Randy -

I need your help with several NAPL comments. In the FS review comments that you guys gave me, there were several items where you guys said that something seemed high or low. I want to try to provide more specificity in the comments, so could you see if you guys can do that? See the highlighted notes on my draft comment letter - they are in the range of comments #34-40. My notes specify what further specificity I am looking for. Let me know what you can do. Thanks!

-Dante

Z_FS comments Part 4.doc
34. **Appendix D**: The same indirect mark-ups for design and project management of 10% each were used for all the remedial alternatives, as was the contingency rate. Per EPA’s cost estimating guidance, those rates should vary based on the complexity of the remediation and the dollar value (Reference *EPA and US Army Corps of Engineers Guide to Developing and Documenting Cost Estimates During the Feasibility Study*, dated July 2000). [Ask Hill for some specific recommendations for rates. EAPC2:Alt4.5; EAPC7:Alt3, are specified]

35. **Appendix D**: In the tables for Remedial Alternative 3, the capping line item reads “Asphalt pavement cover” and has a unit cost of $5. According to the Notes/Assumptions, this unit cost is for the slurry seal, not the asphalt cover. The unit cost for the asphalt cover is $10. Clarify whether you intended to have an asphalt pavement cover and provided the wrong unit cost, or you intended to have a slurry seal and you provided the wrong line item description. This comment applies to all the Remedial Alternative 3 tables, including Tables D1.1-2, D1.2-2, D1.3-2, D1.4-2, D1.5-2, and D1.6-2.

In the tables that include capping, the Notes/Assumptions states that existing pavement is assumed to be an adequate cap to meet ARARs. However, you include a line item in the cost estimate for asphalt pavement cover or slurry seal. To be consistent, edit the note to read “Existing pavement with new slurry seal assumed to be adequate cap to meet ARARs”. In addition to the tables already mentioned, this comment also applies to Tables D1.1-3, D1.3-3, and D1.3-4.

36. **Appendix D**: In the tables for all the Remedial Alternatives 4, 5, and 6, you include varying amounts for additional investigation. Provide your basis for these estimates, which range from $50,000 to $125,000. This comment applies to Tables D1.1-3, D1.1-4, D1.2-3, D1.2-4, D1.3-3, D1.3-4, D1.3-5, D1.4-3, D1.4-4, D1.4-5, D1.5-3, D1.6-3, D1.6-4, and D1.6-5.

37. **Appendix D, EAPC 2 subsection**: In Alternatives 4 and 5, the cost of the excavation field activities, including mobilization, geophysics, excavation, backfill, transportation and disposal, and oversight, adds up to approximately $240/CY of direct cost. This seems high. [Ask Hill for some specific recommendations for rates.]

In Alternative 5, the Notes/Assumptions specify that the sidewalls are sloped at a 1:1 ratio for all excavation areas, which are less than 5 feet deep. You may not need to slope the walls if the excavation is less than 5 feet deep. [Ask Hill, what are the usual requirements for shoring depths? If the sloping assumption is a somewhat conservative but plausible scenario, then leave out the comment.]

38. **Appendix D, EAPC 7 subsection, Alternatives 4 and 5**: Shoring is included in the cost estimate. It does not seem that shoring would be needed since the excavation is less than 5 feet deep. Even if you wanted to extend the excavation to the base of the building, you would probably need to have a step-out from the building before you started the excavation. Such a step out would provide you enough room to slope the sides in order to protect the building, thus saving the cost of shoring.
Why are the transportation and disposal costs different for these two alternatives (Alternative 4 is $60/ton and Alternative 5 is $70/ton)? Is it due to the presence of benzene in the Alternative 5 soil? Assuming that the costs are correct, add a note in the Notes/Assumptions section to briefly explain this.

39. Appendix D, EAPC 7 subsection, Alternative 4:

The operational period for the SVE system was assumed to be 2 years. This assumption is very conservative for this area. An SVE system would replace the air in the pore spaces about 8,000 times during this time period. [Ask Hill for some specific recommendations for timeframe.]

40. Appendix D, EAPC 7 and EAPC 16 subsections, Alternative 4: There is a line item for miscellaneous VETS equipment, whose unit cost is measured by linear foot. Clarify in a note or in the title what this item includes (piping, valves, etc?).

Why is the VETS unit cost $20 for EAPC 7, but $10 for EAPC 16?

The cost of SVE wells/wellheads is excessive at over $500 per foot. [Ask Hill for some specific recommendations for rates.]

The cost of an SVE well head completion is expensive at $3,000 each. Explain this cost. Typically for SVE, just a small (12 to 18-inch) well box containing a PVC Tee and slip cap is required.

The cost of SVE controls/instrumentation is high at $20,000 and $50,000 (for EAPC 7 and 16 respectively) considering the SVE will likely be a packaged unit with built-in controls. What is the basis for this cost? [Ask Hill for some specific recommendations for rates.]

The assumed well spacing (15 foot ROI) is a very conservative, tight grid. What is the basis for this assumption?

EAPC 7 and EAPC 16 have the same assumed well spacing, yet EAPC 16 is assumed to require 3 years of operation and EAPC 7 only 2 years. Why is there this difference in assumed operational time?

41. Appendix D, EAPC 16 subsection, Alternatives 3 and 4: The sub-slab venting cost at $5 per square foot seems very low. This is the same cost as slurry coating asphalt. What is the basis for this cost?

Where is the cost for the HVAC modification aspect of the alternative (capital as well as O&M)? Explain in a note what is being done.

For the SSV system, is any sampling required within the SSV system? What about vapor treatment equipment and associated permits? If these items are needed, they need to be added to the cost estimate, as it does not appear that they are included.

The cost for vapor monitoring probes inside the building is listed as $250 each. This seems rather low. What is the basis for this cost? Are the points installed sub-slab or above-slab? Add a note to clarify the assumption.