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LETTER AND COMMENTS FROM U S EPA REGION I ON RESPONSE TO COMMENTS REGARDING DRAFT FEASIBILITY STUDY FOR BUILDING 82 NAS SOUTH WEYMOUTH MA
10/25/2010
U S EPA REGION I

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION I
5 Post Office Square, Suite 100
Boston, MA 02109-3912

October 25, 2010

Brian J. Helland, P.E.
BRAC Program Management Office NE
4911 South Broad Street
Philadelphia, PA 19112-1303

Re: Responses to EPA Comments on the Draft Feasibility Study for Building 82

Dear Mr. Helland:

EPA reviewed the responses, dated September 2010, to EPA's comments, dated June 22, 2010, on the *draft Feasibility Study Report for Building 82* at the Naval Air Station South Weymouth, Weymouth, Massachusetts, dated September 2009. The Feasibility Study develops and evaluates remedial alternatives for site groundwater. The responses requiring further clarification are below.

LC3: In the Draft Final FS, PRGs are presented for daughter products of TCE, as proposed. The source of the risk values for cis-1,2-DCE and vinyl chloride are not clear. The HHRA did not present any risk values on which to base PRGs for these chemicals. Please clarify the source of the risk-based values (0.075 ug/L for VC and 96 ug/L for cis-1,2-DCE), as these concentrations do not match the EPA RSLs for cancer risk of 1E-06 (for VC) or HI=1 (for cis-1,2-DCE).

LC 4: All COCs and COIs, including 1,1,1,-TCA, TCE, and all daughter products, need to be analyzed as part of long-term monitoring.

LC9: While EPA's original comment requested a better description of the groundwater flow in the "new plume" region, EPA has also requested clarification of groundwater flow patterns with respect to PCB in groundwater. EPA agrees that groundwater flow patterns should be evaluated further during the remedial design phase (*i.e.,* development of a comprehensive).

LC10: As long as the FS recognizes that the goal of remediation is to achieve acceptable human health risk levels and not just MCLs, then this issue can be resolved using the PRGs proposed. Once the PRGs have been achieved, the human health risk will be calculated for the contaminant concentrations achieved to determine whether these concentrations result in excess human health risk. This approach must recognize that the specific chemicals at a particular well may change, some of which may be the result of remedial actions. For example, if the present low level detections represent the leading edge of an advancing plume, concentrations could increase in the future. Degradation via natural processes would be expected to continue even in the absence of active remediation, and it is possible that multiple COCs (*e.g.,* parent CVOC and related breakdown products) may eventually be detected in the same well. Depending on the remedial approach selected, additional changes

in chemistry may be expected, some of which may have implications for 'total risk.' For example, enhanced bioremediation may be expected to further depress ORP, resulting in liberation of redox-sensitive metals into the dissolved phase in groundwater. EPA therefore recommends that the FS specifically discuss the potential increases in manganese and iron in groundwater that will likely occur with the remedies involving reductive dechlorination, and how this increase will be controlled to protect human health and the environment (*i.e.,* with monitoring and LUCs). Similarly, it is not yet clear if vinyl chloride will be produced by enhanced bioremediation. Simply because vinyl chloride has the potential to degrade under both aerobic and anaerobic conditions does not guarantee that it will degrade sufficiently. The Navy should cite examples that support the potential for VC degrading under anaerobic conditions, and should clarify why such phenomena are expected to function as desired under the specific remedial scenarios.

Lastly, regarding the table provided in response to LC10, the typical detection limits shown in the table are up to an order of magnitude greater than what is commonly achievable and therefore EPA believes that it is possible to evaluate risk at levels lower than indicated.

LC22: Vapor intrusion risks should be re-evaluated not only if toxicity values change, but also if groundwater VOC concentrations increase given the shallow water table.

SC4: EPA plans to install transducers in key wells to inform the development of a LTMP during the remedial design phase. EPA will provide a list of candidate wells in the near future.

SC6: The residual fuel issues regarding naphthalene and other compounds should be re-evaluated concurrently with development of a comprehensive LTMP. This could include the installation of wells where current coverage is insufficient. EPA expects the LTMP to address several locations including the locations where current COC concentrations exceed PRGs.

SC9: In Table 2-4 and Appendix B, the example calculation for the 1,1-DCA PRG is incorrect. The calculated risk for 1,1-DCA in the HHRA for the lifetime resident, based on the EPC of 99 ug/L, was 2E-05, not 1E-05, based on ingestion, dermal contact and inhalation. The PRG should be adjusted accordingly.

SC10: Please consider re-evaluating the issue concurrently with development of a comprehensive LTMP. A more highly resolved understanding of groundwater flow is needed south of Building 82 and west of Building 81. Deeper monitoring, including bedrock, is needed near Building 15.

SC11: It is not clear whether the engineered drainage network in the Building 15 area is acting as the source for the contamination, a migration pathway, or both. As discussed in recent meetings, EPA believes that groundwater monitoring is needed. An improved monitoring network that addresses the drainage system will expedite this process. Please examine this issue concurrently with development of a comprehensive LTMP.

SC12: Given that it can be difficult to discriminate between the geochemical effects of organic contaminants and naturally-occurring carbon such as peat, EPA agrees that ongoing groundwater monitoring is appropriate to evaluate ORP in light of manganese and iron

concentrations. Dissolved manganese and iron monitoring are necessary. Since the runways and peat deposits are generally located downgradient of Building 82, ORP impacts in the building area are more likely attributable to the releases of fuels and other organic chemicals.

SC14: EPA agrees that details concerning the stratigraphy and hydrogeology along the southern tier of the Building 82 site are minimal and recognizes the challenges associated with developing a reasonably detailed hydrogeologic cross section over the proposed alignment (WSW – ESE alignment from AVG-MW4 to MW09-011 to B82-MW202S/D to B82-GP-I07 to B82-GP-J07 to 9AB-MW-05). EPA recommends additional monitoring points in this area where groundwater and contaminants appear to exit the site. Please re-examine this issue concurrently with development of a comprehensive LTMP.

SC15: See response to SC12. Given the available information, ORP and related metals impacts are more likely attributable to the documented releases of fuels and other organic chemicals in and around B82, including GTM-2. The specifics of this additional monitoring for manganese and related parameters such as ORP can be further defined during development of the LTMP.

SC18: See responses to SC12 and SC15. EPA believes that elevated manganese is a consequence of redox perturbations resulting from past releases of fuels and other organic chemicals at the site. EPA agrees that further evaluation of manganese and related constituents should be performed.

SC22: Given the shallow water table, vapor intrusion risks should be re-evaluated if groundwater VOC concentrations increase.

SC23: Additional explanation is needed concerning the criteria used to eliminate pump and treat, and whether such criteria are appropriate.

SC40: The LTMP needs to consider the 5-inch sanitary sewer because it could act as a preferential pathway for offsite contaminant migration.

I look forward working with you and the Massachusetts Department of Environmental Protection to select a remedy for Building 82. Please do not hesitate to contact me at (617) 918-1385 should you have any questions.

Sincerely,

Kymberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

cc: Dave Barney, USN, South Weymouth, MA
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