UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

May 5, 1999

Mr. Emil Klawitter
U.S. Department of the Navy
Northern Division - NAVFAC
10 Industrial Highway
Code 1811/EK - Mail Stop 82
Lester, PA 19113-2090

Re: Conceptual Long Term Monitoring Plan (CLTMP), and Response to EPA/RIDEM Comments on the Draft LTMP, dated March 30,1999, Site 7 - Calf Pasture Point Former Naval Construction Battalion Center, Davisville, RI

Dear Mr. Klawitter:

The Environmental Protection Agency, Region I (EPA) has reviewed the above captioned documents, pursuant to § 7.6 of the NCBC Federal Facility Agreement (FFA). Comments are enclosed.

The following general comments are re-iterated with minor edits from previous comment documents. I handed out a similar brief at the BCT meeting on April 15, 1999.

After the comment, the current EPA position is noted in bold italics, and then the current Navy position, as determined from EPA review of the CLTMP dated 3-30-99, is provided in capital letters. It is our hope that in providing most of the general comments in this manner will provide the Navy with a better understanding of the unresolved issues that are impeding progress on this site and will thus help point the way towards resolution.

A. Flexibility vs Strict Rules

EPA agrees, in principle, with the establishment of monitoring "rules" in a long term monitoring program. However, it should be recognized that future events or circumstances can not always be predicted and the strict adherence to a rule-based long term monitoring plan may be in some cases, detrimental in the future to receptors at the site. Could the source area be unstable and potentially migrating to the shoreline? Will the plume concentrations increase in the discharge areas? Currently there is no unacceptable incremental risk from this discharge, but will this be the same in the future? Only site specific data over at least 10-15 years will be able to give us an understanding of the system since the system is too complex to model mathematically with the limited amount of data available. EPA has repeatedly stated that we do not agree that the

available data confirms that the contaminants at Site 07 do not pose an unacceptable risk to the expected receptors under the recommended remedy over time into the future. It is the objective of the LTM to test this hypothesis. EPA has previously stated that the LTMP must be revised to include a statement that provides a margin of flexibility for the BCT to take actions that may be necessary to investigate or address such unforseen events or circumstances. If contamination still exists at this site, the Navy will be required to continue monitoring to support 5-year reviews unless it has been demonstrated that the site no longer poses a risk to human health and the environment. The plan should be sufficiently flexible so as to be able to reduce monitoring, or increase monitoring as the need arises. Maintaining a measure of flexibility is necessary and is not negotiable.

EPA proposal: Indicate that BCT consensus is needed to change sampling frequency, sampling parameters, sampling methodology, and the number and location wells to be sampled in the decision tree; rather than stating after 8 rounds of seasonal sampling, sampling frequency will be once every 5 years and after 30 years sampling will cease.

NAVY STILL PLANS TO MOVE FROM EVERY 9 MONTHS DIRECTLY TO EVERY 5 YEARS WITHOUT BCT APPROVAL.

B. Sampling Issues

1. Passive Sampling Devices: Discharge areas are generally in need of additional characterization relative to identifying optimal locations for ground water and sediment sampling at discharge locations. The specific approach to this general issue has not been resolved. The Navy currently relies on visual observations alone to identify areas of ground water discharge to surface water/sediment which may be good candidates for sampling. EPA's preferred approach involves a combination of visual and other means. Diffusion samplers are currently the best available technique. Preferential pathways may exist and EPA would therefore argue for a greater level of investigation leading up to selecting monitoring locations for the LTMP. Such "investigation" may be needed prior to each sampling round depending on the dynamics of the shoreline environment. The use of passive sampling devices is discussed in considerable detail in item 5 of the Navy's cover letter dated November 23, 1998 (Subject: Revised Long Term Risk Monitoring Plan for Site 7, Calf Pasture Point, Former Naval Construction Battalion Center (NCBC), Davisville, RI). In this letter, the Navy raises numerous valid issues with respect to the passive sampling technology, such as QA/QC and validation processes, application and procedures for use in inland as well as coastal/tidal environments, etc. The Navy further states here that the results from passive vapor sampling, "can not be viewed as incontrovertibly valid and/or reliable," and that, "future utility of field passive vapor sampling is contingent on verification of its results." Although this discussion raises several valid issues, it should be noted that, although passive sampling devices may become an accepted way to collect groundwater data in the future, EPA is not suggesting that the passive sampling devices should be used *in lieu of*

piezometers/monitoring wells at this time. Instead, as discussed consistently in numerous previous comment letters and meetings, EPA views the passive sampling technology as having the ability to identify general areas of contaminant discharge to surface water/sediment (i.e. VOCs), which can then be targeted to advantage with conventional ground water sampling methods (e.g., monitoring wells, piezometers). As such, the passive vapor sampling represents a **screening methodology** for identifying appropriate locations for subsequent monitoring well and/or piezometer installation. In this context, the Navy's aforementioned concerns are diminished in large measure. EPA continues to maintain that passive sampling devices offer a better means of identifying areas of ground water discharge to surface water/sediment identified to date, which considerably augments the Navy's previous proposal to locate piezometers based on visual means only.

EPA Proposal: Numerous options are acceptable to EPA beyond visually locating seeps and are available to locate discharge areas: passive vapor samplers, passive groundwater samplers, direct push sampling such as "hydro-punch", piezometer installation, and others. Some sort of screening technology must be used to determine the location and depth of the plume discharge unless the Navy is willing to place large numbers of piezometers along the shoreline.

NOT AGREED TO BY NAVY

2. Shoreline Piezometer Installation and Sampling Methodologies: The work plan discusses installation of "piezometers" rather than "monitoring wells" for the purpose of ground water quality sampling in the shoreline areas adjacent to Allen harbor, the entrance channel, as well as the inland freshwater wetlands. This concept has been discussed in previous meetings, but the overall approach has evolved over time, and several concerns come to mind at this time. EPA's concern is that ground water data collected from these "piezometers" should be as comparable as possible with data from the existing site monitoring well network. Sample quality is the issue, and in any case, the Navy's work plan must specify the construction methodology to be used in installing these "piezometers". Filter-pack is a specific concern, particularly given that metals are an issue in these areas of ground water/surface water interaction. Pre-packed screen sections may be acceptable in lieu of traditional ground water monitoring well screen/filter pack construction in these areas, but the work plan should discuss these issues directly and comprehensively. In addition, the work plan must clarify how the samples of groundwater will be extracted from the shore line piezometers consistently and with sufficient data quality/integrity each time they are sampled. It is assumed that United States Environmental Protection Agency Region 1's Low Flow Sampling protocols will be used in these locations as well, but this should be clarified. The work plan must also clarify how the exact sampling locations will be relocated for each sampling round. The main concern we have is with reproducibility of the data. The number of extraneous variables need to be kept to a minimum so that the plume can be

evaluated consistently. However, EPA recognizes that the highly dynamic environment represented by the Site 07 shoreline may require changes to the sampling locations over time in response to changing site conditions, and that a certain amount of flexibility in this area may be needed.

EPA Proposal: Low flow sampling will be used in lieu of or along with filtering. Discharge locations must be found and mapped for comparison to seasonal and other trends.

NOT AGREED TO

3. "Contingency" Monitoring Locations: One concern about the proposed plan relates to contingent monitoring sites B and C. Instead of relegating these locations to "contingency" status, a longer sampling frequency should be considered for a subset of wells in order to insure that these important peripheral (i.e., "sentinel") areas of the plume are adequately monitored. The purpose for wells at these sites, as originally discussed with the Navy, was to verify plume extent and stability (a monitoring objective) in the till layer. Without these wells, it is not clear how monitoring at the proposed sampling locations will verify plume stability on the east and southeast side of the plume. Wells either are not currently in place at the conceptual plume boundary (site C) or at the appropriate depth (site B). In the same breath, a less acute, but similar concern applies to MW07-28D, MW07-19S, MW07-19D, MW07-13D and MW-0713S which should also be included as a non-contingent locations (with possibly a longer sampling frequency).

EPA Proposal: Include certain wells noted above (locations B & C) for sampling seasonally. Include other wells noted above for plume perimeter evaluation and other wells for source area evaluation included in the specific comments concerning source area monitoring in the every 18 month sampling rounds until the seasonality issues have been addressed and then include all wells in every 5 yr sampling until such time as the BCT agrees that the data received from the wells is redundant or not needed.

NAVY INCLUDED THE B & C LOCATIONS BUT PROPOSED EVERY 27 MONTHS FOR SOME OTHER WELLS; **NEW COMMENT CONCERNING SOURCE AREA WAS INCLUDED IN THIS REVIEW OF THE CLTMP AND NEW WELLS HAVE BEEN REQUESTED TO BE INCLUDED IN THE CLTMP**

4. Sampling Parameters: It was stated in a previous version of the CLTMP that "The collected samples will be analyzed for a list of analytes that will be determined after the first round of LTRMP sampling". While it is agreed that it may be appropriate to evaluate the analytical parameters after several rounds of sampling to determine whether some analytical parameters may be eliminated, the analytical parameters, methods, and detection limits for the seasonal rounds of sampling must be specified. Additionally, it

should be understood that the daughter products of site COCs would not be eliminated from future sampling simply because they were not detected in the first few rounds of sampling.

In addition, the targeted metals are listed as total arsenic, manganese, aluminum, beryllium and chromium. During the Phase III RI, groundwater samples were filtered. The rationale for specifying total metals as opposed to dissolved metals (as in the Phase III RI) should be provided. Also, consideration should be given to adding antimony, iron, lead and nickel to the initial list of targeted metals. These metals were detected at elevated levels in the remedial investigations. It is understood that the Phase I and Phase II RI samples were not collected using low-flow sampling methods and were reportedly not filtered; however, these metals should not be eliminated from concern based on one round of low-flow sampling.

EPA Proposal: All Chlorinated VOCs found at the site and their daughter products must be included in the LTMP initially. Total metals found at the site must also be included initially. Metals data must be collected by low-flow methods (unfiltered).

NAVY PROPOSED VOCs AND THE METALS WE REQUESED, NEED TO KNOW WHICH VOCs AND MUST HAVE TOTAL METALS FOR HHRA/TRIGGER VALUE EVALUATION

5. Piezometer Locations: The results of the single USGS/EPA passive sampler activity indicated 2 clear general locations of shallow plume discharge. However, the discreet locations and the seasonal variability of this discharge is not known. Therefore, the location and number of piezometers needs to be established on a seasonal basis before the number and locations of discharge areas can be effectively standardized to provide consistent monitoring activities that can be evaluated statistically. In any event, the dynamics of the shoreline environments will require that passive sampling is completed prior to each sampling event and that the ground water sampling locations (i.e., piezometers) are adjusted accordingly. It should also be stated that the use of piezometers for this purpose was originally brought forward in the context of providing numerous sampling points rather than a single piezometer/monitoring well given the large number of uncertainties as well as the dynamic nature of the ground water/surface water interface. EPA maintains that several piezometers are needed in each general area of ground water/surface water discharge given the coarseness of the passive sampling grid as well as the variability of the subsurface geologic materials. A much finer passive sampling grid is another means of accomplishing the same objective, that is adequately identifying/characterizing the ground water discharge areas. Additional discussion is needed between the BCT to resolve this issue.

EPA Proposal: Sample at discreet discharge points- if 1 discharge location found based on some sort of investigation only a limited number of piezometers are needed, if

5 locations are found, a larger number of piezometer groups are needed. If depth of plume is not determined during the investigation, more piezometers may need to be installed to find the depth of the plume.

NAVY PROPOSED LOCATIONS ARE NOT ALL IN THE AREAS OF 'KNOWN' DISCHARGE LOCATIONS. NAVY PROPOSED LOCATIONS ARE NOT IN WETLAND AREAS WE HAVE REQUESTED IN THE PAST.

6. Statistics: It is doubtful that the seven events proposed for a "baseline" will be adequate to evaluate the data statistically. However, we are wiling to try to make decisions based on graphical representations of the data after 7 additional rounds of data. While 7 rounds of sampling at 9 month intervals has been specified for the baseline monitoring period in the Navy's LTMP, a statistical assessment conducted by EPA's National Exposure Research Laboratory (NERL) recommended a minimum of four data points from each season (letter dated July 23, 1998) for the baseline period for a total of at least 14 sampling rounds. The rationale for selecting 7 rounds of sampling at 9 month intervals for only 2 sampling rounds in each season for an inferred five year period should be provided in light of EPA NERL's recommendation. Two sampling rounds in each season may not be enough data in light of meteorological, sampling methodology, and location differences. The BCT should evaluate the data in the 5-year review process, but a strict rule should not be enacted which does not give the BCT the flexibility to require more seasonal data if the two points do not provide enough confidence that the system is clearly understood.

EPA Proposal: Do not use statistics on seasonal sampling rounds until there have been at least 4 rounds of sampling in each season in question. Instead evaluate data graphically until that time.

NAVY DID NOT AGREE WITH THIS

7. Other Administrative Issues: Well integrity must be evaluated on an annual basis, especially in the near shore. Institutional controls (IC) should also be monitored annually. These specific points are part of the reason that EPA requires a thorough work plan.

EPA Proposal: Include Monitoring well integrity evaluation in each sampling round and on an annual basis. Include IC monitoring on an annual basis in the LTMP.

NOT ADDRESSED: MAY BE DEFERRED TO WORK PLAN FOR LTMP

If you have any questions, or would like to set up a meeting to discuss these issues, please contact me (617) 918-1384.

Sincerely,

Christine A.P. Williams
Remedial Project Manager
Federal Facilities Superfund Section

Enclosure

cc: Richard Gottlieb, RIDEM
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