M00263.AR.000079
MCRD PARRIS ISLAND
5090.3a

LETTER OF TRANSMITTAL FOR ENGINEERING EVALUATION AND INTERIM REMOVAL REMEDIAL WORK PLAN/INTERIM MEASURE WORK PLAN FOR SITE 45 AND U S NAVY RESPONSES TO U S EPA REGION IV COMMENTS ON DRAFT WORK PLAN MCRD PARRIS ISLAND SC
9/26/1997
BECHTEL

03.01.00.0030

Bechtel

Oak Ridge Corporate Center
151 Lafayette Drive
P.O. Box 350
Oak Ridge, Tennessee 37831-0350

Telephone: (423) 220-2000

SEP 26 1997

Commanding Officer
Department of the Navy
Naval Facilities Engineering Command
Attention: Mr. Art Sanford
2155 Eagle Drive, P.O. Box 190010
North Charleston, SC 29419-9010

SUBJECT: Bechtel Job No. 22567
Department of the Navy Contract No. N62467-93-D-0936
DO 0048 SUBMITTAL OF REVISION 0 OF THE ENGINEERING EVALUATION AND INTERIM REMOVAL REMEDIAL WORK PLAN/INTERIM MEASURE WORK PLAN, SITE 45/SWMU 45, MARINE CORPS RECRUIT DEPOT (MCRD), PARRIS ISLAND, SOUTH CAROLINA
Site/Subject Codes: 145/5320

Dear Mr. Sanford:

Enclosed is a copy of the above-mentioned document for Navy, EPA, SCDHEC, Brown & Root, and public review. A copy of the comment resolution has also been enclosed to assist in your review.

If you should have any questions, please feel free to call me at (423) 220-2167.

Sincerely,

Karen S. Atchley
Project Manager

KSA:dcm:LR1394
Enclosure: As stated

cc: Allison Humphris, EPA
Don Hargrove, SCDHEC
Susan Peterson, SCDHEC
Tim Harrington, MCRD
Dean Bradley, MCRD
Mark Speranza, Brown & Root

EE/WP Comment Resolution

Note: This comment resolution documents only comments on Revision C of the workplan. Previous comments have already been incorporated into the workplan.

Susan Peterson Comments Dated July 25, 1997

Comment 1: Please modify the title of this work plan to include RCRA terminology. As accepted by the MCRD Tier I technical and Tier II teams, the State of South Carolina has authorization under the Hazardous & Solid Waste Amendment to implement correction action activities. The Department is willing to recognize the following dually-titled document:

Engineering Evaluation
and
Interim Removal Remedial Work Plan/Interim Measure Work Plan

Site 45/SWMU 45
Dry Cleaners Facility
Building 193

Marine Corps Recruiting Depot
Parris Island, South Carolina
SC6 170 022 762

Response: The Title of Document has been revised.

Comment 2: Please include the EPA I.D. No. on the title of the document. That number is SC6 170 022 762.

Response: The EPA ID Number has been added to the title sheet.

Comment 3: Section 1.0, INTRODUCTION, Page 1, 2nd paragraph:
Issues: Suggested rewording and rearrangement of text.

The current wording raises doubt that a spill occurred. "It was reported that a spill occurred." The spill occurred, it was reported. Reword the text to clarify events.

Suggested rewording: "A spill of tetrachloroethene (PCE) occurred on March 11, 1994 due to inadvertent overfilling the above ground storage tanks (ASTs) located adjacent to the north side of the dry cleaners facility."

Response: The text was revised as suggested.

Comment 4: Section 1.0, INTRODUCTION, Page 1, 2nd paragraph:
Issue: Consistency of Site reference

It seems that you have chosen to use the term "dry cleaners facility" throughout the document. Please reread the document and correct the pages where you refer to it as "Parris Island Site" (p. 11, 15, etc). Much better since last time, though.

Response: The term "Dry Cleaners Facility" has been used throughout the document

Comment 5: Section 1.2, SITE HISTORY, Page 4, 2nd paragraph
Issue: Disposal

State whether PCE-contaminated soil was disposed of offsite at a South Carolina approved landfill. A paragraph you had in the previous version gave some of this information, however did not mention whether it was disposed of at an SC approved landfill.

These are my former comments (to the other version):
Explain what you mean by 'appropriately disposed of '. Were the drums taken off base by a licensed contractor? Were the drums taken to a landfill that accepts hazardous waste, incinerated? Are the drums still on site?

Please make this information clear in the text of this document.

Response: Rewrote text to read: "These PCE contaminated soils were incinerated by a licensed facility."

Comment 6: Section 1.2, SITE HISTORY, Page 4, 4th paragraph
Issue: Time frame of assessment

State when S&ME conducted a PCE-contamination assessment (June, 1994). Suggested rewording: S&ME conducted a PCE-contamination assessment in June, 1994 to develop a conceptual remediation plan.

Response: Reworded 2nd paragraph reads: "Following this removal action, S&ME conducted a PCE-contamination assessment in June, 1994 to determine the extent of contaminated groundwater and to develop a conceptual remediation plan.

Comment 7: FIGURES
Title of all Figures should include a reference to MCRD
Title of all Figures should include CERCLA/RCRA terminology
Modifications to the Table of Contents is not necessary

Response: The title of all Figures and the Table of contents have been changed as suggested.

Comment 8: Section 1.3.2 Groundwater Sample Results, Page 8, 3rd paragraph
Issue: Laboratory analysis

State whether the laboratory is a South Carolina Certified laboratory.

Response: The Lab is South Carolina Certified.

Comment 9: Section 3.2 HAZARDOUS WASTE, Page 22, 2nd paragraph
Issue: State regulations

Specify that the wastes will be managed in accordance with South Carolina state regulations.

Response: It will, text revised.

Comment 10: Section 1.4.1, Determination of Scope, Page 11, 1st paragraph
You did not mention ecological risk as a possibility. Either way, state that in the text.

Response: Test Revised.

Comment 11: Section 1.6, EVALUATION OF SELECTED REMEDIAL ALTERNATIVES,
Page 15, Bullet 2
The technology you describe in Section 1.6.2 is Air Sparging and Soil Vapor Extraction, not just Air Sparging, as is listed in the bullet. Please amend.

Response: Text Revised.

Comment 12: Section 1.7.1 In-Well Vapor Stripping System, page 17, paragraph 2
You may want to make a reference to Attachment 3.

Response: Text Revised.

Comment 13: Section 3.2, HAZARDOUS WASTE, page 21, paragraph 1
Delete the work "reportable" from the first sentence.

Response: Comment noted.

Comment 14: Section 3.3.1, Construction Debris, page 22
Note whether the material will be disposed of at a South Carolina licensed landfill.

Response: It will be, text revised.

Comment 15: Section 3.3.2, Soils, page 22, paragraph 1
Note the material of the liners, plastic etc.

Response: The liner material will be 10 mil plastic. Text revised.

Comment 16: Section 3.3.4, Personal Protective Equipment
Explain what type of personal protective equipment (PPE) you are talking about. At what frequency/interval will the PPE be double bagged and disposed? At the end of the day/week/project?

Response: Text revised. The PPE will be gloves, booties and tyvex suits. They will be bagged daily and disposed of weekly. Text revised..

Donald C. Hargrove's Comments dated July 22, 1997

Comment 1: Figure 1.2, Geological Section Transect Map: Line A-A' should be rerouted to form a straighter line that passes through the contaminated area and new cross-sections drafted. Suggested well clusters are: 193-1, 193-8, 193-7, 193-6, and 193-4. Please revise.

Response: The map was revised as suggested.

Comment 2: Figure 1.3, Generalized Geological Section of Site 193 "Dry Cleaners", A-A':
a) This cross-section should be redrafted to represent the revised line (A-A') as it is revised according to comment 1 (above).
b) This figure should graphically show each well utilized in the completion of this cross-section. The screened interval for each well should also be shown. Please revise.

Response: The Section was revised as suggested.

Comment 3: Figure 1.4, Generalized Geological Section of Site 193 "Dry Cleaners", B-B':
This figure should be revised to respond to comment 2 (above), as it pertains to Line B-B'.

Response: The Section was revised as suggested.

Comment 4: Section 1.3.1, Soil Sampling Results: This section states that Tetrachloroethylene (PCE) was found in the soils from 5-7 feet at a level of 1,100 ppb (monitoring well 193-8MW-D). This work plan does not address this soil as a source. The text should be revised to include source removal as a goal along with the goal of cessation of migration.

Response: This soil sample was collected below the water table and the contamination found would be in both the soil and groundwater. The pump and treat flushing action will reduce these concentrations.

Comment 5: Section 1.4.3, Interim Removal Action Objectives: This section states that the objectives are to:
a)"Minimize further migration of groundwater containing VOCs around the dry cleaning facility". Section 1.6 however, states that "The depth of a recovery well at the dry cleaner facility would be shallow. This could affect the system's radius of influence and the ability to remove the contaminants in one cycle through the circulation cell. More cycles of the groundwater may be necessary because of the limited depth of the wells." The proposed interim measure would not minimize the further migration of groundwater containing VOCs since the recovery wells are merely recirculating water within the surficial aquifer. It should not be assumed that water entering the recharge gallery will be immediately recirculated before the contamination migrates down gradient. The local hydrologic conditions indicate groundwater flow to the southeast. Three wells recirculating a total of six gpm will not alter this flow pattern (no water is being removed from the area).
b)"Reduce concentrations of the contaminants in groundwater in the area of concern". The level of reduction (target concentration) should be specified.
c)"Operate the remedial system until the equilibrium is reached". There is no description of this equilibrium any further than this statement. The equilibrium mentioned should be clearly defined in the text and the method of proving equilibria described.

The data necessary to effectively demonstrate when these three objectives have been met should be thoroughly discussed in the work plan. Please revise the text to prove the proposed system's effectiveness stoichiometrically. There should also be calculations for measuring the radius of influence. The radius of influence will no doubt be affected by the silty-clay layer that is present at Mean Sea Level (msl) in the area of Site 45 ["Technical Memorandum For Groundwater Evaluation and Air Sparging Pilot Study, Building 193, Parris Island, SC" Bechtel, 13 February 1997 (CCN000076)]. This silty-clay layer was not described in this work plan so it probably was not used in the groundwater modeling included therein.

Response: a) Because a different technology has been selected, this comment is no longer applicable.
b) Since this is a interim action, target concentrations will not be defined as determined by the Parris Island Partnering Team at the November 1996 meeting.
c) Equilibrium has been defined in section 1.4.3.
The silty-clay layer that was described in the referenced technical memo was based on cone penetrometer readings. However when split spoon soil samples were collected this suspected layer was not noticeable, especially in the center of the plume (See cross-sections). This layer was not included in the groundwater modeling effort.

Comment 6: Section 1.6.1, Pump and Treat: This section states that there is limited space for a recharge gallery. However, the proposed interim measure shows a recharge gallery associated with each recovery well to be used. If the low pumping rates (6 gpm total) proposed in this work plan are sufficient to minimize further contaminant migration, it could be feasible to design a pump and treat system that utilizes similar pumping rates that might be acceptable for a recharge gallery located nearby (to the southeast) or can be sent to the sewer treatment plant without undue burden on that system. The Tier I team should discuss this alternative further.

Response: Pump and treat has been selected and the Depot's federally owned treatment works (FOTW) will be used for treated ground water disposal.

Comment 7: Section 1.6.3, In-Well Vapor Stripping: The fourth bullet in this text is vague. This bullet states that "The capture of emissions is from the well and a separate vapor extraction system is not required. This technology has a higher likelihood that the vapors are captured and discharge is controlled." Please revise the text to specify how The vapors are captured and discharge is controlled.

Response: Since this technology will not be used, this comment is no longer applicable.

Comment 8: Section 1.7.2, Off-Gas Discharge: If the operating schedule of the system is altered to ensure compliance with respect to air emissions (and the existing air emissions permit), the effectiveness of the system on the groundwater and the ability to minimize further contaminant migration will be jeopardized. Please revise the text to show how the estimated emissions of 150 pounds per month were calculated and the protocol for assessing the ability of the system to maintain effectiveness as an interim measure should the operating schedule need alteration.

Response: A very conservative method of calculating emissions has been added to the EE/WP. The emissions can be checked by comparing the groundwater concentrations before and after treatment or by air sampling.

Robert Devlin Comments Dated July 1, 1997

Comment 1: The South Carolina UIC Program requires that reinjected waste water should be treated to meet drinking water standards. The proposal does not contain any calculations to support that the system can meet drinking water standards.

Response: Because a different technology has been selected, this comment is no longer applicable.

Comment 2: The South Carolina UIC Program requires 100% of the reinjected waste water be captured by the system. The proposal does not contain any calculations of computer models to support that the proposed system can meet the 100% capture of the waste water injection.

Response: Because a different technology has been selected, this comment is no longer applicable.