# St. Juliens Creek Annex Partnering Team Meeting Minutes: November 19 – November 20, 2008

**Attendees:** Walt Bell/NAVFAC MID LANT
John Burchette/EPA (Region III)
Karen Doran/VDEQ
Kim Henderson/CH2M HILL
Janna Staszak/CH2M HILL
Adrienne Jones/CH2M HILL

**Tier II Link:** Bruce Beach/USEPA

**Guests:** Jim Cutler/VDEQ

**From:** Adrienne Jones/CH2M HILL

**Date:** January 4, 2009

**Location:** Hotel Helix, Washington DC

## Wednesday, November 19 2008

**0800 Welcome/Check In**

**Roles and Responsibilities for this meeting:**

| | |
|---|---|
| **Chair/Meeting Manager:** | John Burchette |
| **Timekeeper/Gatekeeper:** | Kim Henderson |
| **Host:** | Adrienne Jones |
| **Goalkeeper:** | Walt Bell |
| **Facilitator:** | Walt Bell |
| **Recorder:** | Adrienne Jones |

**Ground Rules**

John reviewed the meeting roles and responsibilities.

## I. Review Agenda, Meeting Minutes, Action Items, and Parking Lot from the Previous Meeting

**Review Agenda:** No changes were made to the agenda. Topics will be adjusted throughout the meeting as necessary.

**Review Meeting Minutes:** The team resolved John's comment on the July 2008 meeting minutes. Karen provided editorial comments on the September 2008 meeting minutes; all comments were incorporated into a final version during the meeting. John's comments on the September 2008 meeting minutes were emailed prior to the meeting and were incorporated during the meeting into the final version. Walt indicated that he does not have any comments on the September 2008 minutes.

**Consensus:** The team agrees to accept the meeting minutes for the July 2008 meeting as final. The final minutes will be posted on the Virginia/Maryland Joint IR Teams web site.

**Consensus:** The team agrees to accept the meeting minutes for the September 2008 meeting as final. The final minutes will be posted on the Virginia/Maryland Joint IR Teams web site.

**Review Parking Lot:** Parking Lot items were reviewed as follows:

- Site 4 Groundwater Monitoring at 5-Year Review (remain in Parking Lot)
- Draft July Partnering Minutes (removed from Parking Lot based on consensus to finalize)
- Abandon Site 2 and 21 deep monitoring wells
- Facilitation (remain in Parking Lot, revisit after Karen returns from leave)
- Site 2 conference call (removed from Parking Lot, completed prior to meeting)

**Review Action Items:** The action items were reviewed and tracked separately.

## II. Site 21 Feasibility Study

Objectives: Discuss preliminary comments on the FS, identify a preferred alternative, and discuss the schedule.

Overview of Discussion: Copies of the presentation were distributed. Janna reviewed the status of the comments; comments have been received from EPA, VDEQ, and Navy. VDEQ may still have comments on the ARARs. The Response to Comments and redlined final text to resolve the comments were presented on the screen and discussed.

Discussion associated with the responses to EPA RPM comments:

Comment 3 – John asked if the injection wells will be installed within the Building 1556 because he has concerns about drilling into the slab. Janna responded that the injection layout shown in the figure generic for evaluation purposes only, and the actual injection scheme will be determined during the RD. Walt explained that level of detail won't be included in the PP and ROD to allow for some flexibility.

Comment 4 – Details of the monitoring plan will be determined in the RD. Walt asked if a calculation is used to predict rebound following injection. Janna responded that she is unsure and can look into it.

**Action Janna** – Provide Walt with information on how/when rebound is defined/ evaluated. Also consider how degradation products are filtered out (e.g. use total VOCs).

Discussion associated with the responses to EPA hydro comments:

Comment 2 – John thinks this comment deals with the fact that the hydro thought pump and treat should have been evaluated and not screened out based on O&M costs alone. Janna explained that pump and treat was screened out because of costs and because Navy guidance cautions against pump and treat. Janna explained the basis for the carbon footprint discussion in the text. The carbon footprint of a remedial alternative is very difficult to quantify based on the starting point of its calculation in the life cycle of each alternative. If you consider the carbon footprint for each alternative beginning with field implementation (e.g., ignoring production and transportation impacts) the results would most likely be similar for each of the alternatives being evaluated.

Discussion associated with responses to EPA toxicity comments:

Comment 2 – Janna indicated that the response to this comment is not complete, and will be completed based on input from the CH2M HILL human health risk assessor. John asked when a remedy is considered complete. Kim answered that it's when RAOs are met and will be determined in the monitoring plan after the ROD. Janna explained that the CH2M HILL risk assessor is not familiar with the request to reevaluate risk after a remedy has been implemented because usually PRGs are developed that are protective and once those levels are met, the remedy is considered complete and monitoring can be discontinued. John will discuss the comment with EPA Tox (Linda) and, if needed, a conference call can be scheduled for the CH2M HILL and EPA risk assessors to discuss.

**Action John/Janna** – Schedule meeting to resolve EPA Site 21 FS toxicity comment 2 if needed.

Discussion associated with responses to VDEQ technical comments:

Comment 3 – Karen asked if only one case study discussing injections was provided. Janna responded the one case study was provided for ZVI injections and one for ERD injections. Janna indicated the important point to consider is that one injection is assumed but performance monitoring will determine if additional injections will be necessary. Janna indicated that there are additional case studies available if needed; the ZVI case study provided was for a site that had the most similar characteristics to Site 21. Janna explained that one injection was an assumption used in the cost estimate and that not too many details should be included in the FS to allow flexibility during design and implementation of the remedy. Karen pointed out that her concern is that if additional injections had to be done it would increase the costs and throw off the cost comparison between the alternatives. Kim indicated that it would affect the both Alternatives 2 and 3 similarly, and would therefore not impact the selection of a remedy.

Comment 5 – Kim asked if the comment could be resolved by adding a footnote on the figure. Karen indicated that would be acceptable and Janna added a note to both Figure 4-3 and 4-4. Walt pointed out that injection locations will not be included in the ROD; specific details will be left out of the ROD.

Janna presented the changes made to the draft FS based on Navy comments: Text was added to Sections 1.1 and 2.3 to clarify up front that the FS only addresses shallow groundwater and that the vapor intrusion pathway is still under investigation. The CSM was revised to show advection in order to address all fate and transport pathways and make the terminology consistent between the text and CSM. Kim suggested further revising the CSM because the way the plume is shown is misleading and makes it appear that the plume is present above the water table. The team discussed changes to the CSM. CH2M HILL will modify the CSM as discussed. The high concentration areas will be clarified on Figure 4-1.

The team discussed the preferred alternative for the site. John asked if Alternative 4 was the alternative in which site conditions have to be reversed prior to treatment. Kim responded it was. John indicated that he is uncomfortable with that alternative. Janna reviewed the key differences between Alternatives 3 and 4 in the alternative comparison. Alternative 3 received a higher ranking for short-term effectiveness because there are more safety risks associated with Alternative 4. Alternative 3 also scored a higher ranking for implementability because Alternative 4 uses ISCO and ERD, which are competing technologies and therefore more challenging. The costs associated with Alternative 4 were higher than Alternative 3 because two rounds of ISCO injections are assumed. The team agreed that Alternative 3 is the preferred alternative.

Janna asked the team if the preferred alternative should be added to the FS or just incorporated into the PP. The team decided not to include a preferred alternative in the FS.

Janna modified the schedule based on submittal of the VDEQ ARAR comments, which Karen indicated that she expects to submit in two weeks.

**Path Forward:** Karen will submit VDEQ ARAR comments. Preliminary RTCs will be distributed to the team as draft and the final RTCs will be distributed following submittal of the ARAR comments by VDEQ. The final FS will be submitted by December 15.

## III. Roundtable

Site 5 Update: The ESS was endorsed by NOSSA and sent to Department of Defense Explosives Safety Board (DDESB) for their review on November 6. Typical review periods for DDESB have been lasting 3 to 4 weeks. John asked if the Site 5 ROD can be completed in FY09. Janna responded that it may be possible if the work plan can be approved quickly so mobilization to the site can occur before Christmas and excavation can begin early in January. Changes to the work plan include revision of the areas being addressed under the work plan, incorporation of the UXO procedures and the ESS, and the addition of stabilization of the hazardous grids (previously reviewed stabilization memo included as an appendix). The cover letter will identify the changes to the work plan.

ESTCP Update: Walt provided an update on the status of the ESTCP project. To date, all demonstration wells have been installed and baseline sampling has been completed. Additionally, the following actions have been completed. Groundwater was extracted from the injection well in each control plot, amended with phosphate buffer, and re-injected via the injection well. Oxygen emitters were deployed in the injection well of one control plot and one bioaugmentation plot. The bioaugmentation culture (JS666) was injected into the

injection well of each bioaugmentation plot. The remaining phosphate buffer-amended groundwater was injected via the injection well in each bioaugmentation plot. Demobilization occurred at the end of the week of October 27. Groundwater sampling and, if the pH observed is too low, an additional injection of phosphate buffer into the test plots is planned to occur the week of December 1.

Tier II Link: The team identified Janna as the new Tier II link.

## IV. Tier II Update

Tier II met last week in Virginia Beach. The following topics were discussed:

- **Websites** – Team websites should be updated to add new team websites and meeting minutes.
- **USEPA groundwater to surface water guidance** - Guidance has been released and distributed to RPMs and activity managers. This guidance primarily applies to ecological risk assessments.
- **Navy MRP work group** – The Navy MRP work group exists to develop consistent approaches and provide support with Navy guidance, protocol, and the incremental sampling approach for MRP sites. If partnering teams would like additional guidance, a member of the work group could provide technical support. Linda Cole represents NAVFAC Mid-Atlantic and Steve Hurff represents NAVFAC Washington on the MRP work group.

## V. Site 21 Proposed Plan

Objectives: Present the Proposed Plan (PP) format and intent, present the Site 21 Interim PP content, and review the schedule.

Overview of Discussion: Copies of the presentation were distributed. Janna reviewed the purpose and objectives of the PP and the associated roles and responsibilities of each agency. Janna pointed out that the NCP requires a 30 day public comment period for the draft PP but the FFA for SJCA FFA requires 45 days. Walt believes that if the FFA requires a longer time period then that time period should be adhered to. The team agreed to adhere to the time period included in the FFA.

Janna reviewed the content of the PP. The Introduction discusses that the site concern is the shallow groundwater CVOC plume and the preferred alternative is the two-stage approach of ISCR and ERD. The Background and Characteristics section provides site background information and site characteristics, including maximum COC concentrations and remediation goals for each COC. The Scope and Role of Response Action section explains the intention of the preferred alternative. The Summary of Site Risks section provides the human health risks identified and states that no ecological risk has been identified. The RAOs section lists the RAOs for the site. The Summary of Remedial Alternatives section presents a summary of components, details, and cost of the remedial alternatives. The Evaluation of Alternatives and Preferred Alternative section explains the evaluation of the alternatives conducted in the FS and presents the preferred alternative. The Community Participation section explains how the public can access site information.

John asked if a court appointed recorder is required to record the public meeting minutes. Kim responded that she does not believe that is a requirement and that it has not been done in the past. Walt explained that the PP guidance states that a transcript of the public meeting should be kept and that it should be made available to the public, but does not include a requirement for a court recorder.

The schedule for the site was reviewed. The team will need to choose a date for the public meeting when it gets closer to that time. The schedule was revised to include an additional 15 days in the review period to account for the extended public comment period.

Path Forward: The draft PP will be submitted concurrently with the final FS, by December 15.

## VI. UXO-01 PA

Objectives: Present the draft MRP Site UXO 0001 PA Work Plan and discuss the document schedule.

Overview of Discussion: Copies of the presentation were distributed. Janna presented the outline and content of the draft MRP Site UXO 0001 PA Work Plan.

Jim asked how the site was identified. Janna responded that originally the site was identified as IR Site 20. Sediment samples were collected at IR Site 20 and risk assessments were conducted on the data. Results indicated that inorganics, PAHs, and explosives were detected but no human health or ecological risk was identified and NFA was recommended. Instead, the site was to be addressed under the Navy's range program. Because the Navy's range program was never fully implemented, the site was included in the MRP and identified as UXO 0001. Walt explained that the MRP is designed to follow the IRP closely.

Jim asked if the site boundaries shown on the CSM are definite. Walt explained that no investigation will be conducted in or past the river channel in the vicinity of the southern wharf area and that the northern wharf area boundary is defined by previous Site 20 site boundaries. Janna pointed out that no field work is included in this PA. Depending on the results of the PA, a SI may be conducted which would include field work. Jim asked if a SI is expected at the site. Walt responded that a SI is being scoped.

Walt presented a draft version of an article written about the recent underwater work conducted at UXO 0001, which will be published in the *Navy Currents* magazine.

Path Forward: The team will submit comments on the draft PA work plan by December 12. The final work plan will be submitted by December 31.

## VII. Site 2 Feasibility Study

Objectives: Present the content of the FS and discuss the FS schedule.

Overview of Discussion: Copies of the presentation were distributed.

Kim presented the content of the FS, focusing on portions not previously discussed in detail (development of PRGs, development of remediation areas, remedial alternatives retained for evaluation, evaluation of the alternatives). Kim explained the PRG development. The human health PRGs were developed based on residential land use. MCLs were used as the

PRGs for groundwater, with the exception of naphthalene, for which no MCL is available. The maximum of the risk-based calculated cleanup goal and 95% background UTL was selected as the PRG for naphthalene and for the soil COCs. For sediment, the PRG was based on the highest value between literature based values, bioassay results, and Bohicket background UTL values. For soil, the sediment PRGs were used as the PRGs in order to be conservative due to the soil to sediment transport potential. No PRGs were established for pore water or surface water because remediation of the other areas will address these media.

A figure showing the groundwater remediation areas was presented. Walt asked why a concentration of 10,000 µg/L was used to define the high concentration area. Kim replied that it was based on concentrations that may be indicative of areas in which DNAPL is present.

A figure showing the waste, soil, and sediment remediation areas was presented. Waste was assumed to pose risk; therefore, the entire waste area was included as a remediation area. All soil and sediment sample locations that exceed human health or ecological PRGs were circled on the figure and any of those locations that were outside of the waste area were identified as either ecological or human health remediation areas. The remediation area boundaries were determined by clean samples or physical features. Kim explained the three exceptions: Samples SS01 and SS19 exceeded ecological PRGs; however they are located outside of the site boundary and the concentrations are not attributed to site-related activities. The SD15 sample vicinity, located in St. Juliens Creek, exceeded the ecological PRG for cyanide; however, this concentration was higher than any concentrations detected within Site 2. Therefore, Site 2 is not believed to be the source of contamination at SD15 and the location was not included within a remediation area.

The common components of Alternatives 2 through 8 were explained: cover over the waste, soil, and sediment remediation area; excavation of the St. Juliens Creek sediment remediation area; MNA of the naphthalene and heptachlor epoxide areas; and LUC implementation. Karen asked if re-routing of the drainage has been thought out. Janna showed the preliminary drainage re-routing on the figure.

The components of each alternative were explained:

Alternative 2: Cover, Excavation, MNA – Includes a cover over the waste, soil, and sediment area, excavation of the St. Juliens Creek sediment area, and MNA of the groundwater remediation areas.

Alternative 3: Cover, Excavation, Sheet Pile, MNA – The differing component in Alternative 3 consists of sheet pile in the high concentration target area. The sheet pile would contain the high concentration target area and prevent mass flux in that area.

Alternative 4: Cover, Excavation, ERD, MNA – The differing component of Alternative 4 consists of ERD in the high concentration target area. ERD would be injected into permanent injection wells. The cost estimate assumed EOS would be used in the injections.

Alternative 5: Cover, Excavation, ERD, MNA – The differing component of Alternative 5 is ERD in the high and low concentration target areas. Two additional injections are assumed

in the high concentration target area following treatment of the high concentration target area.

Alternative 6: Cover, Excavation, Funnel and Gate, MNA – The differing component of Alternative 6 consists of installation of a funnel and gate around the high concentration target area. Low permeability walls (funnels) would be constructed outside the area to contain and direct contaminated groundwater through a permeable in situ treatment system (gate).

Alternative 7: Cover, Excavation, MNA – The differing component of Alternative 7 is excavation of the high concentration target area. The excavation would reduce contaminant mass and would be conducted to the top of the confining unit.

Alternative 8: Cover, Excavation, ERD, MNA – The differing component of Alternative 8 from Alternative 7 is ERD in the low concentration target area.

Kim presented the evaluation of the alternatives for each of the criteria:

Threshold Criteria - Alternative 1 is not protective of human health and environment and does not meet ARARs. Alternatives 2 through 8 are protective of human health and the environment and meet ARARs.

Long-term effectiveness and permanence – Alternatives 2 through 8 are expected to achieve this criteria. Residual risks are similar for each alternative; although they would be slightly less for Alternatives 7 and 8 due to excavation of the high-concentration target area. There is lower confidence with Alternatives 3 and 6 due to reliance on containment.

Reduction of toxicity, mobility, and volume through treatment – Treatment is a component of Alternatives 4, 5, and 8. Alternative 5 received the highest score because it treats the largest area. No treatment is included in the remedial action for Alternatives 2, 3, or 7.

Karen asked if the evaluation tool presented in the June partnering meeting was used in the FS. Kim responded that it was, though only parts of it were included in the report.

Short-term effectiveness – Alternatives 7 and 8 received the lowest scores due to the intrusive activities and the greatest potential exposure to workers and the community from the excavation of the high-concentration target area.

Implementability – Alternatives 2, 4, and 5 have similar high scores because they are proven to be effective and the technologies are readily available.

Cost – Alternative 2 has the lowest present value and cost per benefit unit (total present worth/evaluation score). Alternatives 7 and 8 have the highest present value & cost per unit benefit.

The overall scoring of the comparative analysis was presented. The "total benefit" score is the sum of all the scores without factoring in cost. The "cost per benefit unit" is the present value divided by "total benefit". The cost is presented as a range because it factors in -30% and +50%. Decimal places were used in the scores because the evaluation tool was used to determine the scores. Walt asked if the scores were developed through software. Janna presented the scoring spreadsheet used. Numbers assigned in the spreadsheet were based on best judgment.

Jim asked if biomulch barriers could be used instead of a funnel in Alternative 6. Walt explained that the funnel is needed because of the tidal influence on the groundwater flow.

Karen expressed a concern that the names of the alternatives are confusing. Janna explained that the names were based on the alternative combinations retained for evaluation. Karen will include suggestions for revisions to the alternative names in her comments.

**Action Adrienne –** Send additional copy of the Draft Site 2 FS to Jim.

Path Forward: Comments are due on the Draft FS by January 5. The final will be submitted by February 15.

## VIII. Site 4 Groundwater Performance Monitoring Report

Objectives: Review the voluntary groundwater performance monitoring report format, discuss the voluntary groundwater performance monitoring results and data evaluation, discuss the recommendation, and review the schedule.

Overview of Discussion: Copies of the presentation were distributed. Adrienne reviewed the 2005 team consensus statement associated with the voluntary groundwater performance monitoring. The data evaluation approach, which was developed in the voluntary groundwater performance monitoring plan, and the outline of the draft voluntary groundwater performance monitoring report, were reviewed.

The results of the monitoring and statistical evaluation were presented. An ANOVA (nonparametric Kruskal-Wallis test) comparison was performed to determine whether downgradient concentrations exceed upgradient concentrations. Probabilities were calculated and compared to a significance level of 0.05. If the probability was less than 0.05, there was no significant difference between the central tendencies of the well groups. This comparison indicates differences between well groups, but does not identify which well or well group has higher concentrations. Therefore, a post hoc test was employed to determine which downgradient well concentrations, if any, exceed the upgradient well concentrations. The results indicated that there are significantly higher downgradient concentrations than upgradient concentrations for total and dissolved arsenic in MW04S and MW05S and dissolved iron in MW04S. Additionally, there was a significant difference for total cadmium, dissolved iron, and total lead concentrations, although no individual wells were identified as contributing to the difference. Because there were exceedances of downgradient concentrations over upgradient concentrations, a time trend analysis (Mann-Kendall test) was performed to determine whether an increasing trend in the wells was evident. Probabilities were calculated and compared to a significance level of 0.05. This analysis included the RI data for all wells. MW05S was installed after the RI, so RI data was not included in its evaluation. Proxy values of ½ the reporting limit were used for non-detects. If the probability was less than 0.05 no significant trend was evident. The results indicated no significant increase in concentrations in any monitoring well.

The conclusions of the statistical evaluation were presented. Although there are statistical exceedances of downgradient concentrations over upgradient concentrations, concentrations appear to be stable over time. The statistical exceedances of downgradient well concentrations over upgradient well concentrations include total and dissolved arsenic in MW04S and MW05S and dissolved iron in MW04S. However, all iron concentrations

were below Background UTLs and reducing conditions associated with landfills increase the mobility of naturally occurring arsenic and iron. Additionally, there is no evident increasing trend at any well. The draft report includes the recommendation to discontinue monitoring because results indicate no site release or offsite migration of landfill contaminants and that the selected remedy continues to be protective of human health and the environment. Yearly inspections and a Five-Year Review should be conducted to ensure the soil cover is adequately maintained and LUCs continue to be enforced.

John asked why groundwater data wasn't compared to risk numbers. Kim responded that the risk assessment did not identify any unacceptable risk in groundwater. The objective of the monitoring was to confirm that concentrations were not increasing and a release was not occurring. The constituents that were analyzed for are the soil risk drivers and previous groundwater MCL exceedances. Jim explained that the team was trying to come up with an exit strategy for low levels of constituents through the consensus statement. Jim expressed concerns over not monitoring groundwater in the future since there is waste in place. Karen pointed out that there is a parking lot item that addresses how the site will be handled in the Five-Year Review and asked if that should be included in the recommendation of the report. Janna explained that it does not have to be included in this report for the Five-Year review to include monitoring protectiveness.

Path Forward: The draft VGM report will be submitted by November 26.

## IX. NERP Manual

Objectives: Provide overview of the Navy Environmental Restoration Program (NERP) manual.

Overview of Discussion: Walt presented an electronic version of the NERP manual (August 2006). The NERP manual replaced the IR manual and serves as guidance for all aspects of the Environmental Restoration (ER) program. The component of the manual that is relevant to the partnering team is the portion that covers the CERCLA process, as the Navy applies it. Karen asked how closely the CERCLA process in this manual parallels the USEPA's CERCLA process. Walt responded that it is close but there are some differences in the operations and long-term management components. Walt pointed out that the manual includes hyperlinks to the guidance documents referenced in the manual. John asked how closely the guidance follows the EPA guidance for things like FS documents. Walt replied that they are very similar. John asked if CH2M HILL uses this guidance when generating reports. Janna responded that all documents follow EPA guidance and are written in accordance with the NERP manual. The main differences in the NERP manual and EPA guidance are the use of different terms and different definition of milestones. Walt showed the team the Optimization policy in the NERP manual, which discusses pump-and-treat.

Path Forward: None.

## X. RAB Agenda Building

| Topic | Lead |
|---|---|
| FY09 Goals | Walt |
| Sites 2 & 21 FSs | Janna |
| Site 5 Removal Action | Janna |
| SJCA & Area Hydrogeology | Adrienne |

## XI. Partnering Activity

The team conducted entrance and exit activities for Adrienne and Kim.

## Thursday, November 20 2008

**0800 Welcome/Check In**

**Reviewed Roles and Responsibilities**

**Reviewed Ground Rules**

**Reviewed Agenda**

The team reviewed the agenda. Because the team was ahead of schedule on Day, the following Day 2 topics were covered on Day 1: NERP Manual, RAB Agenda Building, and Partnering Activity. No additional changes were made.

### XII. Site 21 Vapor Intrusion Investigation

Objectives: Rework the decision tree and worksheets 10 & 11.

Overview of Discussion: The team reviewed the left side of the version of the decision tree revised during the joint vapor intrusion meeting. John asked if the 0.1 attenuation factor is based on policy. Janna responded that is it. Minor revisions were made to the left side of the flowchart for clarification purposes. Janna suggested removing the screen against residential screening levels from Box 10 because indoor air in an industrial building should not be used to screen against residential indoor air RSLs. Karen was not comfortable with the revision, so the box was turned pink to indicate an area of the decision tree that the team should consult their technical support. John expressed concerns over the use of the national outdoor air background levels. Walt explained that those levels would only be used as a simple comparison to ensure concentrations detected at Site 21 make sense. Janna pointed out that the team will consider all lines of evidence together to make the decision, that the background levels alone will not be used to make a decision. Walt wanted to clarify Box 20 in order for it to be more open-ended. Box 20 was split into two boxes. The color of Box 20 was changed to green to indicate that establishing benchmarks for monitoring will be a team decision. The LUCs were separated from Box 20 into Box 21. "SSV and IA values" in Box 20 was changed to "monitoring program…" Box 14 was deleted because it is not needed based on the question asked in Box 13. Janna asked if it was possible to perform a HHRA using sub-slab vapor concentrations. John answered that he thinks it can be done by applying an attenuation factor of 0.1 to the SSV data. The box was turned pink to indicate an area of the decision tree that the team should discuss with their technical support.

The team reviewed the right side of the decision tree. Minor revisions were made to the first box for consistency in sample terminology. Karen expressed that she would like the decision process on the right side to match that on the left side. Janna explained that the sides are different because the residential and industrial scenarios have to be addressed separately. On the right side, if groundwater is penetrating the slab an emergency situation is present and the current scenario needs to be addressed. Karen indicated that she would like to separate out the industrial scenario/emergency situation into its own path. The team agreed. The team discussed what lines of evidence can be used to characterize groundwater COC contributions to indoor air and refined Note 12. The team discussed use of Henry's Law. John asked what the Navy's stance is on the use of Henry's law. Kim responded that

the Navy included Henry's Law in the flow chart for evaluation of future residential scenario only. Kim explained that Henry's Law should not be used for evaluating the current industrial scenario because it is extremely conservative and unrealistic. Janna suggested that one of the multiple lines of evidence that should be to taken into consideration is the groundwater ratio considering the vaporization potential for COCs. John suggested the use of a model to determine indoor air concentrations. Adrienne responded that the Navy had discussed the use of models and determined that they would not be accepted by the regulators because of the uncertainties associated with use of the Johnson and Ettinger model. The right side of the decision tree was revised without use of Henry's Law. Due to time constraints, the team did not complete the right side of the decision tree. CH2M HILL will draft the right side and distribute it to the team. The team will discuss the right side of the decision tree with their technical staff.

Path Forward: The revised decision tree will be submitted to the team to review and a conference call will be held to discuss the outstanding issues.

## VIII. Schedule and FY 2009 Team Goals Update

**Schedule:** The Schedule was updated and is included as a separate file.

**Action Karen –** Send Walt MRP Joint Execution Plan (JEP) spreadsheet.

**FY 2009 Team Goals:** The FY 2009 Goals were updated, included as an attachment, and will be posted on the Virginia/Maryland Joint IR Teams web site.

**Action Walt –** Send scope for Five-Year-Review to CH2M HILL.

## XIII. Agenda Building – February Meeting Agenda

| Topic | Goal | Lead | Time |
|---|---|---|---|
| Site 2 PP | Present draft PP | Adrienne | 0.5 hr |
| Site 2 FS | Resolve comments | Janna | 1.5 hr |
| Site 5 | Site visit | Team | 4 hr |
| Site 5 | Update team on removal action | Janna | 0.5 hr |
| Site 21 Interim PP | Resolve comments | Janna | 1 hr |
| Site 4 Voluntary Groundwater Monitoring Report | Resolve comments | Adrienne/Guest? | 1 hr |
| Partnering Activity | | Team | 1 hr |
| Roundtable | Introduce new topics (ESTCP, Site 21 VI, UXO-01, RAB) | Team | 1 hr |

**Action Walt –** Coordinate passes for John and Jim for site visit on Feb 3.

**Next meeting:** February 3 – 5, 2009 (Site 5 visit [2:00 PM] & RAB meeting [5:00 PM] February 3 PM)

**Location:** CH2M HILL, Virginia Beach, VA
**Lodging:** TBD
**Start time:** 8 AM
**Finish time:** 2 PM

**Chair:** Janna Staszak
**Host:** Adrienne Jones
**Timekeeper:** Jim Cutler
**Goal Keeper:** Walt Bell
**Recorder:** Adrienne Jones
**Facilitator:** John Burchette
**Tier II:** TBD
**Guests:** Technical?

**Pre-Meeting Agenda Conference Call:** 10:00 AM on January 26, 2009

## XIV. Future Meetings Schedule

| | |
|---|---|
| April 1 - 2, 2009 | Richmond, VA |
| June 2 – 3, 2009 | Richmond, VA |
| August 4 – 5, 2009 | Philadelphia, PA |

## XV. Parking Lot

The team reviewed the parking lot and made changes as appropriate:

- Site 4 groundwater monitoring during the 5-year review
  (Will remain in the parking lot)
- ~~Draft July partnering minutes~~
- Abandon Sites 2 and 21 deep monitoring wells
  (Team agreed to abandon SJS02-MW10D and consider abandonment of additional deep monitoring wells based on the selected remedy. Team agreed to abandon SJS21-MW01D )

  **Action Janna/Adrienne** – Abandon SJS02-MW10D and SJS21-MW01D.
- Facilitation
  (The team will leave the option open and evaluate based on future meeting performance and after Karen returns from leave. The team will consider having a guest observe during an upcoming meeting.)
- ~~Site 2 conference call~~
  (The team scheduled a conference call for October 7 at 10:00 AM.)

## XVI. Meeting Evaluation

Walt provided facilitator feedback. During the Partnering Session, the Team filled in "+" and "Δ" to list the positives and negatives of the meeting.