

# START



CHRISTINE O. GREGG  
Director

STATE OF WASHINGTON

## DEPARTMENT OF ECOLOGY

Mail Stop PV-11 • Olympia, Washington 98504-8711 • (206) 459-6000

March 21, 1989

Paul Day  
Hanford Program Manager  
U.S. Environmental Protection Agency  
P.O. Box 550  
Mail Code A-7-70  
Richland, WA 99352

Dear Mr. Day:

**RE: Draft 1100-EM-1 Work Plan Review**

Following is a draft review of the Draft Remedial Investigation/Feasibility Study Work Plan for the 100-EM-1 Operable, DOE/RL 88-23. My apologies for not submitting these comments to you earlier, in order for you to consolidate all comments into one document. However, finalization of negotiations concerning the Hanford FFACO and immediate program development needs did not allow for a timely and detailed evaluation of this draft Work Plan. I trust these comments will be submitted to Energy and that we may further address Washington State concerns at the upcoming 1100-EM-1 Unit Manager's meeting March 24.

### COMMENTS

1. Page 2-3, Figure 2-1: well 520-E154 should be labelled S30-E15A. Also, a legend would be helpful, in addition to a larger scale map.

Also on this page and elsewhere, is the recurring statement "no chemical inventory is available definitive? Will there be additional efforts made to quantify discharges?"

2. Page 2-4, 2nd paragraph: the statement "annual precipitation is less than evaporation" may be true on a regional basis. However, if the intent is to suggest drainage does not occur in the 1100 area, this is misleading. Recent data suggest there is a high probability localized recharge does occur, particularly in areas overlain with coarse-textured soils and vegetated with sagebrush or cheatgrass (Gee, et al., 1989. Status of FY 1988 Soil-Water Balance Studies on the Hanford Site).

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3. Page 3-1: Section 3.0, in general, the Project Management Plan is inconsistent with the Action Plan in many areas and will have to be revised accordingly. For example, the "review comment record" noted in Section 3.3.2.1 is not called for, and should be deleted. Much of what is contained in this section appears in the Action Plan, and I recommend that specific Subsections of the Action Plan be referenced wherever possible.
4. Page 3-20: Is this work schedule based on the 1100-EM-1 Operable Unit, or have generic RI/FS activities and associated timeframes been used? I trust the latter is the case, and given the nature of the 1100-EM-1 unit, we will be able to move forward at this particular operable unit in a much more expeditious fashion.
5. Page 4-2: from the text in Section 4.1.1 and from Table 2-1 it appears that sites 1100-2 and 1100-3 are RCRA sites. Hazardous wastes have been disposed to these areas until and including 1985, and these sites should be closed according to HWMA requirements.
- These sites, and any others identified during remedial investigations as TSD sites, should be brought directly to the attention of Ecology. In addition, the WIDS database and Appendix C must be updated.
6. Page 4-7: The active units within 1100-EM-2 and 1100-EM-3 operable units are to be closed under HWMA criteria while those units included under operable unit 1100-EM-1 are to be closed under CERCLA; sites 1100-2 and 1100-3 should be closed under HWMA.
7. Page 4-8, last paragraph: the following sentence, "However, concerns regarding details of well construction, the age of the wells, and the procedures used for collection and analysis of the samples suggest data may not be reliable" requires further explanation. Some details are offered in Appendix B. However, this text (Appendix B, Section 4.0) begs the question of why these wells were used as recently as 1986 for purposes they were not intended for. What if there were no elevated levels found in the samples? Of a more general nature, how are wells that will be used for site characterization being assessed for quality assurance?
8. Page 4-9, 2nd paragraph: the results of tests indicating "elevated" levels for lead, mercury, chromium, arsenic, and Arochlor 1254 should be provided in the text.
9. Page 4-14, 4th paragraph: if it is accurate that the bounding values

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of travel time for groundwater have been identified as ranging from 12.5 days to 34 years, it seems appropriate to highlight the need for aquifer tests necessary to refine this range.

10. Page 4-10, 2nd paragraph: surface runoff from the parking lot should be considered a viable route, since runoff must be disposed of somehow, either through drains or to a ditch. Where does it go from there?
11. Page 4-12, Figure 4-5: The battery acid pit should be represented as a depression within the ground adjacent to the 1171 building; the lower limits of the pit are that much closer to ground water.
12. Page 4-21: Site characterization should include both the temporal and spatial distribution of contamination. Sample concentrations may prove to be cyclic (i.e., seasonal) increasing during certain periods of the year. It is later specified that samples will be collected quarterly during phase 1 characterization of the Horn Rapids landfill; this probably should be the case for all the sites.
13. Page 4-26, 1st paragraph: The data necessary to evaluate concentration levels should be gathered during the first phase of the RI in order to determine if more drilling is to be required or where data is deficient. As mentioned previously, samples should be gathered for at least one year to characterize the site because of cyclic variations and also to eliminate the effects of drilling on the samples.
14. Page 4-27, 3rd and 4th paragraphs: The geophysical surveys and sampling will extend beyond site boundaries and not may extend beyond site boundaries; especially since little is known about these sites.
15. Page 4-29, 3rd paragraph: This states that groundwater samples will be collected quarterly for a minimum of one year. Is this part of phase I monitoring?
16. Page 4-32, Table 4-7: The 1986 Safe Drinking Water Act Amendments established a schedule for listing new contaminants and their respective MCLs. The most recent list should be used.
17. Page 4-33, Table 4-7: 228Rh should be 228Ra.

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18. Page 4-33, 1st paragraph: The U.S. Testing Statement of work should probably be stated as "The United States Testing Company, Inc., Richland Laboratory (U.S. Testing) Statement of Work ...".
- Is the target compound list the same as the listed wastes from WAC 173-303-9905 or from 40 CFR 264, Appendix IX? If so, please state this is the case.
19. Page 4-48: If we are going to make the effort to place wells for monitoring purposes, we had better make sure they are placed so as to intercept any possible contamination, even if well construction should interfere with operations. Otherwise why waste the time and money?
20. Page 4-48, 3rd paragraph: Vadose samples should be analyzed for at least volatiles, since VOAs can migrate quite a distance through the soil.
21. Page 4-51, 4th paragraph: Again, surveys will extend beyond the site boundaries.
22. Page 4-53, 3rd paragraph: Is fiberglass an approved material for organics?
23. Page 4-60, 2nd paragraph: Stratified sampling is a good idea, not only at this site, but at the others as well. It is also a good idea to monitor quarterly for at least a year, as stated in the text.
24. Page 4-62, Figure 4-13: Well 520-E154 should be S30-E15A, and should there be an \* by wells MW-13,14,15?
25. Page 4-63, 4th paragraph: Does Nuclear Fuels Corp. have an air monitoring program? If so, can you incorporate that program into your system?
26. Page 5-2, Figure 5-1: Last column, borehole abandonment; WAC 173-160 has been updated within the last year.
27. Section 5.0: This is a good discussion of QA/QC procedures, and precision and accuracy, but the main problem is always implementing the procedures. Emphasis must be placed on training the sampling personnel and other individuals that must carry out the tasks listed in this section. The human factor will defeat the best-laid plans.
28. Page 5-8, Section 5.4.3: U.S. Testing should initially be referenced as United States Testing Company, Inc.-Richland Laboratory.

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29. Page 5-10, Section 5.7: State somewhere in this section that the database to be utilized is HEIS as presented in Section 8.0.
30. Page 6-16: Where is nearest First Aid Station?
31. Page 7-1: Did not have time to review section 7.0.
32. Page 8-1: Section 8.0 needs to be referenced in the QA Plan.
33. Appendix A, Figure A-2: Tochet Beds should be Touchet Beds in middle column.
34. Appendix B, 3.0 and 4.0 Table B-1 and Table B2: Is Nitrate analyzed as nitrate ion or as  $\text{NO}_3\text{-N}$ ?

Sincerely,



Larry Goldstein  
Hanford CERCLA Coordinator

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