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NIROP FRIDLEY
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LETTER DISCUSSING
8/11/2010



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

SR-6J

August 11, 2010

Mr. Mark Schultz
Regional Environmental Director
Navy Region Midwest
NAVFAC Midwest
201 Decatur Avenue, Building 1A
Great Lakes, IL 60088-2801

**Re: Naval Industrial Reserve Ordnance Plant
Fridley, Minnesota**

Dear Mr. Schultz:

Over the last nine years U.S. Environmental Protection Agency (EPA), the U.S. Navy (Navy), and Minnesota Pollution Control Agency (MPCA) have discussed various approaches for reaching remedial objectives and developing an exit strategy for the Naval Industrial Reserve Ordnance Plant (NIROP) site. These discussions led to a meeting between the EPA, Navy and MPCA Remedial Project Managers (RPMs) in May 2010 and subsequent conference calls between the three Agencies to reach an agreement on the site goals and objectives. Although the RPMs did confirm that the goals in the OU1 Record of Decision are to achieve MCLs in groundwater and achieve levels that are protective of surface water near the Mississippi River, the team did not reach a consensus on what steps to take to achieve these goals in the most effective and efficient manner. Also, although a number of discussions regarding an exit strategy took place, no clear strategy has been established. However, regarding the next steps to take, the discussions have focused on the two main options discussed below.

The OU1 ROD, which addresses the contaminated groundwater at NIROP, was signed nearly twenty years ago. The intent of the OU1 ROD was to devise a cleanup approach for groundwater. At the time the ROD was written, there was "on-going work" to "defin[e] the extent of soil contamination" (page 1, OU1 ROD). On page 16 of the OU1 ROD, it states:

"The Navy believes that the combination of source remediation, if any subsequent RI/FS concerning the source indicates that such remediation is necessary, and groundwater remediation should address all contamination at the site. By remediation of contaminated soils, if found to be present, contaminant loading to groundwater... would be reduced."

Based on the removal of buried drums from the site and a limited amount of soil removal in the 1990s, along with the best available information at the time, the 2003 ROD for OU2 and OU3 selected land use controls as the remedies. Data gathered since that time, along with further review of historical data, however, has led to the opinion of most members of the NIROP team that at least one source exists

beneath the site. In Section 7.1 of the 2009 Annual Monitoring Report prepared by the Navy's contractor, it states that the "pattern of TCE contamination suggests a primary Navy source in the East Plating Shop area, with at least one additional minor source in the northern and/or central areas of the site".

In addition, in Section 7.3 of the 2009 Annual Monitoring Report, the Navy's consultant states:

"Implementation of Remedial Actions Targeted at the probable primary source area (releases from the East Plating Shop) should be considered. Any significant contaminant mass removal and/or destruction in the source area would be expected to significantly decrease downgradient groundwater contamination. The groundwater extraction and treatment activities, as well as any bioremediation activities in the ERR/ACP area, are measures that limit the spread of contamination but do nothing to eliminate the source."

EPA believes that the remediation of the NIROP site is at a critical stage at this time. The groundwater extraction system is aging and is unable to meet the requirements of the ROD, the remedial design, or the reduced parameters developed by the NIROP team for use as minimal performance measures. In addition, re-evaluation of recent and historical data has led to the majority of the team believing that at least one significant source of on-going contamination exists beneath the NIROP site buildings. These source area(s) were not recognized during the preparation of the OU2 and OU3 ROD and will likely make it extremely difficult to reach MCLs in groundwater in a reasonable timeframe. After considering these factors and taking into account the discussions with the Navy and MPCA, EPA has developed two options described below. These are the options that the EPA, Navy and MPCA RPMs have been discussing for several months.

Option 1

Under Option 1, the Navy would make improvements to the groundwater extraction system so that it meets the objectives of the OU1 ROD, which in part is the "total hydraulic containment to prevent migration of all contaminated groundwater off the NIROP site ..." (page 15, OU1 ROD). After a number of attempts to redevelop several of the extraction wells, it has become apparent that replacement of one or more wells will be required in order to meet the ROD objectives.

Given the large amount of information available about site hydrogeology and the extraction system, EPA believes that the planning of and implementation of improvements to the extraction system could be completed by 2011. This would allow total hydraulic containment to be attained by at least September 30, 2012. Because of the presence of at least one on-going source beneath the NIROP site, however, it is likely that groundwater extraction and treatment will go on for many years under this option. If this option is implemented, as additional groundwater data is collected EPA will continue to evaluate the need to address the source(s), as described under Option 2.

Option 2

Under Option 2, the Navy would maintain the current extraction well system at approximately 85 percent of design capacity while conducting a limited investigation of potential source areas beneath the site buildings. For this option, the Navy would develop a work plan for and conduct an investigation of the additional source area(s) that has been identified on the site. The goal of this option would be to adequately define the source(s) so that an evaluation could be performed to assess the technical and economic feasibility of reducing/eliminating the identified source(s) with the goal of shortening the duration of the operation of the groundwater extraction and treatment system.

Under this option, it is possible that once the source(s) are addressed, the Navy may be able to demonstrate that operation of the groundwater extraction system could be reduced and/or discontinued. The demonstration would include showing that contaminant concentrations near the Mississippi River would continue to be protective of surface water, attainment of MCLs in groundwater would be reached

in a reasonable amount of time, and, if applicable, the conditions for the implementation of monitored natural attenuation (MNA), consistent with EPA and MPCA guidance, were met at the site. If these can be satisfactorily demonstrated, EPA may be able to amend the current ROD.

Because the extraction well system may not be operating optimally during the time the investigation and evaluation under Option 2 is conducted, EPA would require that the work be completed within a reasonable amount of time.

I am aware that in a recent email message, the Navy has indicated that undertaking a limited source investigation would not be possible at this time due to it being cost prohibitive. I believe the team may be able to think of streamlining measures to decrease costs. EPA would need better documentation of estimated costs if the Navy believes the work would be too costly.

EPA would like to make the best use of the time during the next team meeting planned for September 2010 by having an agenda that is built around the strategy and objectives for the site. Please provide EPA and MPCA with an outline of the proposed work to accomplish one of the above two options two weeks prior to the meeting (by September 8, 2010). This will allow the team the opportunity to review the proposal prior to the meeting so that they can be prepared to discuss the specifics during the September meeting.

You can contact me at (312) 353-5425 if you have any questions.

Sincerely,



for Joan Tanaka
U.S. EPA

cc: Howard Hickey, U.S. Navy
Deepa de Alwis, MPCA
Tim Thurlow, U.S. EPA
Mary Tierney, U.S. EPA
Nicole Goers, TechLaw, Inc.
Rick Kuhlthau, Subcontractor to TechLaw, Inc.