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LETTER AND U S NAVY RESPONSES TO VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY COMMENTS ON DRAFT TECHNICAL MEMORANDUM SITE 21 REMEDIAL ACTION OPERATION PHASE VAPOR INTRUSION MONITORING EVENT I ST JULIENS CREEK ANNEX VA

11/6/2012

U S NAVY

Responses to Comments
Draft Technical Memorandum: Site 21Remedial Action-Operation Phase Vapor Intrusion Monitoring Event 1
St. Juliens Creek Annex
Chesapeake, Virginia

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DATE:	November 6, 2012

Comments from VDEQ, provided 25 September 2012

1. ***Comment:*** I had a hard time keeping the "events" and "rounds" straight. I am assuming although I could not find it stated in this tech memo that groundwater is sampled on a semi-annual basis. Vapor monitoring is then conducted after each groundwater sampling round. It can be confusing when semi-annual is used to describe one sampling but not the other in the same sentence (page 3). Maybe establish that the groundwater sampling is semi-annual and that all subsequent VI sampling (if required) follows the groundwater frequency. As I understand it inhalation risk sampling will be undertaken until there are three rounds of groundwater sampling that have met cleanup criteria.

   Response: As there was no intended difference in use of the terms "rounds" and events", "rounds" have been changed to "events" and text has been added to clarify whether an event being discussed is a groundwater monitoring event or a vapor intrusion monitoring event. These changes have been made universally.

   Groundwater monitoring in association with the RA is currently being conducted on a semi-annual basis; however, the groundwater monitoring frequency may change as the RA progresses. The frequency of the vapor intrusion monitoring is tied to the frequency of the groundwater monitoring, as the results of each groundwater monitoring event are to be evaluated to determine if vapor intrusion monitoring is still necessary, and if so, what type of data should be collected. Therefore, the following changes have been made:

   - "semi-annual" was removed from the document title and text in the instances where the term was used to directly describe a monitoring event; in most instances, the term was replaced with "RA-O phase".
   - The document title has been changed to "Site 21 Remedial Action-Operation Phase Vapor Intrusion Monitoring Event 1."
   - "and is currently in the RA-O phase" has been added to the end of the 1st sentence of the 3rd paragraph of Subsection 3.2.1, and the following sentence has been added after the 1st sentence, "RA-O phase groundwater monitoring is

currently being conducted on a semi-annual basis; however, the frequency may be adjusted as the RA progresses".

- "after each RA-O phase groundwater monitoring event (currently conducted semi-annually)" has been added to the end of the 1st sentence of the 1st paragraph under Subsection 3.2.2.

Vapor intrusion monitoring is required until the shallow groundwater COC concentrations in all monitoring wells within 100 feet of a building within the building LUC boundary are equal to or less than shallow groundwater cleanup levels for three consecutive RA-O phase groundwater monitoring events.

2. ***Comment:*** After each ERD event explosive hazard measurements are collected during the subsequent groundwater sampling round until measurements are below PALs for three consecutive rounds (groundwater sampling?). If this is the case then I don't understand the next to last sentence on page 3 (subsection 3.2.2, 4th paragraph, second sentence), "If… are below PALs, no additional action is required until the next semi-annual vapor intrusion monitoring event." Isn't this "event" the same as the "round"? I'm assuming everything happens at the same time which is semi-annually. Do you mean to say that the explosive sampling resets after a new ERD event?

   Response: Explosive hazard measurements are not collected during groundwater sampling after each ERD event; explosive hazard measurements are collected during each vapor intrusion monitoring event until the explosive hazard measurements are below the explosive hazard PALs for three consecutive vapor intrusion monitoring events since the most recent ERD injection event. Explosive hazard monitoring does reset after each ERD event (if additional ERD events are necessary). In order to reduce confusion and redundancy, the last two paragraphs of subsection 3.2.2, which included the sentence referenced in the comment, have been removed since they repeat the decision process provided in the decision trees (Figures 3-6 and 3-7).

3. ***Comment:*** At the top of page 9 (subsection 6.2, 2nd paragraph, 3rd sentence) it is recommended that additional explosive measurements should be conducted. Again I'm assuming that rounds are semi-annual. In recommending an "additional" round the reader could be confused as the round frequency and whether additional sampling is required over and above what is required.

   Response: The sentence referenced in the comment has been removed and additional changes have been made to the paragraph for clarification. The paragraph has been revised, as follows: "In accordance with the explosive hazard monitoring approach developed in the SAP, measurements of the explosive hazard COIs are required after ERD injections until concentrations in all measurements collected in a building are less than the PALs for three consecutive RA-O phase vapor intrusion monitoring events. Therefore, because only one RA-O phase vapor intrusion monitoring event has been conducted, explosive hazard COI measurements should be collected and evaluated in accordance with the explosive hazard monitoring decision tree during the next RA-O phase vapor intrusion monitoring event."