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LETTER AND U S NAVY RESPONSE TO U S EPA REGION III COMMENTS REGARDING  
DRAFT REMEDIAL INVESTIGATION ADDENDUM REPORT FOR SITE 11A JEB LITTLE  
CREEK VA  
12/20/2010  
CH2M HILL



CH2M HILL  
5700 Cleveland Street  
Suite 101  
Virginia Beach, VA 23462  
Tel 7575189666  
Fax 7574976885

December 20, 2010

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

Subject: Response to Comments, *Draft Remedial Investigation Addendum Report for Site 11a at JEB Little Creek, Virginia Beach, Virginia.*

Dear Mr. Boylan:

On behalf of the Navy, CH2M HILL has prepared the following responses to comments received from EPA on the *Draft Remedial Investigation Addendum Report for Site 11a at JEB Little Creek, Virginia Beach, Virginia.*

1. **Comment:** For TCE, the Cal EPA Cancer Slope Factor was used to generate PALs. As stated in comments submitted previously for this site (11/13/2008 and 4/21/2010), EPA has recommended truncating the acceptable risk range for TCE at 1E-05 (rather than 1E-04) to account for uncertainty in the Cal EPA value. Further, under a long-term residential exposure scenario, strong evidence suggests that non-cancer threats supersede cancer endpoints as indoor air concentrations of TCE approach 5 ug/m<sup>3</sup>; this would correspond to 25 ug/m<sup>3</sup> for short-term residential exposure, using the methodology employed in the report. These points were not considered in the Addendum, and would affect conclusions associated with subslab data, where TCE was reported at up to 270 ug/m<sup>3</sup>. (Note that the report extrapolates future potential risks based on subslab VOC concentrations.) EPA suggests adding some language to the addendum (possibly in section 4.2.1 Methodology) acknowledging the TCE non-cancer endpoint.

**Response:** Comment noted. A section regarding the uncertainty behind TCE toxicity has been added to Section 4.3. The maximum calculated cancer risk for TCE was 5E-06 (Future Resident – Building 3606; Section 4.2.2); therefore, truncating the acceptable risk range for TCE at 1E-05 will not change the cancer-based conclusions of this assessment. The uncertainty section will acknowledge USEPA's preference to truncate TCE at 1E-05. Consistent with the approved Sampling and Analysis Plan (CH2M HILL, 2009) and as discussed in Section 4.2.1, PALs and risk estimates were developed using the September 2008 USEPA residential air RSLs. Reference concentrations for the calculation of an inhalation hazard quotient associated with TCE were not provided on the September 2008 USEPA RSL table or the most current May 2010 RSL table. The non-cancer indoor air

concentration of 5 µg/m<sup>3</sup> quoted in the comment is a 2009 USEPA draft value and has not yet been finalized. According to the USEPA 2003 *Human Health Toxicity Values in Superfund Risk Assessments* toxicity hierarchy memorandum (OSWER Directive 9285.7-53) the draft USEPA value is defined as a Tier 3 toxicity value similar to the Tier 3 peer-reviewed CalEPA non-cancer inhalation toxicity value of 600 µg/m<sup>3</sup> (<http://oehha.ca.gov/risk/chemicalDB/index.asp>). Due to the uncertainty associated with the non-cancer inhalation toxicity value, as seen by the significant difference in Tier 3 values presented, and the omission of a reference concentration on the RSL table, non-cancer hazard quotients for TCE were not calculated as part of the vapor intrusion assessment.

2. **Comment:** Although indoor air concentrations of VOCs measured during this investigation were mostly unremarkable, subslab levels were, in fact, noteworthy: PCE at up to 960 ug/m<sup>3</sup> and TCE at up to 270 ug/m<sup>3</sup>. Given this, EPA doesn't necessarily agree with the conclusion that no additional investigation is necessary. Since sampling of the occupied barracks was fairly limited, with only 2 of 9 samples collected from locations directly above the gw plume, a single sampling effort may not have accurately characterized indoor air conditions at this building. Because this potential exposure is real (rather than hypothetical), further sampling of indoor air should be considered. EPA suggests rewording section 6.2 Recommendations to clearly indicate that VI monitoring will be included in the LTM monitoring plan. Also consider revising the first sentence of this section to say "Base upon the results of the risk assessment, no further action is recommended at this time ..... at Site 11a.

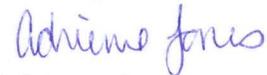
**Response:** The recommendations were revised to better clarify that vapor intrusion monitoring will be included as part of LTM for the site, however because no vapor intrusion risk to human health was identified remedial action is not warranted and clean-up levels will not be established for subslab vapor and/or indoor air. Because there may be potential future risk due to changes in land use (i.e. new construction), LUCs will be implemented and maintained until groundwater clean-up levels are met. Following the achievement of groundwater clean-up levels, no further action will be warranted for the site; LTM of groundwater and vapor intrusion monitoring will cease and LUCs will be removed. Section 6.2 was revised to read: "Based upon the results of the risk assessment, no further action is recommended for Buildings 3606 and 3606A to address vapor intrusion from CVOCs in shallow groundwater at Site 11a. Due to the potential for concentrations of groundwater COCs (TCE and its daughter products) to temporarily increase during implementation of a groundwater remedy, resulting in potential short-term risks, it is recommended that a vapor intrusion monitoring plan be scoped by the Partnering Team for implementation during groundwater remedial action and LTM. Additionally, it is recommended that LUCs be implemented during groundwater remedial action to maintain current building uses, prevent activities that would compromise the integrity of the building envelopes, and prevent construction of additional structures at the site without further evaluation and/or implementation of mitigation measures until the groundwater remedial action is completed. It is assumed that following completion of the remedial action (achievement of groundwater clean-up goals), no potential for future risks from vapor intrusion will remain; therefore, monitoring and LUCs will no longer be necessary."

3. **Comment:** In section 4.1.3 Outdoor Air Data, the results presented regarding outdoor are somewhat confusing and suggest conclusions that indoor air concentrations are affected by the outdoor air or an indoor source. EPA suggests a conference call with the partnering team to revise the second and third paragraphs of this section.

**Response:** Based on the results of the comparison of outdoor air data with indoor air data, it is concluded that because COIs were detected in the outdoor air this may be a potential contributing source to indoor air concentrations. Section 4.1.3 was revised to only discuss the results of the outdoor air to indoor air comparison and an additional section (Section 4.2) has been added following the data evaluation and prior to the risk assessment to summarize the various data comparisons and present the conclusion of the data evaluation as it pertains to subslab contributions to indoor air.

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

Sincerely,



Adrienne Jones,  
Project Manager

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