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Division of Energy
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STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
P.O. Box 176
Jefferson City, MO 65102

September 5, 1991

Mr. David Adler
St. Louis FUSRAP Sites Manager
Technical Services Division
U. S. Department of Energy
Oak Ridge Operations, P.O. Box 2001
Oak Ridge, Tennessee 37831-8723

Dear Mr. Adler:

RE: MDNR Comments on the St. Louis FUSRAP Site Remedial Investigation Report

The Missouri Department of Natural Resources (MDNR) has reviewed the DRAFT Remedial Investigation Report for the St. Louis Site (DOE/OR/21949-280; June 1991). I had previously forwarded comments from our Division of Geology and Land Survey (dated May 20, 1991) on the previous draft of the this report with my comments of June 21, 1991 on the work plan for this report. Any unresolved comments from that transmittal should be considered part of these comments.

GENERAL COMMENTS:

1. An impressive amount of effort has gone into the characterization of these sites. A large amount of complex information is presented in this report, but the scope of the overall problem is not clear. The section on the nature and extent of the problem (Section 5.1, Pages 5-1 to 5-6) should be expanded. The report should present summary tables with information on major contaminants including ranges and average concentrations (soil and groundwater), gamma levels, depths of contamination, areal extent (square feet) of contamination, cleanup guidelines, and background levels. Also, the estimated volumes of contaminated soil or rubble at each site and the vicinity properties should be presented (a range of estimates would be satisfactory if uncertainties remain).

   While some of this information is found in various places in the text, including the Executive Summary, Chapter 4.0 (Potential Contaminant Transport Pathways), and Section 5.1 (Nature and Extent of Contamination), none of these presents an adequate summary.

2. The overall organization of the report makes it very difficult to read. The reader is forced to move between several sections to find information on a specific site. I suggest that Section 2.1 be included in Chapter 3 so that, for example, all of the information on the St. Louis Airport Site is in one section. Perhaps Chapter 4 should be combined with Chapter 5 since it seems to be largely another summary. Any site specific pathway information could be handled as a section within this new chapter.

3. The information on Coldwater Creek and the HISS is particularly incomplete, unclear, or confusing. Also, seemingly conflicting information is given in different parts of the report (see Specific Comments 11, 12, 13, 22, and 24).

4. The issue of cleanup guidelines has been raised by MDNR in several previous comment letters. Again, we recommend that the cleanup levels meet a dose limit of 25 mrem/yr whenever reasonably achievable.

SPECIFIC COMMENTS:

1. Page viii, First Full Paragraph; Executive Summary: The maximum level of thorium-230 given here (300 pCi/g) contradicts the level given on Page 3-68 (5,100 pCi/g).

2. Page 1-12 and 1-13, Table 1-1, Summary of Residual Contamination: See General Comment 4.

3. Page 2-11, First Full Sentence and Second Full Paragraph, Field Activities: Since some of the vicinity properties are almost a mile from the SLAPS and Latty Avenue sites it is not clear how they can be described as so "proximate" to these sites.

4. Page 2-37 to 2-38, Ballfield Area: This section states that the property was investigated to determine its suitability as an engineered disposal site for waste from the St. Louis Site. A major issue in regard to an on-site disposal option will be the suitability for waste disposal of the St. Louis Airport Site or the ballfield area if either is proposed as a disposal site. MDNR will consider the state hazardous waste regulation [10 CSR 25-7.264 (2) (N)] regarding landfill site suitability and other landfill issues to be an Applicable, Relevant, and Appropriate Requirement (ARAR). It may facilitate the study process to conduct a separate site suitability study on any proposed Missouri disposal site locations. Also see comment on Page 3-51 below.

5. Page 3-1, Section 3.0, Nature and Extent of Contamination: See General Comment 4.

6. Page 3-2, Second Full Paragraph: See comment on Appendix B. Fourth Full Paragraph: Were isotopic analyses performed for uranium? The new proposed public drinking water standard for uranium is 20 micrograms/l. However, conversion to pCi/l requires information on the activity ratio of U-234 to U-238. (see Federal Register July 18, 1991, page 33068)

7. Page 3-11, Third Full Paragraph: What is the estimated volume of mixed waste requiring remediation at the SLDS?

8. Page 3-12, Second Full Sentence: How does this guideline compare to the proposed public drinking water standard? (see comment on Page 3-2 above)

9. Page 3-43, Second Paragraph: The maximum concentration of radium-226 is given here as 5,620 pCi/l. This seems to conflict with the result given on Page 4-1 (2,700 pCi/l).

10. Page 3-47, First Full Paragraph, Chemicals in Soils at the SLAPS: Will these samples be subjected to the TCLP? What is the potential for mixed wastes at the SLAPS?

11. Page 3-50, Geology and Hydrogeology at SLAPS: What is the relationship of the floodway and the floodplain of Coldwater Creek to the SLAPS?

12. Page 3-51, Figure 3-21, Generalized Stratigraphic Column for SLAPS and the Ballfield Area: The nature, depth, and extent of the rubble at the ballfields should be described in more detail. What are the implications of this rubble in regard to locating an on-site facility on the ballfields? Are the ballfields in the 100-year floodplain of Coldwater Creek? Since the rubble may have to be removed if a facility is located on the ballfields, would the ballfields be in the 100 year floodplain after removal of the rubble? Also see comment on Pages 2-37 and 2-38 above.

13. Page 3-68, Second Paragraph, Coldwater Creek and Vicinity Properties: The maximum concentration of thorium-230 in Coldwater Creek sediments is 5,100pCi/l. This seems to conflict with Figure 3-34 where the maximum concentration is given as 1,400 pCi/l. Also see comment on Page viii.

14. Page 3-69, First Full Paragraph: The reference to Figure 3-34 indicates that results are shown to Pershall Road. Figure 3-34 seems to go to Old Halls Ferry Road. It would be helpful to label Figure 3-34 with street names or other easily identifiable landmarks.

15. Page 3-72, Chemical Results: As a point of information, some of the chemical sampling sites are near the Southern Cross Lumber Co., dioxin site (also see Figures 2-17 and 2-18).

16. Page 3-74, Third Paragraph: Will these samples be tested by the TCLP?

17. Page 3-97, Second Full Paragraph: The total volume of contaminated soil is given as 70,000 cubic yards. When compared to figures given on Pages 1-18 and 4-2 it is impossible to determine how much is in the site soil and how much is in the storage piles. Please explain.

18. Page 3-113, Third Paragraph: Will these samples be tested by the TCLP?

19. Page 4-1, Third Paragraph: See comment on Page 3-43 above.

20. Page 4-2, Line Three: See comment on Page 3-97 above.

21. Page 4-2 to Page 4-4, Section 4.2, Groundwater: See comment on Page 3-2 above.

22. Page 4-6, Summary: The statement is made that contaminants at the St. Louis Site are generally stable. Can this statement include Coldwater Creek where sediments are probably redistributed especially during floods? Another exception should be made in the case of human disturbance of contaminated materials.

23. Pages 5-1 to 5-7, Summary and Conclusions: See General Comments 1 and 2 above, regarding the reorganization and expansion of the summary.

24. Page 5-6, Data Limitations and Future Work: Again, because of the dynamic nature of Coldwater Creek, further sampling will be required.

25. Appendix B: Since the range of elements in soils worldwide is so large, it would seem to be better to use local background samples for comparison.

Thank you for the opportunity to comment on this report. If you have any questions on these comments please contact me at (314) 751-4533.

Sincerely yours,

DIVISION OF ENVIRONMENTAL QUALITY

David E. Bedan

David E. Bedan
Radioactive Waste Cleanup Coordinator

cc: Mr. John Young, DEQ
Dr. Jim Williams, DGLS
Mr. Daryl Roberts, MDOH
Mr. Bill Dieffenbach, MDOC
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