Review of Draft Final Soil and NAPL Feasibility Study Report, Del Amo Superfund Site, Los Angeles, California

Pursuant to a request from the U.S. Environmental Protection Agency (EPA) Work Assignment Manager (WAM), CH2M HILL has reviewed a report entitled Draft Final Soil and NAPL Feasibility Study, Del Amo Superfund Site, dated July 18, 2008, and revised on August 4, 2008. The Draft Final Feasibility Study (FS) report was prepared by URS Corporation (URS) on behalf of the Del Amo Superfund Site Respondents.

Agency comments on the Draft FS were provided in four parts. For the Draft Final FS EPA requested that CH2M HILL review how the comments, edits, and changes were incorporated into the Draft Final FS. CH2M HILL was specifically asked to review responses to comments from Parts 1, 2 and 4 (Tables, Figures, and Appendices only). In addition, CH2M HILL reviewed new alternatives that were added in response to comments on the Draft FS.

CH2M HILL’s review comments on the Draft Final FS are divided into general comments, specific comments pertaining to how comments were incorporated in the revision, specific comments on the new alternatives, and other specific comments. The section on how previous agency comments were incorporated in the revision follows the comment letters’ numbering system for reference back to the original comment.

General Comments

1) Discussion of preferred alternatives is still pervasive throughout Section 10. The agency comments had clearly instructed the authors to remove such elements, as selection of an alternative is not a part of the FS.

2) Overall, assumptions on cost and technical scope to implement an active alternative still appear to be overly conservative, driving costs higher than necessary for these alternatives. Many of the cost-related agency comments from the Draft FS have been addressed. However, most “high” costs identified in the agency comments have not been reduced. Along those lines, when a technical suggestion implementation was made with the intent of reducing costs for active alternatives, the suggestion was generally not taken. This is true for the majority of the agency comments related to Appendix D and Appendix E.
3) There is some inconsistency in the references to the NAPL portion of the FS. In some cases it is referred to as "FS NAPL" and in others "NAPL FS". This reference should be consistent and should be "NAPL FS".

4) The Waste Pits area is sometimes referred to as the Waste Pit area. Please correct throughout the document.

Specific Technical Comments Correlating to Previous Agency Comments

Part 1 (Comment Letter Dated December 14, 2007) – Comment numbers in this section correlate to comments in the referenced agency comment letter.

4) Section 1.4, first paragraph - At the end of the second sentence please add an "s" to the word "Pit" so the parenthetical phrase reads "(except the Waste Pits area)", as requested in the agency comment.

5) Section 1.4, second paragraph, second sentence – As had been requested in the agency comment, please add a comma after "dermal contact with shallow soils".

8) Section 1.4.1 – This section should refer to Section 10.3 for further discussion of uncertainties. This section should possibly also mention the uncertainty due to elevated detection limits discussed in Section 3.0.

10) Section 2.1.5, second paragraph – Comment 10, pertaining to a discrepancy between the variation in depth to groundwater in the text versus the variation in groundwater elevations in Figure 2-2, does not appear to have been addressed. The apparent discrepancy could be caused by changes in ground surface elevations. If that is the case, please give a groundwater elevation range as well as a depth to water range.

11) Section 2.2.5, second paragraph – Comment 11 referred to an apparent discrepancy between statements that deep soil gas samples were collected near (benzene) NAPL areas and that high benzene concentrations are attributable to off-gassing from groundwater. This comment does not appear to have been addressed. Please revise text as appropriate to address the comment.

12) Section 2.2.8, second to last paragraph – Comment 12, which requested a discussion of any attempts since the MW-20 pilot study in 1996-1997 to remove NAPL, does not appear to have been addressed.

13) Section 3.0, first paragraph, first sentence – This comment was not addressed. Please insert the word "groundwater" before "source areas".

14) Section 3.0, third paragraph – This new text does not match the suggested text in the agency comment and does not seem to describe the process as well as the suggested text. Please refer to the December 14, 2007 comment letter (Part 1), Comment No. 14 and edit to match the paragraph starting with "The NAPL FS evaluation..."

30) Section 4.3.1, first paragraph – As was asked by the previous agency comment, were individual regulatory agencies contacted regarding ARARs or TBC criteria?

44) Section 5.2.4 – The edit to the first sentence requested by the agencies was not done. Please revise accordingly.
52) Section 5.4.1, Notifications subsection, last sentence - Please add the word “therefore” prior to “could be considered an informational tool”.

52) Section 5.4.1, Web-Based Informational Tools subsection, first sentence - The rewrite of this section differed from requested edit in the agency comment, and still is not structured as a definition to match the other similar subsections. Starting the sentence “The web-based tool” does not define a web-based tool, but describes one already in existence. Please change the word “The” to “A”.

53) Section 5.4.1, Long-Term Stewardship Tools, first paragraph, second sentence - The agencies’ suggested edit was not made. EPA requested that the sentence begin with “There are private services”. The revised text starts with “The service,” which implies that only a single service can perform the activities or that one has already been chosen. The spirit of the EPA comment is to introduce the concept of a private land activity monitoring service. Please revise accordingly. Also, the agency comment requested that the One-Call system be mentioned here. There is no mention of the One-Call system in the revised text.

53) Section 5.4.1, Long-Term Stewardship Tools, second paragraph - The text has been moved to Section 5.4.5.1, as requested by EPA, and a note has been placed in this section. The underlining on the note extends past the subsection title. Please remove the underline beginning with the word “Refer”.

55) Section 5.4.1, IC Layering Plan subsection - The agency comment requested that specific text be introduced that defines the concept of “IC layering” for the public. The revised text incorporated a variant of the requested text edits, and does not sufficiently describe IC layering for the public reader. Please revise the text as suggested in the previous comment.

57) Section 5.4.2, HVAC Modification or Sub-Slab Venting Section, first paragraph - The revised text to include discussing the feasibility of horizontal well installation states (second paragraph, tenth sentence) that sub-slab venting is rarely implemented using horizontal wells because it “increases complexity and cost”. Please reword the sentence to say “SSV is rarely implemented in this manner because excavation/trenching inside the building is generally more cost effective.” Trenching inside a building can also be quite complex. A greater secondary argument for internal trenching over horizontal wells might be the technical effectiveness. Horizontal wells may not be able to be installed within the gravel layer directly beneath the slab, potentially making it more difficult to influence the pressure gradient beneath the entire building footprint. Also, change “sub-slab venting” to “SSV”.

58) Section 5.4.3, Soil Vapor Extraction/Bioventing subsection, third paragraph, eighth sentence - if residual VOCs are a concern for vapor intrusion it seems the performance objective would not have been met. Let’s clarify we are talking about a future risk. Please replace “are a concern for vapor intrusion” with “represent a potential future concern with respect to vapor intrusion”.

67) Section 5.4.4, ISSH subsection, last paragraph, last sentence - Please end the sentence at “The temporary removal of any parking areas would limit available onsite parking
for tenants.” It is not accurate at this point to suggest that doing so would result in having to provide off-site parking and transportation between the parking area and the place of business. Also, it does not appear that parking regulations were evaluated in the ARARs section. Discussion of parking regulations was removed from the text sections where parking impacts are discussed.

Part 2 (Comment Letter Dated January 18, 2008) – Comment numbers in this section correlate to comments in the referenced agency comment letter.

3) Section 6.1.1, Remedial Alternatives for Subgroup A Exposure Areas subsection, first paragraph, first sentence – Please change the phrase “and includes the No Action alternative” to read “and include the No Action alternative”, to improve subject-verb agreement. Also, in the fourth paragraph, last sentence – Please move the comma from after “Section 5.4.5” to after “and would include”.

7) Section 6.2.4, Alternative 3 subsection, fourth sentence – Please use the wording suggested in the previous agency comment. Please edit the fourth sentence to read “they would include a requirement in the restrictive covenant to monitor and maintain the cap.”

11) Section 6.2.4, Summary of Risk-Driving Chemicals, second paragraph – The mention of benzene with a CR < 1E-06 and the subsequent mention of benzene in samples from two borings that exceeded the CR threshold is still confusing. Please clarify why the CR is below 1E-06 when samples exceed the CR threshold.

15) Section 7.1.2 – Please remove the statement that removal of parking spaces may require provision of transportation to and from offsite parking. Please also remove the statement pertaining to fencing on active driveways resulting in a “larger impact to the onsite business.” It would be sufficient to say after the fifth sentence, “In some cases the fenced areas could be located in a portion of active driveways or loading areas. In general, the location of the source areas...would likely result in some impact to the onsite business.”

19) Section 7.3.3, Alternative 3 subsection – The previous agency comment requested an edit to the third sentence that is consistent with other 7.2.3, Alternative 3. In the revised 7.3.3 text the statement that implementation would be evaluated during RD was removed but it is now assumed that bioventing will not be a component of the SVE. Even if that assumption is going to be made, please leave in the statement that was added to Section 7.2.3 about the proportion of SVE and BV being determined during RD, if selected in the ROD. Then explain that the FS assumes 100% SVE.

21) Section 7.6.3 – Please review the comment from Section 5.4.4 and revise the text here accordingly. Specifically, please remove the discussion about owner approval.

22) Section 7.6.3, Alternative 3 subsection – See comment # 19 above.

23) Section 7.6.3, Alternative 4 subsection – See comment # 19 above.

27) Section 7.11, second paragraph – No change to the text was made in response to the agency comment.
Part 4 (Comment Letter Dated February 11, 2008) – Comment numbers in this section correlate to comments in the referenced agency comment letter. CH2M HILL’s review began with comment 20.

23) Tables 10-1 and 10-3 – Please remove the yellow highlighting and the Weighted Average Rating column, per the previous agency comment.

24) Table 10-4 – Please delete Table 10-4, per the previous agency comment.

27) Figure 10-1 – Please delete Figure 10-1, per the previous agency comment.

36) Appendix D-1 – Please provide a basis for the varying lump sum cost estimates for Site Investigation/Delineation in Alternatives 4, 5, and 6, per the previous agency comment.

39) Appendix D, EAPC 7 subsection, Alternative 4 – The assumed SVE operational period is still two years. There has been no revision despite the agencies’ comment that the duration should be less than 1 year. Please explain.

40) Appendix D, EAPC 7 and EAPC 16 subsections, Alternative 4 – The previous agency comment suggested that the assumed SVE well spacing is very conservative and asked for a basis for this assumption. This was not provided.

41) Appendix D, EAPC 16 subsection, Alternatives 3 and 4 – The previous agency comment requested a basis for the sub-slab venting cost of $5/square foot. This was not provided.

42) Appendix D, EAPC 16 subsection, Alternatives 5 and 6 – The previous agency comment requested that costs be added for converting horizontal SVE wells into an SSV system. These costs were not added.

46) Appendix D, EAPC 5, Alternatives 3 and 4 – In response to the previous comment, the words Subslab Venting System have simply been changed to HVAC Mod System Under Building. Installing a subslab venting system is not synonymous with HVAC modification. Please change the line item to include both HVAC mod and SSV.

48) Appendix E, SA9, Alternative 3 – The comment requested that the PRPs consider adding SVE wells beneath the building because NAPL extends beneath the building. No SVE wells were added.

Table G-2 – Please indicate in the “Technology Component” column that the hydraulic extraction alternative also includes SVE. This was raised by the agencies in the Part 4 comment letter.

Table G-2, throughout – In the description of the No Action alternative, please change LTM to Monitoring to be consistent with the rest of Table G-2 and the text.

Table G-2, STE section – Revisions to rationale did not meet the intent of the agency comments in some cases. Please make the requested changes.

Section 9.1.1 Tables, Alternative 2, ARARs section – The rewording of the second sentence now implies that no chemical-specific ARARs are required to be met within
the TI Waiver Zone, rather than just the ISGS. Please revise according to previous agency comments in the Part 4 comment letter. This comment applies to the ARARs section for several other alternatives.

Section 9.1.1 Tables, Alternative 3, RTMV section – The previous agency comment requested that the statement that significant mass assumed to lie under the building would remain. This statement was not removed. Please do so.

Section 9.1.1 Tables, Alternative 4, RTMV section – See above comment from Alt 3.

Section 9.1.1 Tables, Alternative 4, STE section – This section overstates the negative impacts of the alternative on the onsite business and the surrounding community. Please reword to match the previous agency comment.

Section 9.1.1 Tables, Alternative 5, RTMV section – See similar section comments in Alternatives 3 and 4 above.

Section 9.1.1 Tables, Alternative 5, STE section – This section overstates the negative impacts of the alternative on the onsite business and the surrounding community. The document says moderate to significant impact versus the minor impact indicated in the agency comments. Please reword to match the previous agency comment.

Section 9.1.1 Tables, Alternative 5, Implementability section – In the seventh sentence, please insert the word “option” after the phrase “publicly popular”.

Section 9.1.1 Tables, Alternative 5, STE section – This section overstates the negative impacts of the alternative on the onsite business and the surrounding community. The document says moderate to significant impact versus the minor impact indicated in the agency comments. Please reword to match the previous agency comment.

Table 9-1, SA12, Alternative 2, Overall Protection of Human Health and the Environment subsection – The suggestion change to insert the word “groundwater” immediately before “containment zone” was not implemented. Please do so.

Specific Technical Comments on New Alternatives

Source Area 4

1) Section 7, Source Area 4, Alternative 5, page 7-27 – The estimation of the volume of oxidant injected appears to be inconsistent with the text. The text indicates that an initial injection event will be followed by four subsequent events. Given 800 gallons per point, 60 points, and 5 events, the estimated volume would be 240,000 gallons. It appears the estimated volume of 144,000 gallons is based on 3 injection events. Please clarify.

2) Section 7, Source Area 4, Alternative 5, page 7-28 - The text indicates that the source area will be enclosed in a fenced area. Since the source area is beneath the building will fencing (inside the building) be necessary or will the building itself provide adequate security? Please clarify.
3) Section 7, Source Area 4, Alternative 6, page 7-28 - The text indicates that the SVE wells will be placed on 20-foot centers. This seems to be very close spacing. Is this tight spacing necessary and would cost savings be realized if fewer SVE wells were employed (in combination with the electrode wells)?

4) Section 7, Source Area 4, Alternative 6, page 7-28 - The text indicates that the extracted vapors would be treated with thermal oxidizers or with IC engines. Given the commercially available IC engine sizes, multiple IC engines would be required, thus greatly increasing capital and O&M cost versus a thermal oxidizer. We suggest that the IC engine reference be removed unless the IC engine provides a benefit relative to the thermal oxidizer.

5) Section 7, Source Area 4, Alternative 6, page 7-28 - Does the estimated power consumption of the ERH system take into account that less power should be required once the subsurface is warmed to the target temperature?

6) Figure 7.7-4, Note 1 - Does this note apply to the ISCO alternative? Are temperature monitoring points required with the ISCO alternative? If not, please remove this note.

7) Section 7, Source Area 4, Alternative 6, page 7-29 - The text indicates that the source area will be enclosed in a fenced area. Since the source area is beneath the building will fencing (inside the building) be necessary or will the building itself provide adequate security? Please clarify.

8) Appendix Table 6-4 - What is the basis for the ozone generator system capacity and cost ($750,000)? Given that only 3 to 5 injection events are assumed, would it be more cost effective to rent such equipment?

9) Appendix Table 6-4 - The electricity/utilities cost in the O&M section seem to be excessive. Assuming $0.20 per KWH, $26,400 per month equates to over 240 connected horsepower on a continuous basis.

10) Appendix Table 6-4 - What is the basis for the waste disposal cost? What will routinely be disposed of on a monthly basis?

11) Appendix Table 6-4 - Please double-check Note/Assumption 5 in light of the previous comments regarding oxidant volume estimation.

12) Appendix Table 6-4 - The overall cost for Source Area 4, Alternative 5 seems high at $286 per cubic yard ($11,135,000/39,000 CY).

13) Appendix Table 6-5 - Please double-check Note/Assumption 5 in light of the previous comments regarding oxidant volume estimation.

14) Appendix Table 6-5 - The overall cost for Source Area 4, Alternative 6 seems high at $259 per cubic yard ($10,116,000/39,000 CY).
Source Area 7

1) Figure 7.8-1 - Consider extending the assumed extent of NPAL south to encompass the two additional former storage tanks.

2) Figure 7.8-4, Note 1 - Does this note apply to the ISCO alternative? Are temperature monitoring points required with the ISCO alternative? If not, please remove this note.

3) Section 7, Source Area 7, Alternative 5, page 7-32 - The estimation of the volume of oxidant injected appears to be inconsistent with the text. The text indicates that an initial injection event will be followed by four subsequent events. Given 800 gallons per point, 30 points, and 5 events, the estimated volume would be 12,000 gallons. It appears the estimated volume of 72,000 gallons is based on 3 injection events. Please clarify.

4) Section 7, Source Area 7, Alternative 5, page 7-32 - The text indicates that the source area will be enclosed in a fenced area. Since the source area is beneath the building will fencing (inside the building) be necessary or will the building itself provide adequate security? Please clarify.

5) Section 7, Source Area 7, Alternative 6, page 7-32 - The text indicates that the SVE wells will be placed on 20-foot centers. This seems to be very close spacing. Is this tight spacing necessary and would cost savings be realized if fewer SVE wells were employed (in combination with the electrode wells)?

6) Section 7, Source Area 7, Alternative 6, page 7-32 - Does the estimated power consumption of the ERH system take into account that less power should be required once the subsurface is warmed to the target temperature?

7) Section 7, Source Area 7, Alternative 6, page 7-33 - The text indicates that the extracted vapors would be treated with thermal oxidizers or with IC engines. Given the commercially available IC engine sizes, multiple IC engines would be required, thus greatly increasing capital and O&M cost versus a thermal oxidizer. We suggest that the IC engine reference be removed unless the IC engine provides a benefit relative to the thermal oxidizer.

8) Section 7, Source Area 7, Alternative 6, page 7-33 - The text indicates that the source area will be enclosed in a fenced area. Since the source area is beneath the building will fencing (inside the building) be necessary or will the building itself provide adequate security? Please clarify.

9) Appendix Table 7-4 - What is the basis for the ozone generator system capacity and cost ($500,000)? Given that only 3 to 5 injection events are assumed, would it be more cost effective to rent such equipment?

10) Appendix Table 7-4 - The electricity/utilities cost in the O&M section seem to be excessive. Assuming $0.20 per KWH, $18,000 per month equates to over 160 connected horsepower on a continuous basis.
11) Appendix Table 7-4 - What is the basis for the waste disposal cost? What will routinely be disposed of on a monthly basis?

12) Appendix Table 7-4 - Please double-check Note/Assumption 5 in light of the previous comments regarding oxidant volume estimation.

13) Appendix Table 7-4 - The overall cost for Source Area 7, Alternative 5 seems high at $389 per cubic yard ($7,973,000/20,500 CY).

14) Appendix Table 7-5 - Please double-check Note/Assumption 5 in light of the previous comments regarding oxidant volume estimation.

15) Appendix Table 7-5 - The overall cost for Source Area 7, Alternative 6 seems high at $375 per cubic yard ($7,696,000/20,500 CY).

Source Area 8

1) Figure 7.9-1 - Consider extending the assumed extent of NPAL south to encompass the two additional former storage tanks.

2) Figure 7.9-4, Note 1 - Does this note apply to the ISCO alternative? Are temperature monitoring points required with the ISCO alternative? If not, please remove this note.

3) Section 7, Source Area 8, Alternative 5, page 7-36 - The estimation of the volume of oxidant injected appears to be inconsistent with the text. The text indicates that an initial injection event will be followed by four subsequent events. Given 800 gallons per point, 42 points, and 5 events, the estimated volume would be 168,000 gallons. It appears the estimated volume of 100,000 gallons is based on 3 injection events. Please clarify.

4) Section 7, Source Area 8, Alternative 5, page 7-36 - The text indicates that the source area will be enclosed in a fenced area. Since the source area is beneath the building will fencing (inside the building) be necessary or will the building itself provide adequate security? Please clarify.

5) Section 7, Source Area 8, Alternative 6, page 7-36 - The text indicates that the SVE wells will be placed on 20-foot centers. This seems to be very close spacing. Is this tight spacing necessary and would cost savings be realized if fewer SVE wells were employed (in combination with the electrode wells)?

6) Section 7, Source Area 8, Alternative 6, page 7-36 - Does the estimated power consumption of the ERH system take into account that less power should be required once the subsurface is warmed to the target temperature?

7) Section 7, Source Area 8, Alternative 6, page 7-37 - The text indicates that the extracted vapors would be treated with thermal oxidizers or with IC engines. Given the commercially available IC engine sizes, multiple IC engines would be required, thus greatly increasing capital and O&M cost versus a thermal oxidizer. We suggest that the IC engine reference be removed unless the IC engine provides a benefit relative to the thermal oxidizer.
8) Section 7, Source Area 8, Alternative 6, page 7-37 - The text indicates that the source area will be enclosed in a fenced area. Since the source area is beneath the building, will fencing (inside the building) be necessary or will the building itself provide adequate security? Please clarify.

9) Appendix Table 8-4 - What is the basis for the ozone generator system capacity and cost ($400,000)? Given that only 3 to 5 injection events are assumed, would it be more cost effective to rent such equipment?

10) Appendix Table 8-4 - The electricity/utilities cost in the O&M section seem to be excessive. Assuming $0.20 per KWH, $12,000 per month equates to over 100 connected horsepower on a continuous basis.

11) Appendix Table 8-4 - What is the basis for the waste disposal cost? What will routinely be disposed of on a monthly basis?

12) Appendix Table 8-4 - Please double-check Note/Assumption 5 in light of the previous comments regarding oxidant volume estimation.

13) Appendix Table 8-4 - The overall cost for Source Area 8, Alternative 5 seems high at $383 per cubic yard ($8,114,000/21,200 CY).

14) Appendix Table 8-5 - Please double-check Note/Assumption 5 in light of the previous comments regarding oxidant volume estimation.

15) Appendix Table 8-5 - The overall cost for Source Area 8, Alternative 6 seems high at $368 per cubic yard ($7,811,000/21,200 CY).

Other Specific Technical Comments

1) Appendix D – On the CD the bookmarks for Appendix D-2, Group 3B are in reverse order. Please arrange so that someone would page through in the correct order. ✓

2) Appendix D – The costs are difficult to re-create using the spreadsheets. Please make it more clear which subtotals are added to create the grand total. For example, in Table D1-1.2 it is not immediately clear that the Cap + ICs Annual Operation and Maintenance Subtotal is already incorporated into the Present Worth + Cap O&M Costs. Perhaps it is the use of the word subtotal, as used in the Direct and Indirect Costs section above it.

3) Table 4-3 – Please center the table on the page X

4) Section 5.4.2, HVAC Modification or Sub-Slab Venting Section, first paragraph – The fourth sentence describes a difficulty in implementation of HVAC system modification for warehouse-style buildings with open bay doors and “uncontrolled communication” between indoor and outdoor air. This statement is unnecessary. In such a situation there would be no need to address vapor intrusion because the negative pressure inside a building that typically drives the intrusion mechanism would be nonexistent. X
Sections of Draft Final FS for Dante to review (identified during CH2M HILL's review)

Dante, overall you should review Section 5.4 (ICs), Section 10, Table G-2, and Table 9.1.1. My specific notes for what to look at in these sections (and in a few others) are listed below. There is considerable rework of these sections or there are fundamental concepts you should have the opportunity to review prior to making the FS final.

From Part 1

8) Section 1.4.1 Uncertainties and Assumptions in FS Evaluation – new section up front to explain uncertainties.

14) Section 3.0, first four paragraphs – added content per Part 1, comment 14. Some change in added text from comment, specifically pertaining to NAPL areas.

22) Section 3.2 – re-written per EPA request

From Part 4

51) Section 5.4.1, Informational Tools subsection – Dante, the PRPs did incorporate the requested edit, but they ended up saying restrictive covenants are between the owner and the state or the Responsible Party. I don’t believe that is correct, although I suppose the RPs could enter into a voluntary agreement with a company. I have not commented in the tech memo.

54) Section 5.4.1 Long-Term Stewardship Tools, ICs Monitoring

55) Section 5.4.1 Long-Term Stewardship Tools, IC Layering Plan

57) Section 5.4.2 HVAC Modification or SSV (specifically their edit of the agreed-upon text to be added)

Table 4-3 – Footnote 1 – Definition of Risk-Based Threshold Levels. This is the only time I’m aware of that the term is given a succinct definition.

Section 10 – There has been significant rework of Section 10, including the addition of a weighted average rating and text sections pertaining to preferred alternatives beginning with “The Respondents believe that...” The comments to remove discussion of the “highest rated alternative” and other such leanings toward a preferred alternative have been ignored.

Appendix D – Part 4, comment 32 states that the cost estimates for EAPC 8 and EAPC 17 were omitted from the Draft FS. It seemed that they were in the Draft FS and there were no additional costs included in the Draft Final FS, so I was unable to confirm that the comment was implemented.

Appendix D – Present worth estimates – The Draft FS included a 30-year present worth estimate. Part 4 comment 33 requests that a present worth estimate for infinite years of ICs be added “in addition to” the 30-year. The Draft Final FS costs include only a 100-year present worth estimate. I can see not wanting to provide both due to complexity of reporting two numbers, but I wanted to make sure the 100-year estimate is adequate to meet the “infinite years” request.
Appendix D - EAPC 9 is now a representative EAPC. Formerly it was in Group 3B and in Appendix D-2.

Appendix D, EAPC 2 subsection - The previous agency comment stated that the cost of excavation field activities seemed high at ~$240/CY direct cost. It appears the only revision is a $5/ton reduction in the transportation and disposal cost.

Appendix E - new section that lays out the assumptions for Appendix E costs

Appendix G, Table G-2 – New alternatives have been inserted and should be reviewed by EPA. Also numerous liberties taken in responding to agency comments.

Section 9.1.1 Tables, Alternative 3, RTMV section – One requested revision was not made (text pertaining to residual contamination beneath a building. Also, the addition of the last sentence appears to have a different "spin" than the agency comment.

Section 9.1.1 Tables, Alt 3, Implementability section – The suggested edit in the first sentence was not made.

Section 9.1.1 Tables, Alt 4, Protection of Health & Environment section – A few sentences added to the end of the section that you should review.

Section 9.1.1 Tables, Alt 5, Protection of Health & Environment section – Ditto above comment.

Section 9.1.1 Tables, RTMV and STE sections - See review comments.

Section 9.1.1 Tables, Alt 5, Protection of Health & Environment section – Ditto above comment for this section regarding added language pertaining to the rating for the criterion, the greenhouse gas impact, and a “moderate” risk.

Section 9.1.1 Tables, ARARs sections throughout – See review comments.

In rating descriptions, any suggested change to “very small impacts” was changed to either “impacts” or “moderate impacts”.

Table 9-1, SA12, Overall Protection of Human Health and the Environment section – A statement that there would be potential risks to employees at the site and vicinity due to treatment. This statement exists for all alternatives. Please review and make sure you are comfortable.
Dante, attached is a technical memorandum detailing the results of CH2M HILL’s review of the Draft Final Soil and NAPL Feasibility Study Report for the Del Amo Superfund Site. I have also attached a separate file that identifies sections assigned for our review that you may want to look at yourself. These sections typically have undergone significant text revisions and/or deal with subject matter (such as ICs) that I felt EPA should review.

Please feel free to contact me with questions.

Thanks,
Randy

Randy Kellerman, P.G.
Project Consultant
CH2M HILL - Southern California Office
3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
Ph: (714) 435-6381
Fax: (714) 424-2258