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REGION III
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R : Naval Air Warfare Center (NAWC) - Warminster, PA

D ar Mr. Monaco:

The EPA has reviewed a "Final Design Submittal" for the Remedial Design for Operable Unit One (OU-1) at the subject site. This report was received by EPA on June 28, 1994, and was submitted to EPA by Halliburton NUS Corporation on behalf of the Navy. In addition, EPA has reviewed a "Response to USEPA Comments on Final Design Submittal", as received from the Halliburton NUS Corporation on behalf of the Navy in a letter dated June 22, 1994. As indicated in an EPA letter to the Navy dated June 3, 1994, EPA considers the subject "Final Design Submittal" a "draft final primary document" per a Federal Facility Agreement (FFA) signed by EPA and the Navy on September 20, 1990.

EPA finds the "Final Design Submittal" to meet part of the requirements of a Remedial Design for OU-1. In particular, this report, provides the "Remedial Design" necessary to meet Performance Standards (as outlined in the Record of Decision for OU-1 signed by the Navy and EPA on September 29, 1993) for the Groundwater Treatment System (Section IX.B.2), Treatment of Air Emissions (Section IX.B.3), Waste Treatment Residuals (Section IX.B.4), and Worker Safety (Section IX.B.7).

On the other hand, the "Final Design Submittal" does not provide a "Remedial Design" which will assure that Performance Standards for Groundwater Extraction Wells (Section IX.B.1) and Groundwater Monitoring (Section IX.B.5) will be met. In particular, at this time, the Remedial Design does not assure that the following Performance Standards for Groundwater Extraction Wells will be met: 1) "extraction wells will be installed on and off current NAWC property, as necessary, to minimize the migration of contaminated groundwater...", 2) "the migration of contaminated groundwater will be minimized by achieving and maintaining an inward and upward hydraulic gradient...", 3) "observation wells will be constructed to gather data to confirm these gradients and

to characterize the response of the aquifer to pumping", 4) observation well data, "in conjunction with additional hydrogeologic and contaminant distribution data generated during concurrent RI work will be used to modify and optimize the extraction well system for minimizing the contaminated groundwater...during this interim action."

With regard to the first Performance Standard for Groundwater Extraction Wells identified above and recent RI data, as previously requested in a letter from EPA to the Navy dated June 21, 1994, "the contract for the Interim Remedial Action for OU-1 should provide for the timely extension of the extraction system to the affected areas downgradient of NAWC property". At this time, the Navy has not provided any indication that this comment will be addressed.

With regard to all of the Performance Standards for Groundwater Extraction Wells identified above, per the letter from Halliburton NUS letter of June 22, 1994, EPA understands the Navy intends to develop additional Remedial Design documents to address these Performance Standards. Under these circumstances, EPA agrees that the Navy should proceed with negotiating and "awarding" a contract for the construction work outlined in the "Final Design Submittal" on the condition that the Navy initiate the operation of the treatment and extraction system only upon completion of additional Remedial Design documents which assure that Performance Standards for Groundwater Extraction Wells will be met.

As discussed during our meeting of July, 5, 1994, to help meet these performance standards, EPA requests the Navy to address the comments below:

GENERAL

1) The Navy should develop a Well Installation Plan describing the initial network of extraction, observation and monitoring wells to be installed in Areas A and Area B. This Plan should be supported by recent or currently planned Remedial Investigation work for groundwater, including pump tests. This Plan should be submitted to EPA for review and comment prior to implementation. In addition, the installation of any additional extraction well, observation and monitoring wells should be described in subsequent Well Installation Plan amendments subject to EPA review and comment. In a related matter, revisions to Yield Test specifications should be considered based on previous Yield Test results. EPA should be provided an opportunity to comment on any such revisions.

2) The Navy should develop a Well Monitoring Plan for monitoring of extraction, observation and monitoring wells for a period prior to system startup, a period of (an estimated) three months after system startup and for a period of (an estimated) nine

months after system startup. This Plan should be developed after the Well Installation Plan is developed and should be submitted to EPA for review and comment. The objectives of Well Monitoring Plan should include the following:

- a) Confirmation of the capture zone and plume configuration and the response of the plume to the initial extraction system.
- b) Ensure that the extraction system does not adversely affect nearby industrial, commercial, municipal or residential wells or wetlands.
- c) Ensure that the extraction well design and the aquifer's response to pumping does not provide a means of moving the plume into previously uncontaminated portions of the aquifer.

For contract negotiation purposes, the "Extraction System Performance Monitoring" outlined in Sec.3.2.2 is an adequate Well Monitoring Plan with the following exceptions:

- a) During the first month of operation, monitoring of TCL-volatiles in observation and monitoring wells should be on a weekly basis.
 - b) For the second two months of operation, monitoring of TCL-volatiles in observation and monitoring wells should be on a biweekly basis.
 - c) Monitoring of selected offbase industrial, commercial, municipal and/or residential wells should be included e.g. Wagner supply well.
 - d) All groundwater elevations should be taken within a 1-day period.
- 4) The Navy should develop and implement procedures which will provide for the "periodic evaluation of hydrogeologic data and the effectiveness of the groundwater extraction system" and "modification of the groundwater extraction well system and/or treatment system as necessary based on these periodic evaluations" as required by the ROD. In particular, data generated during Well Monitoring should be evaluated by the Navy on a regular basis and recommendations developed regarding modifications in the extraction well system. The evaluations and recommendations should be submitted to EPA for review and comment and modifications implemented as necessary.

DESIGN ANALYSIS REPORT

- p. 4-3: Time-series water quality sampling should be conducted during the "yield test(s)". To promote timely utilization of this water quality data, the analysis

should be performed in the field.

p.4-12: As requested previously, the contract should provide for the range of well pump capacities that may be needed. (The actual pump capacities will be determined by yield tests that have yet to be performed.)

SPECIFICATIONS

Section 1680 - Treatment Facility Operation

- S c. 1.5 - EPA should be provided an opportunity to comment on all monitoring of Groundwater Monitoring Plans, not just the "Pre-Start Up Groundwater Monitoring Plan".
- S c. 3.2.2 - At this time, "Extraction System Performance Monitoring" is required only during the "Pre-Startup" and "Startup" periods. This (or a separate) contract should provide for "Extraction System Performance Monitoring" throughout the duration of the work under this contract.

Section 02680 - Groundwater Extraction and Observation Wells

- Sec.1.2.2 - "Field Test Reports" should be provided to EPA for comment prior to next phase of work.
- S c. 3.2 - The text currently included under Sec.3.1 (Drilling Procedures in Areas Suspected of DNAPL Presence) should be included under 3.2.1 (Drilling). In addition, both in the Specifications and Design Analysis Report, L in DNAPL stands for Liquid (not Layer).

In addition to the above comments regarding Performance Standards for Extraction Wells, please find the additional comments on the Remedial Design below:

DESIGN ANALYSIS REPORT

p. 1-10: Remove reference re: deferring construction of Area B.

SPECIFICATIONS

Section 1300 - Submittals

SD-12, Compliance Report should be included in Register of Submittals.

- Under Format of Submittals, a format for SD-12, Field Test

Reports, should be provided.

Section 1680 - Treatment Facility Operation

- Sec. 3.1 - This section of spec. does not say ground water quality monitoring will be included under the Preliminary O&M Plan while other sections say it will, e.g. 3.2.2.
- Sec. 3.5.3 - Technical Submittals in this section should include those identified in Sec. 3.3, e.g. "Plume Containment Report"

Drawings

- C-9 - Correction not made as indicated
- c-10 - Weld not clearly called out.

Should you have any questions regarding the above, please give me a call.

Sincerely,



Darius Ostrauskas
Remedial Project Manager

cc: Steve Lehman, NORTHDIV
Tom Ames, NAWC
David Kennedy, PADER
Kathy Davies
Ben Mykijewycz
Brian Nishitani