UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

MEMORANDUM

DATE: April 2, 1997

SUBJECT: Response to National Remedy Review Board Recommendations on the New Brighton/Arden Hills Superfund Site

FROM: William E. Muno, Director
Superfund Division for R. Karl

TO: Bruce Means, Chair
National Remedy Review Board

The purpose of this memorandum is to provide a response to the October 16, 1996 memorandum issued to Region 5 regarding the National Remedy Review Board (NRRB) recommendations on the New Brighton/Arden Hills Superfund site. Region 5 has worked closely with the Army and the Minnesota Pollution Control Agency (MPCA) on addressing the recommendations received from the NRRB. In addition, I have given substantial weight to the NRRB's recommendations .

The NRRB's recommendations were contained in five bulleted items. Each recommendation is identified below, with Region 5's response to those parts of the recommendation outlining a specific matter for consideration.

First bullet

"The NRRB finds that the basis for the preferred soil remediation goals are unclear. The Board believes that some of these goals are low (e.g., dioxin/furans, arsenic), particularly given the proposed industrial exposure scenario. Further, the Army should consider using one or more of the recently developed adult lead exposure models (e.g., the "Bowers model" currently under consideration by the Superfund Lead Technical Review Workgroup) to assist in evaluating baseline risk, and to help establish a site-specific lead cleanup level. Although not yet adopted in formal Agency policy, use of such a model can help fine-tune, or provide additional scientific and technical support for the Region's proposed soil lead cleanup level. The discussion of cleanup goals should clearly identify which contaminants are determining the scope and cost of excavation. The goals should also take into account reasonably anticipated future land use (see the last discussion point below)."

Soil remediation goals for Operable Unit 2 (OU-2) at the New Brighton/Arden Hills Superfund Site were established based upon a comparison of contaminant concentrations to calculated sitewide background values for inorganic contaminants, the sitewide human health risk assessment, and the potential for soil contaminants to leach to groundwater. Site-specific risks, for each of the soils areas requiring remediation, were calculated based upon a current and potential future industrial land use scenario.

The resulting analysis indicated that, for those areas containing arsenic contamination, the remediation goal should be to site-specific background levels. Because of the discrete nature of contaminant distribution at the soils areas, arsenic is the risk driver for approximately 750 tons of soil at Site H.

Similarly, with dioxin/furans, which were detected in one area of Site C, the calculated cleanup level was based upon the human health risk calculations under the industrial land use scenario. This has resulted in a low dioxin/furan cleanup value for that area where these contaminants were detected, with the result that approximately 3900 tons of contaminated soil are be excavated and transported off-site for treatment and disposal, under the recommended remedy. It is the Region's understanding that a U.S. EPA policy addressing the cleanup of dioxin/furan-contaminated soil is currently under development and should be issued within the next few months. Should such a policy be finalized before the OU-2 remedy decision is finalized, the Region will incorporate the requirements of the new policy and recommend to the Army a modification to the final dioxin/furan cleanup value.

In December 1996 the U.S. EPA Technical Review Workgroup (TRW) for Lead published Recommendations for an Interim Approach to Assessing Risks Associated with Adult Exposure to Lead in Soil. Based on the TRW's recommendations, the Region has developed a Site-specific lead cleanup levels for the OU-2 soils remedies. As a result, the lead cleanup level has been established at 1200 ppm for all of the lead-contaminated soils.

Finally, text has been included in the FS in the discussion of each of the soils remediation areas identifying which contaminants are the risk drivers and, thus, which define the amount of soil which will need to be excavated. In addition, the relevant figures, and tables of preliminary remediation goals, also provide the same information. In general, ammunition related metals (antimony, copper, lead and mercury) drive the soils cleanups for the shallow soil areas.

Second bullet

"The NRRB supports the excavation and offsite disposal of the small volumes of contaminated soil that the Army has proposed. The NRRB recommends that the Army evaluate the cost effectiveness of onsite vs. offsite stabilization (if needed) of excavated soils. The NRRB also supports the expanded use of soil vapor extraction to address the contaminated subsurface soils. However, the Army should consider further characterization of the soils beneath buildings in areas I and K to determine the practicability and benefits of active remediation vs. the present containment approach."

Based on this recommendation, the Army has evaluated the cost of off-site stabilization versus on-site stabilization. The Army's evaluation indicates that off-site stabilization of excavated soils would be approximately twice that of on-site stabilization. Therefore, on-site stabilization was selected as the more cost-effective approach to stabilizing those soils which will require it.

Further characterization of the soils beneath the buildings in areas I and K has been included as part of the remedy for each of these areas.

Third bullet

"The NRRB could not ascertain whether the Army's objective for groundwater is to contain (or attenuate) contamination, or to restore the groundwater. If restoration is a final groundwater treatment objective, the Army should evaluate more aggressive treatment options. Until the practicability of restoration is determined, the NRRB recommends that the deep ground water portion of this remedy be considered an interim response."

The Region, MPCA and the Army have had extensive discussions regarding the merits of finalizing the current interim on-TCAAP groundwater action versus continuing to operate the system as an interim action. In addition Regional staff and management have consulted with ORC and the Regional Headquarters contact regarding the issue.

Containment of the source areas of groundwater contamination on-TCAAP is a primary remedial action objective for deep groundwater. However, given the current state of site-specific knowledge regarding subsurface contaminant distribution and aquifer characteristics, and in the absence of firm data that the aquifer underneath TCAAP cannot be restored, restoration is also a deep groundwater remedial action objective. While it remains true that specific site conditions (i.e., the likely occurrence of DNAPL and fractured bedrock) are indicators that restoration may be difficult, the Army has indicated that they are not prepared to relinquish the restoration goal at this time. As a result, the Army will include restoration of the deep groundwater as a remedial action objective. In addition, the Army will, as a component of the deep groundwater remedy, be annually reviewing, and reporting to the Region, on the status of the most current groundwater remediation technology and exploring promising cost-effective approaches which have the potential to accelerate the restoration time frame. Extensive performance monitoring will be used to monitor progress toward meeting remedial action objectives

The Army has a strong desire to finalize the remedy for deep groundwater both for planning and budgetary purposes. In addition, under a continued interim action scenario, it is believed that Army will not be in a position (due to budgetary reasons) to make the changes necessary to refocus the operation of the current, inefficient, boundary containment system towards source containment.

Given the fact that the Army has agreed to a remedial action objective of restoration for the deep groundwater, the Region sees no significant reason not to insist that the remedial action for deep groundwater be maintained as an interim action. The Region believes the use of a restoration remedial action objective for the deep groundwater to be consistent with the NCP. As such, the Region is willing to allow the Army to consider the remedial action for the deep groundwater a final action.

Fourth bullet

"If the Army's groundwater remediation strategy includes the use of a technical impracticability waiver, adequate data should be gathered to determine the practicability of restoration. For example, if a technical impracticability waiver is to be based on the presence of DNAPLs, the Army should further evaluate the extent of this problem. The NRRB also notes that, given the extent of groundwater contamination and the several municipalities and jurisdictions affected, successful institutional controls are particularly important to ensure protectiveness of the groundwater response strategy."

Army's proposed OU-2 groundwater remediation strategy does not include the use of a technical impracticability waiver. As part of the performance monitoring program, hydrogeological and chemical data will continue to be gathered to better assess the progress of the remedy toward meeting remedial action objectives. (See response to the third bullet for a discussion on what remedial action objectives are being set for the deep groundwater component of the remedy)

The implementation of institutional controls to prevent exposure to contaminated groundwater is an effort which has been a major component of the OU-1 and OU-3 off-post remedies. Army has coordinated closely with the MPCA and the Minnesota Department of Health (MDH) to establish such controls. MDH has issued a Special Well Use Advisory Area Notice to restrict private well installations where the groundwater has been impacted by contamination. Also, Army has performed an extensive multiphase private well survey to identify any possible private wells which may be impacted. Finally, Army will be offering private parties the opportunity to abandon contaminated or potentially contaminated wells and connect to an alternate water supply at Army expense.

Fifth bullet

"EPA's May 25, 1995, Directive on Land Use in the CERCLA Remedy Selection Process (OSWER Directive No. 9355.7-04) states that appropriate discussion with the public should be conducted as early as possible in the scoping phase of the Remedial Investigation/Feasibility Study. From the materials available to the NRRB, it does not appear that the Army sought community input in determining the proposed reasonably anticipated future land use (industrial). Further, it is not clear how the Re-use Committee and Re-use Plan developed for the site affected the Army's proposed land use determination."

The TCAAP Reuse Committee was appointed by Congressman Bruce Vento in the fall of 1994, at the request of the Department of Defense. In May 1996, the Committee completed its task of drafting a proposed Reuse Plan for the TCAAP property. However, it appears that DOD was premature in its request for the formation of such a committee insofar as DOD does not intend to excess any of the TCAAP property now or in the foreseeable future. At a meeting hosted by Congressman Vento's office on August 21, 1996, Army representatives explained that, while the Reuse Plan would be a useful tool for future decisions regarding TCAAP property, the entire facility would remain under Army control either directly or through cooperative agreements with the U.S. Army Reserves and the Minnesota National Guard. Therefore, the current site use will remain the future site use and site cleanup remedies are proposed on that basis.

In the fall of 1995, a Restoration Advisory Board, composed of 19 members representing a cross-section of the communities around TCAAP, was formed, with the RAB's first meeting taking place in January 1996. Although some members of the RAB were also members of the Reuse Committee, the two are independent bodies, with different functions. The RAB has been very interested in the issue of future land use at TCAAP, although Army has made it a point to insist that site cleanup will be based upon Army retaining the property. This approach has been documented as an Army policy (*Command Policy on Establishing Remediation Goals and Objectives at U.S. Army Industrial Operations Command Installations, Memorandum from Robert J. Radkiewicz, DCS for Environmental Management, October 30, 1995)*. The RAB may wish to question that policy beyond the installation level. However, with respect to the OU-2 site-specific issues, the RAB has been actively involved in review and comment on the Feasibility Study and is supportive of the proposed remedies.

From the strict perspective of actual land use, a significant portion of the Reuse Plan calls for broad areas of TCAAP to be designated for recreational use. Industrial cleanup levels for soils impacted in those areas would be consistent with such potential future use, although Army has no current plans to excess any TCAAP property for such use. The two areas where there appears to be a conflict between the Reuse Plan and the currently recommended industrial cleanup standards for soils are at Sites A and C. However, there is no current basis for making the cleanup levels in those areas more restrictive.