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LETTER REGARDING REGULATORY REVIEW AND COMMENTS ON DRAFT FINAL FEASIBILITY STUDY AT SITE 8 NETC NEWPORT RI
6/5/2012
RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
235 Promenade Street, Providence, RI 02908-5767 TDD 401-222-4462

5 June 2012

Ms. Maritza Montegross
NAVFAC MIDLANT (Code OPTE3)
Environmental Restoration
Building Z 144, Room 109
9742 Maryland Avenue
Norfolk, VA 23511-3095

RE: Draft Final Feasibility Study
Naval Undersea Systems Center Disposal Area (Site 08)
Naval Station Newport, Newport, Rhode Island

Dear Ms. Montegross:

The Office of Waste Management at the Rhode Island Department of Environmental Management has conducted a review of the *Draft Final Feasibility Study*, dated May 2012 for Naval Undersea Systems Center Disposal Area (Site 08), Naval Station Newport, located in Newport, Rhode Island. As a result of this review, this Office has generated the attached comments on the *Draft Final Feasibility Study*.

If you have any questions, in regards to this letter, please contact me at (401) 222-2797, extension 7020 or by e-mail at pamela.crump@dem.ri.gov.

Sincerely,

Pamela E. Crump, Sanitary Engineer
Office of Waste Management

cc: Matthew DeStefano, RIDEM
Gary Jablonski, RIDEM
Richard Gottlieb, RIDEM
Ginny Lombardo, USEPA Region I
Deb Moore, NETC, Newport, RI
Jim Ropp, Tetra Tech

RIDEM Comments on the
Draft Final Feasibility Study for
Site 08 – NUSC Disposal Area
Naval Station Newport, RI

Specific Comments:

1. p. 1-19, Section 1.8.1.3, SRI Results for Soil, North Meadow.

"...no continuing source of TCE was identified in North Meadow soil."

Please note that RIDEM's Comment #6 on the Draft Supplemental Remedial Investigation stated that the two soil samples which were collected in the North Meadow were not sufficient to make the conclusion that there is no continuing source of TCE in the North Meadow. The Navy collected two soil samples at MW-127B and MW-128B. MW-128B had the highest concentrations of TCE in groundwater; however, MW-127B had very low concentrations. RIDEM believes that a potential source of TCE may still remain in this area, as evidenced by the increasing concentration of TCE in groundwater at MW-03B, which increased from 150 µg/L in 2010 to 340 µg/L in 2011. It appears that the source may be in the vicinity of MW-03B and/or MW-117B where it then migrates to MW-128B through the high yield fracture zones. RIDEM requests that additional soil samples in the vicinity of MW-03B and MW-117B be taken during the Pre-Design Investigation to verify the conclusion that no source exists in this area.

2. p. 1-22, Section 1.8.1.4, Leachability Criteria for Soil; last paragraph.

"Additional verification sampling for SPLP-metals analysis may be appropriate during the Remedial Design/Remedial Action phase, to verify that metals concentrations in onsite soils do not exceed leachability criteria."

As agreed to during our meeting/conference call on February 15, 2012, please change *"may be appropriate"* to *"will be conducted"*.

3. p. 1-23, Section 1.8.2.1, RI Results, GRO/ETPH.

RIDEM included a comment on the Proposed Plan regarding MW-100B which was observed during the RI field work to contain a 4.5-inch layer of LNAPL which was subsequently removed. As this monitoring well is designated to be sampled for future MNA analysis and was also selected for bioremediation and/or ISCO treatment, RIDEM simply requests that this well be monitored for the presence of LNAPL at future sampling events.

4. p. 1-35, Section 1.10.1, Baseline Human Health Risk Assessment; 4th paragraph.

"Cancer and non-cancer risks for residential and industrial exposures via vapor intrusion

were found to be within acceptable levels."

Vapor intrusion was not considered in the development of PRGs in the FS because this pathway did not pose an unacceptable risk in the HHRA, and there are no currently occupied buildings at the Site. However, this pathway is a viable future exposure pathway and may contribute to cumulative cancer risk should Site buildings be routinely occupied. Please state in this FS that appropriate measures will be included in the LUCs to eliminate this pathway (e.g., reevaluation of vapor intrusion risk, post-remediation and prior to occupancy, and/or use of vapor barriers, sub-slab depressurization systems, etc.) or that vapor intrusion evaluation will be required for any future development.

5. p. 2-8, Section 2.2.2, Derivation of PRGs, Human Health PRGs.

"Additional verification sampling for SPLP analysis may be appropriate during the RD/RA phase to verify that metals levels in site soil are not exceeding Leachability Criteria."

As agreed to during our meeting/conference call on February 15, 2012, please change *"may be appropriate"* to *"will be conducted"*.

6. p. 3-24, Section 3.4.5.1, In-Situ Enhanced Bioremediation; whole section.

Please include a discussion in this section of the need for a microcosm study to determine the effectiveness of bioremediation at any area of the site.

7. p. 4-4, Section 4.1.2, Alternative SO2, Component 3; 1st bullet.

"...if the use of the Paved Storage Area were to change in the future, including transfer of the property outside the Navy, or if the Paved Storage Area becomes inactive, the Navy would complete follow-on geophysical investigations in that area and would remove subsurface debris, as necessary."

RIDEM maintains that removal of all remaining potential source areas at this site will ensure long-term effectiveness of the remedy while minimizing monitoring requirements. We believe any anomalies should be properly investigated to ensure that drums with the potential to contain hazardous waste are not present. If any such drums are left in place they could recontaminate the groundwater proposed to be treated by either bioremediation or ISCO. That being said, RIDEM concedes the Navy's proposed approach and agrees to disagree on this issue.

8. p. 5-8, Section 5.1.4, Alternative GW4, Component 1: In-Situ Chemical Oxidation.

The primary ISCO technology evaluated in this section is Fenton's Reagent (hydrogen peroxide and iron catalyst). However, page 3-26 states:

"Pilot tests to select a reagent might also be required, although because of the relatively low TCE concentrations, potassium permanganate would likely be used."

It is not immediately clear why Fenton's Reagent was selected over potassium or sodium permanganate for ISCO Alternative GW4. The ability of permanganate to oxidize chlorinated ethenes has been widely demonstrated in the field, including at comparable, operational sites in Rhode Island. In addition, the stability and persistence of permanganate in the subsurface make it a better choice for fractured rock applications with uncertain fracture/matrix interactions and migration pathways. It is noted the chlorinated ethanes are recalcitrant to permanganate; however, activated persulfate is an alternative, proven ISCO reagent that provides trichloroethane (TCA) coverage while offering more stability than Fenton's Reagent. Additional consideration should be given to permanganate and/or activated persulfate for source area remediation at the Site. This is particularly salient as the safety of site workers was cited as key differentiator between ISCO and bioremediation. In general, permanganate and activated persulfate do not result in unsafe gas and heat evolution, which is correctly noted as a safety hazard for unstabilized Fenton's Reagent. It is recommended that these reagents be strongly considered at the site in lieu of Fenton's Reagent and a more detailed explanation be added to this section regarding the selection process on the ISCO reagent.

9. Figures 5-1 and 5-2, Target Treatment Zones for Groundwater Alternatives.

Figure 2-7 outlines areas with groundwater concentrations exceeding PRGs. Figures 5-1 and 5-2 highlight wells that were selected for treatment. Several wells located in the areas exceeding PRGs were not selected for treatment (e.g., MW127B, MW108B, MW102B, MW130B, MW124B, and MW129B). Please include these wells for treatment or justify their exclusion in this FS. If these wells are not to be treated, please indicate how long it will take, based on modeling, for these wells to reach remedial goals.