GWOU ADMINISTRATIVE RECORD
SECTION TITLE:
GW-400-401-1.09

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

NOV 2 5 2003

Ms. Pam Thompson
Project Manager
U.S. Department of Energy
Weldon Spring Site Remedial
Action Project Office
7295 Highway 94 South
St. Charles, Missouri 63304

Dear Ms. Thompson:

Re: Draft Record of Decision (ROD) for Final Remedial Action for the Groundwater Operable Unit at the Chemical Plant Area of the Weldon Spring Site (September 2003)

The Environmental Protection Agency (EPA) has reviewed the draft ROD submitted by the Department of Energy (DOE). The DOE has identified Monitored Natural Attenuation (MNA), institutional controls to restrict groundwater use, and contingency measures in the event attenuation goals are not achieved as the selected remedy for contaminated groundwater at the area of the former Chemical Plant. The EPA agrees that this approach is consistent with CERCLA, the NCP, and the EPA's Superfund Program expectations for groundwater. However, the EPA believes the DOE will need to more clearly define the performance goals and cleanup criteria. Our objective is to make sure that the commitments are clear and that the ROD establishes a basis for remedial design that is not overly subject to interpretation. At the same time, the draft ROD identifies a number of monitoring system specifics that are more appropriately addressed during remedial design. The EPA's comments which we would like to see addressed in the draft final version of the ROD are enclosed.

We received a copy of the Administrative Record Index for the Groundwater Operable Unit and plan to look through that in the coming weeks. We will inform you if we have any comments on it. Please call if you have any questions.

Sincerely,

Daniel R. Wall

Enclosure

cc: Robert Geller, MDNR
Peter Price, MDNR
Rick Hampel, WSCC

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Comments on the Draft GWOU ROD

General Comments:

1. The description of the selected remedy in Section 12 describes institutional controls and the performance monitoring strategy without first presenting clear performance goals and expected outcomes. For example, the EPA's understanding of the overarching goals could be phrased as follows: 1) Contaminants will remain within existing three-dimensional boundaries; 2) Contaminants will decrease at a rate sufficient to meet cleanup goals within a reasonable time-frame; 3) Groundwater use that has the potential to reduce protectiveness of the remedy will be prevented; and 4) Contaminant levels at potential exposure points; i.e., springs, will not pose unacceptable risks to receptors and will decline over time. Some description of the conceptual site model for purposes of putting the performance goals in context is appropriate, e.g., identify the spacial boundaries of the contaminant plumes and the mechanisms of attenuation. The description should include a presentation of cleanup criteria and estimated remediation time-frames. Also, expectations for measuring and predicting the rates of attenuation will need to be discussed.

2. The EPA believes it would be preferable to omit specific commitments for the performance monitoring system design from the description of the selected remedy. Specifics of the monitoring parameters, number and location of monitoring points, monitoring frequency, and methods to analyze and interpret the data will be established as part of the remedial design process. We recommend removing Tables 12.1through 12.4. We don't have an issue with developing and sharing this information, however, we don't believe it is appropriate to include this in the ROD.

Specific Comments:

1. Declaration, Site Name and Location, pg. iii– The ROD Guidance (§ 6.2.1, pg. 6-3) provides that the site should be identified by the site name as it is listed on the NPL, which is Weldon Spring Quarry/Plant/Pits (DOE) (note that it is actually listed as Pitts, rather than Pits, but it would probably be better to make that spelling correction). We could probably add that this portion of the Site is commonly called the Weldon Spring Chemical Plant.

2. Declaration, Statement of Basis and Purpose, pg. iii– We suggest rephrasing the first sentence to read "This Record of Decision (ROD) presents the selected remedy for the Site", without discussing the nature of the selected remedy. This description is duplicative, since there is a separate section in the Declaration in which the selected remedy is described in greater detail.

3. Declaration, Description of the Remedy, pg. iv – The ROD Data Certification Checklist on the following page does not appear to list locations in the ROD where information can be found as stated here.

4. Declaration, Statutory Determinations, pg. iv– This provision should use standard language for statutory determinations. See EPA's ROD Guidance OSWER 9200.1-23P, pg. 6-5. The remedy complies with ARARs unless a waiver is justified. The provision should state that the selected remedy fails to comply with the statutory preference for treatment as a principal element of the remedy, and briefly explain why it doesn't. The provision should contain the standard statement identifying the threshold for five-year review. In particular, see Highlight 6-4 for language on policy review in the event it takes more than five years to achieve goals for unrestricted use. The information about who DOE will consult with in conducting the five-year reviews and that the reviews themselves will be available to the public, while true, is probably not relevant to the information presented in the Declaration.

5. Declaration, Signature lines, pg. *iv* –Remove "Support Agency" from the EPA signature line. The roles of "lead" versus "support" pertain to the EPA/State relationship.

6. Site Name, Location and Description, pg. 1– see comment 1, above.

7. Section 2, Site History and Enforcement Activities, pg. 1, 2nd paragraph –The word "These" leading off the third sentence appears to refer to the TNT process as opposed to the Chemical Plant.

8. Site History and Enforcement Activities, pg. 5, end of 1st ¶– As written, this sentence leaves the impression that the state is a party to the FFA, which it isn't. While the FFA provides that DOE intends to provide primary and secondary documents to the state, the state doesn't otherwise have a formal role in FFA procedures.

9. Section 2, Site History and Enforcement Activities, pg. 5, last paragraph –The change to the IROD will need to be put in a procedural context, i.e., describe the change; categorize it as minor, significant, or fundamental; explain the indicated process and how it was satisfied, etc. See Section 7 of EPA's ROD Guidance. Perhaps Section 4, Role and Scope, would be good place to address this.

10. Same, pg. 5, 2nd ¶, 2nd sentence– We don't think "announced" is the correct word to use to describe a ROD's role in the remedy selection process; "presented" or something similar is probably more appropriate.

11. Section 4, Scope and Role of the Operable Unit, pg. 5 –This section should be expanded to include brief descriptions of the scope and status of each operable unit and component ROD. It should also explain how this ROD also serves to change the 2000 IROD and

provide discussion of how the amendment or ESD requirements have been procedurally satisfied. Also, in the 2nd ¶, it would be more appropriate to state that DOE implemented the remedy selected in the ROD, rather than saying it implemented the IROD.

12. Section 5.1, Contamination Under Current Groundwater and Springwater Conditions, pg. 7 By itself, the mention of 60 additional monitoring wells being constructed and abandoned raises unanswered questions as to why this would be so. If there is a point to be made, we suggest more explanation be provided.

13. Section 5, Site Characteristics, beginning pg. 7 – We recommend that plume maps be used to support this information.

14. Site Characteristics, § 5.1.1, pg. 7– In the 1st ¶, line 6, we suggest clarifying that the decreasing trends were in the TCE concentration in groundwater. Last sentence in 1st ¶. We suggest clarifying that there have been no detections above the MCLs, since this sentence as written could be interpreted as only reporting detections below MCLs.

15. Site Characteristics, § 5.1.1, TCE, pg. 7, 2nd paragraph, 1st sentence – The IROD didn't describe a pilot-phase ICO process. We suggest modifying the sentence to say that the pilot-phase of the ICO remedy selected in the IROD was performed.

16. Site Characteristics, § 5.1.1, TCE, pg. 10 – The discussion TCE rebound is not clear.

17. Site Characteristics, § 5.1.3, Uranium, pg. 11 – By itself, the sentence stating that uranium concentrations measured at Burgermeister Spring are generally higher than in groundwater at the Chemical Plant, raises unanswered questions as to why this would be so.

18. Site Hydrogeology, 2nd ¶, pg. 11 ff– We suggest DOE expressly clarify that the middle confined and deep confined aquifers have not been impacted.

19. Current Land Use, pg. 13– We recommend relating land use to areas of contamination.

20. Future Land Use, pg. 13 – In the first sentence, it is unclear whether the 60 acres includes or excludes the 300 ft buffer zone, and if excluded, how many total acres will remain in the custody of DOE?

21. Future Land Use, 2nd ¶, pg 13– Since DOE has no control over what the Army does with the adjoining land in the future, it would be more appropriate to say that DOE "expects" that the DA will continue to use it for field training. Also, what about future land use at the other properties, e.g., MoDOT, MDC, discussed in the preceding section? Make sure there is information in the Administrative Record to support these statements as to anticipated land use.

22. Exposure Assessment, pg. 16 – For purposes of comparison with standard intake values, what is the volumetric measure of a cupful of spring water?

23. Toxicity Assessment, pg. 17, 1st paragraph, last sentence – Is "synonymous" the appropriate word to use here?

24. Toxicity Assessment, pg. 18, 3rd full ¶, 1st sentence– Is "hypothetically" the appropriate word to use for this description?

25. Risk Characterization, pg. 21, 1st paragraph – The explanation says that the recreational visitor was not at increased risk and then it quantifies the increased risks. We suggest the statement be qualified by say there is no significant increased risk or something similar.

26. Risk Characterization, pg. 21, 1st paragraph – This section needs a clear statement regarding the basis for action, i.e., the response action selected in the Record of Decision is necessary to protect the public health or welfare from actual or threatened releases of contaminants. See EPA's ROD guidance, pg. 6-13. Also, we suggest the phrasing in the last sentence of the second paragraph be reversed because risks within the risk range are acceptable, but not all acceptable risks fall within the risk range.

27. Description of Remedial Alternatives, introductory ¶, pg. 24– We recommend including a more complete description of the other alternatives considered and why they were not retained for final evaluation.

28. Description of Remedial Alternatives, beginning pg. 24 – The descriptions of the alternatives need to be accompanied by a more detailed summary of costs including major assumptions, the discount rate for calculating present worth, and the time-frame over which annual expenditures are anticipated. See EPA's ROD guidance, Highlight 6-30.

29. Alternative 2, pg 25– Since the same natural processes would be taking place under this alternative as we anticipate happening in Alternative 3, it's not clear either why ARARs wouldn't be met or why ARAR waivers would be available here but not for Alternative 3. The main differences between Alternatives 2 and 3 is that Alternative 3 sets a goal of meeting ARARs, with specific performance monitoring requirements and contingencies if that goal isn't being met, whereas, Alternative 2 simply monitors conditions, without setting standards for performance or identifying specific contingencies. We suggest the discussion on Alternative 2 reflect the expectation that ARARs will be met.

30. Alternative 3, pg 26 – The description at the top of the page does not indicate what the trigger concentrations reflect. We suggest something along these lines: Trigger concentrations, representing spacial or temporal changes inconsistent with expectations, would be incorporated into the monitoring strategy...

31. Compliance with ARARs, pg. 26– In the 2nd sentence it would be more appropriate to say that MCLs have been *established* for a number of common organic and inorganic contaminants. The 4th and 5th sentences need to be reconciled with the description of Alternative 2 in § 9.2 (see comment 29, above).

32. Long-term Effectiveness and Performance, pg. 27– A bigger difference between Alternatives 2 and 3 would be that Alternative 3 has specific performance standards, coupled with performance monitoring, and contingencies that will come into play if the performance standards aren't being met.

33. Principal Threat Wastes, pg. 28 – We suggest some modification to more accurately reflect the NCP, i.e., The NCP establishes the expectation that treatment will be used to address principal threats wherever practicable (NCP Section 300.430(a)(1)(iii)(A)). The principal threat concept refers to source materials. Contaminated groundwater is not considered to be source material so this provision does not apply to this operable unit.

34. Selected Final Remedy, beginning pg. 28 – The discussion of the selected remedy needs to provide a greater or more clear explanation of the following:
    a. Summary of the estimated costs
    b. Performance Criteria
    c. Expected outcomes

35. Summary of the Rationale for the Selected Final Remedy, pg. 28 – The draft ROD contains little or no programmatic rationale from the NCP or other EPA guidance supporting the case that MNA at this site. For example, the NCP defines natural attenuation as biodegradation, dispersion, dilution, and adsorption of contaminants in groundwater (Federal Register, 1990a; Preamble at 8734). The NCP goes on to explain that natural attenuation is a useful approach if site-specific data indicate that these processes "will effectively reduce contaminants in groundwater to concentrations protective of human health in a timeframe comparable to that which could be achieved through active restoration." The NCP also recommends the use of natural attenuation where it is "expected to reduce the concentration of contaminants in the groundwater to the remediation goals in a reasonable timeframe." In its discussion about MNA, the "Rules of Thumb for Superfund Remedy Selection," OSWER 9355.0-69, pg. 16, has some very supportive language about when MNA may be appropriate, i.e., low concentration portions of the plume, where source control actions have removed the bulk of the contaminant mass. We recommend citing the conditions where MNA may be appropriate from EPA's MNA guidance, OSWER 9200.4-17P, pg. 17, with a brief explanation of why the conditions at the Weldon Spring site are consistent with these.

36. Institutional Controls, pg. 29– In the 2nd ¶, it may be more difficult to place land use restriction notations on federally owned property than DOE anticipates. We recommend considering some alternatives in the event this isn't possible, such as a facility

management plan, which probably could be part of the LTS&M Plan, that places appropriate restrictions on DOE activities in contaminated areas. Also, we suggest including documentation pertaining to the nature and implementability of these ICs in the Administrative Record.

37. Basis for Performance Monitoring Strategy, pg. 31 – For the sake of conciseness, we suggest omitting the abbreviated explanation of the monitoring objectives in the first paragraph since they are fully explained later in the same section.

38. Basis for Performance Monitoring Strategy, pg. 31 – The second paragraph indicates that dispersion may lead to some increase in the size of the contaminated area without explaining that most of the dispersion is expected to occur along existing gradients and flow paths which will not contribute to expansion. Therefore, the discussion seems to have the wrong emphasis.

39. Basis for Performance Monitoring Strategy, pg. 31 – The first bullet explains that objective 1 and 6 are similar without being clear on what either of them are.

40. Basis for Performance Monitoring Strategy, pg. 31 – Objectives 2 and 3 are intended to ensure that contaminants are attenuating, expanding, and migrating only as predicted. However, it is never clearly or specifically explained what the predictions are and why the predictions are consistent with site specific goals.

41. Basis for Performance Monitoring Strategy, pg. 32, Objective 3 -- It needs to be made clear that any increases in contaminant concentration at a given location would represent short-term trends only, attributable to factors such as recent remedial activities or seasonal fluctuations. Long-term downward trends are a condition of adequate performance.

42. Basis for Performance Monitoring Strategy, pg. 32, Objective 5 – The statement that uranium in the springs is periodically higher than in the groundwater is counterintuitive and shouldn't be left unexplained.

43. Basis for Performance Monitoring Strategy, pg. 32 - 33 – We suggest omitting the explanation of the tiered approach to implementing the objectives. In our view it is premature to establish specifics of the performance monitoring design. However, contingency measures should be described including an explanation of the TCE treatment contingency. Contingencies should be linked to conceptual performance criteria. See also general comments above.

44. Basis for Performance Monitoring Strategy, pg. 33, last paragraph – We suggest that Figure 12.2 depicts a schematic or working concept for this site, but not necessarily a generic concept.

45. Statutory Determinations, pg. 33– There are six statutory determinations that should be addressed in the ROD, i.e., protection of human health and the environment, compliance with ARARs, cost effectiveness, utilization of permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable, preference for treatment as a principal element and five-year review requirements. Some of these aren't listed or listed correctly on pg. 33.

46. Protection of Human Health and the Environment, pg. 33– As written, the draft ROD presents primarily conclusory statements that the Selected Remedy is protective, although it doesn't mention protectiveness with respect to the potential future resident, which drove the need for cleanup to begin with. More explanation should be presented as to how that conclusion was reached. Also, the spring water pathway should be addressed.

47. Compliance with ARARs, pg. 40– A remedial action is required to either comply with ARARs or to waive them. Compliance to the maximum extent practicable appears to be a removal action standard, which is not appropriate to a remedial action decision. Also, the specific ARARs the selected remedy must comply should be identified in the ROD. Section 13.2.2 indicates there are some action-specific ARARs but doesn't say what they are.

48. Cost Effectiveness, pg. 40– The ROD needs to include more explanation as to why the Selected Remedy is cost effective, rather than just a conclusory statement to that effect. See EPA's ROD guidance, Section 6.3.13.

49. Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable, pg. 41– The ROD needs to include more explanation as to why the Selected Remedy satisfies this criteria, rather than just a conclusory statement to that effect. See EPA's ROD guidance, Section 6.3.13.

50. Preference for Treatment as a Principal Element, pg. 41– The ROD needs to include more explanation as to why the Selected Remedy does not satisfy this criteria, rather than just a conclusory statement to that effect. See EPA's ROD guidance, Section 6.3.13.

51. Five Year Reviews– This discussion fails to address the need for five-year reviews.

52. Irreversible and Irretrievable Commitment of Resources, pg. 41– This criteria is not one of the required statutory determinations and should not be included in this section. It appears to be more relevant to issues pertaining to DOE's potential liability for natural resource damages than to what remedial action is appropriate for this site. To the extent DOE believes it is appropriate to address this issue in the ROD, we would need more explanation as to how this issue is relevant to the remedial action decision being made and a more complete explanation as to how the conclusion that this cleanup action results in an irreversible and irretrievable commitment of resources was reached.

53. References, pg. 41– Unless the listed references are intended to be the Administrative Record Index, I would omit the list from the ROD. We do need to have the AR Index in hand before we can recommend that the EPA concur with the ROD.