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LETTER AND U S NAVY RESPONSE TO U S EPA REGION III COMMENTS REGARDING  
DRAFT FEASIBILITY STUDY FOR SITE 11A JEB LITTLE CREEK VA

06/01/2011  
CH2M HILL



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June 1, 2011

Mr. Jeffrey M. Boylan  
USEPA Region 3  
NPL/BRAC Federal Facilities Branch (3HS11)  
1650 Arch Street  
Philadelphia, PA 19103

Subject: Response to Comments, *Draft Feasibility Study, Site 11a, Building 3033 Former Vehicle Repair Facility and Waste Oil Tank*, Joint Expeditionary Base Little Creek-Fort Story, Joint Expeditionary Base Little Creek, Virginia Beach, Virginia (February 2011 Revision).

Dear Mr. Boylan:

On behalf of the Navy, CH2M HILL has prepared the following responses to comments received from EPA on the *Draft Feasibility Study, Site 11a, Building 3033 Former Vehicle Repair Facility and Waste Oil Tank*, Joint Expeditionary Base Little Creek-Fort Story, Joint Expeditionary Base Little Creek, Virginia Beach, Virginia (February 2011 Revision).

### **General Comment**

1. None of the proposed remedies – Enhanced Reductive Dechlorination, In Situ Chemical Oxidation with ERD, and Air Sparging/Soil Vapor Extraction – aggressively address gw contamination at the site. Either an active remedy (such as pump-and-treat) should be evaluated in the FS or an explanation provided for its dismissal from consideration.

**Response:** With the exception of the No Action alternative, each of the proposed alternatives meets the statutory preference for treatment. Pump and treat was evaluated as a part of the initial technology screening presented in Table 3-1 and discussed in Section 3.1. This technology was not retained for further consideration as a result of its impacts to the surrounding community and high cost compared to the low concentrations of VOCs detected at the site. Table 3-1 was updated to more clearly explain the rationale behind removal of the technology from further consideration.

2. In Section 3, please add language to document the basis for technologies (6) that were screened out in the FS. See Table 3-1.

**Response:** The 2<sup>nd</sup> paragraph of Section 3.1 was revised to read: “Eleven groundwater remediation technologies were initially screened and evaluated to identify remedial alternatives for Site11a. The technologies screened included institutional controls, long-term monitoring (LTM), in situ treatment (i.e. in situ chemical oxidation [ISCO],

enhanced reductive dechlorination [ERD], air sparge/soil vapor extraction [AS/SVE], and pump and treat), and thermal treatment. The screening process incorporated the Navy's preference...The following five technologies were retained:

- No Action
- ISCO
- ERD
- AS/SVE
- LUCs
- LTM

Six technologies (pump and treat, permeable reactive barrier, chemical reduction, aerobic biodegradation, soil flushing, and thermal treatment) were not retained for further consideration as a result low implementability, impacts to the surrounding community, high cost relative to the COC concentrations at the site, and/or lack of proven effectiveness."

### 3. Page 1-1

According to the second paragraph, there are "no unacceptable human health risks associated with...indoor air" at this site. The point is reiterated on page 1-5 of the report. However, when reviewing the RI Addendum for Site 11a (October 2010), which assessed the potential for vapor intrusion threats, EPA did have a few concerns:

- Although indoor air concentrations of VOCs measured for the RI Addendum were mostly unremarkable, subsurface levels were, in fact, noteworthy: PCE at up to 960  $\mu\text{g}/\text{m}^3$ .
- Sampling of the occupied barracks at Site 11a was fairly limited, with only 2 of 9 samples collected from locations directly above the gw plume. Further, only a single round of sampling was conducted, which may not have accurately characterized indoor air conditions at this building.
- To account for uncertainty in the Cal EPA Cancer Slope Factor for TCE (a risk driver at this site), EPA recommends truncating the acceptable risk range at 1E-05 (rather than 1E-04). Further, under long-term residential exposure scenario, strong evidence suggests that non-cancer threats supersede cancer endpoints as indoor air concentrations of TCE approach 5  $\mu\text{g}/\text{m}^3$ ; this would correspond to 25  $\mu\text{g}/\text{m}^3$  for short term residential exposure, using the methodology employed in the RI Addendum for Site 11a. These points were not considered in the RI Addendum, and would affect conclusions associated with subsurface data. (Note that the report extrapolates future potential risks based on subsurface VOC concentrations.)

Based on these concerns, the conclusion of "no unacceptable human health risks associated with...indoor air" at Site 11a has not been clearly demonstrated. Consequently, the FS should contain language indicating that future development at the site or a change in current land use conditions will necessitate either a more

comprehensive vapor intrusion study or mitigative measure to ensure that the potential threat is intercepted.

**Response:** Comment noted. Responses to the bulleted considerations were provided as part of the RI Addendum. The following sentence was added after the 2<sup>nd</sup> sentence of the 2<sup>nd</sup> paragraph on Page 1-1: "There are no unacceptable risks from indoor air under existing site conditions; however, due to detections of VOCs in subslab vapor and the potential for concentrations of VOCs in shallow groundwater to temporarily increase during implementation of a remedial action, future degradation of existing building conditions or changes in land use may increase the potential for unacceptable risks." Additionally, the 3<sup>rd</sup> sentence of the second paragraph was revised to read: "There are no unacceptable human health risks associated with soil and no unacceptable ecological risks at Site 11a."

The end of the 1st paragraph of Section 1.3.3 was revised to read: "No potentially unacceptable current or future risks were identified from exposure to indoor air under existing site conditions. Due to detections of VOCs in subslab vapor and the potential for concentrations of VOCs in shallow groundwater to temporarily increase during implementation of a remedial action, degradation of existing building conditions or changes in land use may increase the potential for unacceptable risks from exposure to indoor air."

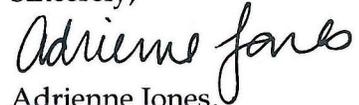
The following sentence was added following the 1<sup>st</sup> sentence of Section 2.2 Development of Risk-Based Preliminary Remediation Goals: "The potential for unacceptable risks from future exposure to indoor air as a result of changes in building conditions or land-use will be mitigated through the reduction of groundwater COC concentrations; therefore, no PRGs were established for this media."

The 4<sup>th</sup> bullet of Section 4 was revised to read: "Land Use Controls (LUCs): These include activities such as implementation of land and building use, deed, or access restrictions to prevent exposure to groundwater and groundwater emissions."

The last sentence of the last paragraph of the Performance Monitoring and Long-term Monitoring discussions under Alternatives 2, 3, and 4 was revised to read: "To ensure that the potential for vapor intrusion does not increase while COC concentrations remain above PRGs, building conditions will be evaluated during regular LUC inspections to ensure new vapor intrusion pathways (i.e. foundation cracks) have not been generated and groundwater concentrations will be evaluated to identify increases in COC and daughter product concentrations that require additional vapor intrusion monitoring (e.g. soil gas and indoor air). Additionally, LUCs to maintain the current residential and industrial building uses and prevent activities that would compromise the integrity of the building foundations during implementation of the remedial action will be maintained."

If you have any questions concerning these responses to comments, please feel free to contact me at (757) 671-6236.

Sincerely,

A handwritten signature in black ink that reads "Adrienne Jones". The signature is written in a cursive style with a large, looping "A" and a long, sweeping "J".

Adrienne Jones,  
Project Manager

cc: Mr. Paul Herman/ VDEQ  
Mr. Bryan Peed/ NAVFAC Mid Atlantic  
Ms. Cecilia Landin/CH2M HILL