8/5/08 - 02175

Johnson, Winoma A CIV NAVFAC MidLant

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Sent: Tuesday, August 05, 2008 11:24 PM
To: Paul.Landin@CH2M.com
Cc: Johnson, Winoma A CIV NAVFAC MidLant; Holly.Rosnick@CH2M.com
Subject: Draft 5-YR Comments for discussion

Attachments: Draft consolidated FYR Comments.doc

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Paul,

Here are the rest of the EPA comments (Watson comments sent previously).

Steve

Draft Five-Year Review Report, Naval Station Norfolk, Norfolk, VA April 2008

1. **Five-Year Review (FYR) Summary Form, Camp Allen Landfill (CALF), Issues and Recommendations; Section 4.6, pages 4-7 and 4-8.** There is no mention of vapor intrusion here as a potential issue to be evaluated, nor is it included in the Issues or Recommendations and Follow-up Actions tables in Section 4 pertain to CALF. It is unclear from the information presented whether the data from the January 1993 indoor samples is sufficient for the conclusion that there is no potential risk from VI. This data should be reviewed to ensure that it is consistent with current EPA protocols for indoor/outdoor air sampling.

   Furthermore, the rationale that decreasing groundwater concentrations would result in a decreasing amount of contributing vapors is questionable. Data exists that indicates that levels of contaminants in groundwater do not directly correlate to the levels of air contaminants in buildings located above or near plumes. Until levels in groundwater decrease below MCLs within 100' of each building, the potential for unacceptable levels of risk from VI should be considered. In addition, as time passes, building foundations tend to degrade and the potential for the development of additional preferential pathways into buildings increases.

   Based upon the figures provided in Section 4, it appears that there may be additional buildings, aside from those mentioned, within 100' of one or more of the plumes at CALF. Pending review of the historical air monitoring data, it is recommended that the potential for VI be evaluated for each building in questions and if necessary, additional indoor/outdoor air or sub-slab sampling be conducted definitively determine the presence of VI.

2. **FYR Summary Form, Section 5, Recommendations and Follow-up Actions, 1st bullet.** Please revise sentence to read, "The potential for vapor intrusion should be **evaluated as a screening step** based on the presence of volatile organic…."

3. **Section 4.2, page 4-2, 4th paragraph, last sentence.** Please indicate when the sampling was conducted and for what contaminant sampling and analysis was conducted.

4. **Section 4.4, page 4-5, 1st paragraph, last sentence.** Please revise sentence to reference section 4.5.1.

5. **Section 4.5.1, page 4-6, 1st paragraph.** The issue regarding stable or increasing levels of VOCs and the proposed resolution should be included in Sections 4.7 and 4.8.

6. **Section 4, Figures 4-3 through 4-5.** Please revise figures to include the data referenced in the preceding text and suggested by the legend of each figure.

7. **Table 4-1.** In several instances throughout the document, the conversion to MCLs for cleanup goals is mentioned. While some of these changes have not yet been made official through appropriate documentation, it is recommended that each table detailing the current cleanup goals also include the pending revised cleanup goals.

8. **Section 5.1, page 5-1.** Please revise the last 2 events in the site chronology so that they are in chronological order.

9. **Section 6.4, 2nd paragraph, last sentence.** Please revise sentence to refer Section 6.6.

10. **Section 6, Figures 2-3 through 2-5.** Please revise figures to include the data referenced in the preceding text and suggested by the legend of each figure.

11. **Section 8.4, page 8-4, 2nd paragraph, last sentence.** Please provide additional explanation regarding the "flexibilities," specifically what they are and how they are/can be used.

12. **Section 8.6, page 8-6, Changes in Risk Assessment Methodologies, 2nd paragraph, 2nd sentence.** It should be noted that the combination of an extensive building survey to determine the chemicals currently used in building operations and a detailed analysis of indoor air samples can greatly assist in determining what indoor vapors, if any, are the direct result of vapor intrusion.

13. **Sections 8.7 and 8.8, 1st Issue.** It can be argued that given potential for vapor intrusion at the site and current lack of data, the Future Protectiveness of the remedy could be affected. It is recommended that the future protectiveness fields be changed from "N" to "Y."

14. **Section 8.8, Recommendation and Follow-up Actions, 1st Issue, 1st sentence.** Please revise to read, "**An evaluation of** the potential for vapor intrusion…"

15. **Section 8.9.** This protectiveness statement does not acknowledge the potential affect of vapor intrusion on future protectiveness. Please revise the sentence accordingly.

16. **Section 10.3.1.** Please specify the nature of the actual selected remedy.

EPA HQ COMMENTS:

1. Site 2 Figure 5-2 presents a list of total and dissolved metals in groundwater. Some of the metal concentrations showed an increase in June 2004 compared with the results in April 1997. However, there is no groundwater treatment system in place at Site 2 so it is not clear what the reason is for monitoring the groundwater contamination. It is noted that according to Figure 2-1 Site 2 is located near the installation boundary adjacent to the City of Norfolk, and in the State of Virginia all groundwater is considered usable for drinking purpose even though an aquifer may not be used. Further, one of the Remedial Action Objectives (page 5-2) stated is to "prevent degradation of groundwater quality by limiting downward percolation of precipitation into the water table aquifer beneath Site 2.

2. The two issues identified in Section 8.7 beginning on page 8-6, namely that there is a need to evaluate the possible vapor intrusion into the building, and that the groundwater treatment system may have reached its limits of effectiveness after 11 years of operation (see Figure 8-2), need to be addressed with a possible plan of action since the milestone date for follow-up actions is dated September 2008. Otherwise the protectiveness statement on page 8-7 should be revised as "short-term protectiveness

BTAG COMMENTS:

1. In many instances the technical assessments provided in the document only specifically address human health risk assessment. Ecological Risk Assessment should also be addressed.

2. It is not clear if ecological evaluations or risk assessments were conducted for each of the sites addressed and whether or not the potential migration pathways and impacts of contaminated groundwater discharging to surface water were evaluated.

3. In addition to the potential risk posed by the groundwater contaminants themselves, the degradation products of many VOCs may mobilize inorganic compounds which may in turn elevate risk to unacceptable levels in the hyporheic and aquatic environment. The document and monitoring programs should address this issue. Furthermore, monitoring apparently has been limited to groundwater and surface water. The document should provide the rationale for not including sediment sampling as the document notes that sediments were contaminated.

4. Section 4.4 refers to Sections 4.4.2 and 4.4.3 which are not present in the report.

5. The text indicates that Figures 4.3 and 4.4 present the contaminant concentrations

detected in groundwater at Site 1, however this information is not provided.

6. Table 4.1 indicates that the shallow aquifer clean-up goals are going to be revised pending approval of an ESD. This should be noted in Sections 4.7 and 4.8. It should be noted that dependent on the migration pathway, the current clean-up goals may not be protective of ecological receptors if contaminants are present at these concentrations in receiving surface waters.