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LETTER RESPONDING TO U S NAVY COMMENTS ON DRAFT REMEDIAL ACTION  
REPORT FOR AIR SPARGING/ SOIL VAPOR EXTRACTION AT SITE 26 NWS EARLE NJ  
2/11/2000  
FOSTER WHEELER ENVIRONMENTAL CORPORATION

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**TO:** Contracting Officer  
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Attn: B. Faustman

**FROM:** Mike Heffron, P.G.

**DATE:** February 11, 2000

**SUBJECT:** US NAVY CONTRACT NO. N62472-94-D-0398  
DELIVERY ORDER 0055  
NAVAL WEAPONS STATION-EARLE  
FINALIZATION OF REMEDIAL ACTION PLAN FOR  
SITE 26

Following are responses to the Navy's comments received on the Draft Remedial Action Report for AS/SVE at Site 26:

1. **COMMENT: Page 12 – Section 6.3:-** The highest levels of TCE found during the Remedial Investigation were directly above the low permeability silt/clay layer at a depth of approximately 25 feet. This is consistent with the chemical (sinking) properties of TCE. Was the distribution of the TCE considered in the determination of the ROI? Will there be sufficient mixing at the base of the sparge points to capture this contaminant?

Would there be an advantage to placing plastic sheeting over the entire ground surface instead of just directly above the SVE wells? Considering the sandy soil on-site, couldn't short-circuiting of atmospheric air still occur around the sheeting as currently proposed?

**RESPONSE:** According to the RI results, the highest levels of TCE were found in the interval between 17-25 feet bgs. Based on the TCE concentrations mapped, it is unlikely that free-product (dense non-aqueous phase liquids, or DNAPL) is present at the site. The three-foot screened interval of each sparge well will be installed approximately one foot above the underlying confining clay. The sparge ROI (radius of influence) was determined based on observations made during the pilot test. The air sparging pilot study points were placed at the depth intervals of the highest observed TCE concentrations. By varying flow rates and well combinations periodically (as planned), mixing within the shallow aquifer should be sufficient to minimize any potential stagnation zones.



Placing plastic sheeting (or some other impermeable cover) over the entire ground surface, rather than just the immediate area above each SVE well, would be ideal; but the added expense and effort is not required because short-circuiting was not observed during the pilot test. The ROI determined from the pilot test, which was run with sheeting only immediately above the horizontal SVE well, should be sufficient to ensure capture of VOCs volatilized by the sparging process.

2. **COMMENT: Page 15** – Hydropunch and monitoring well locations should be surveyed

**RESPONSE:** All HydroPunch and well locations will be surveyed by a NJ-licensed professional surveyor.

3. **COMMENT: Page 18 – Section 10.0 – Third paragraph:** The temporary road should be designed to avoid an underground tank near the north end of Building GB-1.

**RESPONSE:** The scope of work changed between the draft and final design. The draft design called for the installation of a new building to house the AS/SVE equipment. A road was going to be constructed to access the new building. The final design is utilizing the existing building (GB-01) to house the AS/SVE equipment, therefore no road is being constructed.

4. **COMMENT: Page 20 – Section 11.2.1:** Will an alternate method be used to drill through the building slab? Characterization of soils beneath the building should be determined. The depth of the boreholes in this area should be adjusted to account for the difference in elevation between the building floor and the surrounding area. It's important that the sparge points are directly above the clay layer.

**RESPONSE:** There will be no drilling through the building slab. The new well layout places the wells outside the building foundation since the building is going to be used to house the AS/SVE equipment. As mentioned in paragraph 1 of Section 11.2.1, continuous soil samples will be collected from a subset of sparge points to ensure adequate characterization of subsurface lithologies. All sparge points will be screened within one foot of the underlying confining clay layer.

5. **COMMENT: Page 20 – Section 11.2.2** – See earlier comment regarding placement of plastic sheeting.

**RESPONSE:** See response to first comment.

**6. COMMENT: Page 23 – Section 11.2.3 –** See earlier comment regarding placement of plastic sheeting.

**RESPONSE:** See response to first comment.

**6. COMMENT: Page 23 – Section 11.3:** Discussion should be included regarding piping into/around Building GB-1 or the possible demolition of the building.

**RESPONSE:** There will be minimal piping runs going into Building GB-01. A discussion of the piping installation through the walls of the building was added to Section 11.3. Figure 17 also depicts the locations of the piping runs through the walls of the building.

**8. COMMENT: Page 26 –** Why is head loss expressed in inches H<sub>2</sub>O for SVE versus psi for AS?

**RESPONSE:** Head loss for SVE is generally expressed as inches of H<sub>2</sub>O. Sparge lines under positive pressure are typically measured in psi (pounds/sq.inch) units. 1 psi = 2.77 inches of H<sub>2</sub>O.

**10. COMMENT Page 32 –** The Y2K compatibility of the system should be discussed.

**RESPONSE:** All computerized system controls are Y2K-compatible, and this information was added to the text.

**10. COMMENT Page 35 – Section 12.0 – Third paragraph:** The last sentence is somewhat misleading. A CEA must be established for any remedy where the constituent standards will not be met for the term of the remediation (whether it was this AS/SVE system or monitored natural attenuation). A more appropriate final sentence would be “In this case, the Navy would propose a revised Record of Decision for monitored natural attenuation of the residual compounds.”

**RESPONSE:** Agreed. Sentence was inserted as suggested.

11. **COMMENT Page 38 – First paragraph – Typo in last sentence ...is**  
discussed.

**RESPONSE:** The noted revision was made.

12. **COMMENT Page 38 – Section 14.3 - First paragraph – Typo in last sentence**  
... drums generated ...

**RESPONSE:** The noted revision was made.

13. **COMMENT Page 40 – Section 15.1 – Acronym SPEM is not defined until Page**  
43.

**RESPONSE:** The acronym was defined in this location.

14. **COMMENT Page B-3 – Last paragraph:** Dedicated bladder pumps were  
installed in existing monitoring wells during the 1995 Remedial Investigation. These  
pumps should be utilized for purging and sampling.

**RESPONSE:** If the bladder pumps are still present (and in working condition) in the  
Site 26 monitoring wells, they will be used to collect future groundwater samples.  
Similar pumps will be used to sample all newly-installed monitoring wells.

15. **COMMENT Page B-8 – Section 7.0:** Sampling and analysis data should be  
provided in electronic format as required by the New Jersey Technical Requirements for  
Site Remediation. Technical assistance regarding the electronic submission requirements  
can be found at <http://www.state.nj.us/dep/srp>. The information is found under the  
“Electronic Data Submittal/Hazsite” subtopic of the “Regulations and Guidance” topic.

**RESPONSE:** All laboratory analytical data will be submitted to NJDEP in an electronic  
format compatible with one of those specified in the Site Remediation Program  
Electronic Data Interchange Manual. In addition to NJDEP’s HAZSITE program format,  
properly-formatted Lotus-compatible spreadsheets and/or .DBF database files are  
acceptable.