Meeting Minutes
Northrop Grumman Corporation, OU3 Study Area Focused Feasibility Study
March 1, 2010
Meeting 12
Revision 1 March 17, 2010

Attending: Kent Smith and John Cofman (NG); Steve Scharf and John Swartwout (NYSDEC); Mike Wolfert (ARCADIS); Carol Henry (EMAGIN)

Purpose of the Call: To discuss the goals, objectives, and initial set of alternatives for the Study Area (off-site) Focused Feasibility Study

Action Items:

1. NG – send revised HHRA language to NYSDEC so they can send to NYSDOH for review
2. NYSDEC – discuss Sycamore Ave chromium data with NYSDOH for clarification
3. NYSDEC – issue comment letter regarding Study Area (off-site) RI
4. NYSDEC - issue approval letter of the Site Area (on-site) RI and RI Supplement
5. NYSDEC – write a "flexible" OU-3 ROD, which will allow the use of multiple technologies, including ozone sparging and ISTD, assuming NYSDEC's technology group agrees that the technologies are appropriate for the site
6. NG – include in the Study Area (off-site) FFS a discussion of the technologies that were screened out *Update: based on a follow-up call with S. Scharf and C. Henry on March 17, pump and treat is the presumptive remedy for the Study Area FFS; a discussion of additional technologies is not necessary. This is consistent with the decision reached during a NG/NYSDEC meeting on September 10, 2009.*
7. NG – consider establishing BWD's planned GAC unit as an IRM
8. NG –send brief description of an ISTD option for treating PCBs (rather than excavating), including technical back-up from Terra Therm addressing the effectiveness of the technology for PCBs
9. NYSDEC – forward the ISTD description to internal technology group for review, and let NG know if this technology can be added as an option to the recommended alternative in the Site Area (on-site) FFS.
10. NG – schedule a follow-up call to further discuss the Study Area (off-site) FFS

Opening Comments:

NG:

- Reviewed the call's objective, which focuses on the Study Area (off-site) FFS
- NG would like to meet with NYSDEC on a regular basis to exchange ideas, approaches, and progress on the Study Area FFS – similar to the exchanges that took place leading up to submittal of the Site Area (on-site) FFS. NG appreciates input from NYSDEC on the path forward.

NYSDEC:

- NYSDEC appreciates the effort NG has put into the development, construction, and operation of the IRMs.

Follow-up / completion of action items from previous calls:

1. NG – evaluate if groundwater IRM achieves full containment. NYSDEC suggested that NG evaluate and provide conclusions on the extent of hydraulic containment achieved by the IRM in its OM&M progress reports. NG has concluded that the IRM is containing the shallow portion of the plume

greater than 5 ppb TVOCs but cannot conclude full containment of the deeper portion of the plume based on available data. They will continue to evaluate water levels and water quality trends.

2. NG – reviewed document NYSDEC sent regarding ozone sparging. ARCADIS considered ozone sparging during development of the Site Area (on-site) FFS and eliminated it. Nonetheless, NYSDEC will leave this technology as an option in the ROD (item 5 above)
3. NG – revise minutes from 1/14/10 call to reflect NYSDEC edit. Complete, emailed to NYSDEC on 2/26/10.

Study Area (Off-site) FFS

1. NG described their draft Remedial Goals and Remedial Action Objectives (RAOs):
   - *Pursuant to 375-2.8(a) and (b), all remedial programs should consider:*
     - *restoring off-site groundwater to pre-disposal / pre-release conditions to the extent feasible, and*
     - *eliminating or mitigating all significant threats to human health and to the environment*
   - *Pursuant to 375-2.8(c), all remedial actions must remove sources of contamination, to the extent feasible. Given that there are no known sources of contamination within the Study Area, this is not applicable.*
   - *Prevent VOC concentrations exceeding NYSDEC SCGs in delivered public water and thereby prevent exposure (ingestion, direct contact, inhalation) to site-related VOCs within the Study Area (off-site)*
   - *Reduce VOCs in Study Area groundwater to the extent feasible*

   NYSDEC suggested that NG review the recently revised Draft DER-10 for guidance on goals and RAOs. NG indicated they would appreciate NYSDEC's comments on the draft goals and RAOs during the next teleconference.

2. NG described how they plan to use particle tracking to identify potential receptors, e.g. those public supply wells that are potentially impacted by VOCs migrating from the OU-3 site.

3. NG described their initial set of alternatives:
   - No further action – IRMs running, GM-38 system running, and public supply wells pumping at their average pumping rate. NYSDEC agrees with these baseline conditions.
   - Construct recovery wells that will remove mass in the most contaminated portion of the plume.
   - Use the Bethpage Water District Well Field 4 supply wells as recovery wells and replace the lost capacity
   - Restore the aquifer to pre-release conditions

   NYSDEC indicated that NG should include a discussion / analysis of other technologies. If they have been considered and screened out, the reasons should be described in the FFS.
   Update: discussion of additional technologies is not necessary, based on a call with S. Scharf and C. Henry on March 17 (refer to Action Item 6).

4. GAC as IRM
   - NYSDEC requested that NG fund BWD's planned granular activated carbon (GAC) treatment system as an interim remedial measure (IRM) - NG responded that a GAC option is currently under consideration.
   - NYSDEC has advised H2M to competitively bid the construction of the system.

- NYSDEC is not clear why BWD also plans to install a second air stripping tower (AST), given their understanding of the efficiency of the current system, which will be coupled with the GAC system.

5. Schedule. NG may not meet the 5/17/10 submittal date for the Study Area FFS. NYSDEC stressed the importance of submitting the document early enough to accommodate a public meeting for both the Site Area (on-site) and Study Area (off-site) by early 4th quarter. NG will get back to NYSDEC with a revised schedule for the Study Area (Off-site) FFS.

Study Area (off-site) RI and Study Area RI Supplement

1. NYSDEC expects to issue comments on the RI Report soon.
2. NG is finalizing the Study Area RI Supplement.

Site Area (on-site) FFS

1. Depth of PCB treatment
   - NYSDEC indicated there was some confusion regarding the depth of treatment/excavation of PCB contaminated soil (> 50 ppm). NG's recommended remedy calls for treatment/excavation to 6 ft bls (or 10 ft bls where there are deeper utilities), but some thought the excavation would be to 10 ft bls wherever PCBs exceed 50 ppm.
   - NYSDEC expressed concern regarding the logistics of excavating to different depths, and also said they would consider the levels of PCBs left in place below the excavated (or treated) depth when selecting the remedy.
2. Add "ISTD with 2 ft cover" option to S-P3.
   - With NYSDEC's approval, NG will add the option of treating soil with PCBs >50 ppm and adding a 2-ft cover to the recommended alternative. In other words, the recommended remedy would include 2 options for addressing PCBs >50 ppm in the upper 6 or 10 ft, depending on the depth of utilities: excavation or treatment.
   - NYSDEC will run this by the technology group and will let NG know if it is acceptable.
   - NYSDEC had some questions about the technology – NG will send information, and will provide additional details during the next call.

Closing comments

See action items