 4-12, Section 4.4.3 and Page 5-4, Section 5.2.2

The third and fourth pathways would be irrigation and the water in the distribution laterals of the 1325 crib. Irrigation is applicable to section 5.4.2 under the rural-residential scenario. The water in the distribution laterals represents either an on-going discharge or a collection point for natural recharge.

6. Page 4-13, Section 4.4.3

The natural recharge rate of 2cm/yr (PNL) would have to include a significant evapotransporation rate which is not applicable at either 1301-N or 1325-N. A more realistic recharge rate would be 15cm/yr and would tend to funnel off of the covers of both units as described in the subsequent paragraph. Please include the appropriate figure and associated discussion using a recharge rate of 15cm/yr.

7. Page 4-13, Section 4.4.3

The statement is made that there are no sources of artificial recharge available to the cribs. Please provide an explanation of the source, content, and impact of the water (depth 23 inches) found in the distribution lateral of the 1325 crib in June 1995. Please provide an explanation of the lack of water found in the same lateral in June 1996 (depth 3 inches).

8. Page 5-5, Section 5-3

Other contaminants of concern which have been detected in ground water above regulatory limit are antimony, arsenic, barium, beryllium, cadmium, carbon tetrachloride, gross alpha, gross beta, hydrazine, iron, lead, manganese, nickel, nitrate, ruthenium-106, sulfate, tetrachloroethene, tritium, uranium-235, vanadium, and zinc. The list of constituents analyzed as part of this LFI were chosen as being of substantial concern and represent a subset of the original list of constituents which were pared down in the interest of cost savings. It is therefore incorrect to state that chromium is the only metal of concern or that the listing of radionuclides analyzed is the definitive list of constituents of concern.

9. Page 5-8, Section 5.4.2

Indirect exposure routes includes vegetables, what is the rate of irrigation used? To be consistent with the effort at other 100 Area units the rate should be 30" per year.

10. Page 5-9, Section 5.4.2

The depth of excavation for the recreational scenario should be 10'.

11. Page 5-10, Section 5.5.1

Ecology and USDOE have not agreed to a start date of 2010 for remedial activities. It has been and continues to be Ecology's assumption the ROD for this unit will be issued following the comment period for the CMS/Proposed Plan.

12. Page 5-11/14, Section 5.5.2

The evaluation of the driving force uses a recharge rate which takes into account evapotransporation. This is not applicable at 1301-N or 1325-N as no vegetation exists. Please revise the recharge rate to 15cm/yr.

13. Page 5-14 and 5-15, Section 5.5.2.3

Chromium is one constituent that poses an ecological risk and human health risk concerns. Please include more detail and evaluation of the impact from this constituent on the groundwater and subsequently on the river. Is it a risk?

14. Page 5-16, Section 5.6

The last paragraph discusses the resaturation phenomenon and the resulting strontium-90 concentration in ground water. It is stated it is not considered a "concern for this QRA because it is an infrequent and temporary impact that is currently being addressed by the N Springs pump-and-treat and the 100-NR-2 CMS." The question is whether it is necessary to remediate this zone to prevent it from contributing to ground water contamination over the years? Since the pump-and-treat is not necessarily a process which might be continued indefinitely and is primarily concerned with reducing strontium-90 flux to the river and reducing concentrations in

the ground water, what is the risk from this source which will continue to provide contamination to the ground water?

15. Page 5-16, Section 5.7, Second Bullet

Please revise the text to indicate the metals exposure is relevant to those constituents which were analyzed for as part of this LFI.

16. Page 6-2, Section 6.2

The text states "the pump-and -treat facility at 100 N is extracting ground water to remove Sr-90, thereby mitigating the short-term Sr-90 concerns." This does not mitigate the strontium-90 concerns from the source. This needs to be addressed by this document.