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MCAS EL TORO
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Daniel Opalski, Chief
Federal Facilities Branch (SFD-8)
Superfund Division
United States Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105

Dear Mr. Opalski

On September 18, 1997, I sent a letter to you asking for USEPA's position regarding the State of California's proposed "drinkable leachate" cleanup standard and SVE "shut-off" criteria. The purpose of this letter is to initiate an exchange of views concerning some related important issues that the Department of Navy (DoN) and the U.S. Environmental Protection Agency (USEPA) Region IX office are facing as we work our way towards Records of Decision (RODs) for Volatile Organic Compound (VOC) contamination in the vadose zone at Marine Corps Logistics Base (MCLB) Barstow and Marine Corps Air Station (MCAS) El Toro.

As the lead federal agency for these installations, we would like to reach a consensus with USEPA concerning interpretation of CERCLA and the National Oil and Hazardous Substances Contingency Plan (NCP) as it relates to these issues. Of course, there are also State of California laws and regulations that are of concern but we believe that clarity in the interpretation of federal law on these issues is a critical element of resolving the issues with all FFA parties. We, therefore, request that you share your comments and response to our views on the technical and regulatory issues addressed below.

Expectations for and Limitations of SVE Technology:

Before addressing the specific issues of concern I would like to provide some background. It appears that there is a basic consensus among the FFA parties at these installations that vadose zone VOC source reduction through SVE is desirable for certain sites. There also appears to be a consensus that not all VOCs can typically be removed from the vadose zone by SVE. In many cases, VOCs reach asymptotic conditions due to nonequilibrium partitioning such as desorption, pore diffusion, or other rate-limiting transport steps following a period of treatment. As a result VOCs may persist and continue to release into localized areas of groundwater below the source/disposal area.

We anticipate that at many sites the bulk of the vadose zone VOCs can be removed through SVE technology. In those cases, the remaining contamination releases into groundwater and dissipates below the capillary fringe through dilution before it poses a threat to human health or the environment. Any exceedances of groundwater cleanup numeric

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standards would be localized in small areas. In such cases, the "source areas" of residual contamination are immobilized and in a sense "contained" by natural processes.

It is also possible after reaching asymptotic conditions for vadose zone VOCs that the residual concentrations may cause more extensive exceedances of groundwater cleanup numeric standards even after the optimization of the technology and investment of significant amounts of time and resources. In these latter situations, it appears that all parties agree that the incremental costs of continuing the effort to remove these residuals exceeds the benefits after a certain point of diminishing returns.

Regulatory Interpretation Issues

In recent discussions among our respective staffs, an issue has arisen relating to whether or not the residual contaminants referenced in either situation described in the paragraph above should be considered "waste left in place" below "waste management areas" under specific USEPA policy relating to the "point of compliance" for groundwater cleanup levels. That policy is set forth in the NCP preamble at 55 Fed. Reg. 8753, March 8, 1990. The policy states as follows:

"EPA believes that remediation levels should generally be attained throughout the contaminated plume, or at and beyond the edge of the waste management area, when the waste is left in place (emphasis supplied)."

In a discussion of groundwater restoration policy on the same page of the NCP preamble, the USEPA Administrator states that:

"Such restoration may be achieved by attaining MCLs or non-zero MCLGs in the ground water itself, excluding the area underneath any waste left in place."

USEPA Region IX staff on both the MCLB Barstow and MCAS El Toro projects have stated that under this policy, a "point of compliance" is only acceptable at landfills and that groundwater cleanup standards must be achieved "throughout the contaminated plume" at all other categories of sites.

We do not understand this position. The USEPA Administrator's use of the broad words "waste management area (emphasis supplied)" in the NCP preamble instead of the words "regulated unit" or "waste management unit" was intentional. After all, CERCLA was enacted in large part to support remediation of sites that were created prior to the effective date of RCRA, i.e., before today's classifications of "regulated units" existed. Significantly, there is no limitation to landfills set forth in the NCP preamble or text.

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As a former USEPA RPM from USEPA Region VIII, I know that USEPA has long accepted that discrete areas of soil contamination resulting from the unregulated disposal of contaminants (including residual contamination following treatment) falls within this broad definition even when those discrete areas do not meet the definition of a landfill. The policy reflected in the NCP preamble language quoted above was issued to accommodate both scenarios where complete "clean closure" (e.g., through "dig and haul" or treatment) is selected as a remedial action using the nine NCP remedy selection criteria and where the remedy selected under those criteria support leaving some waste in place and containing it either for cost reasons (e.g., certain types of mining waste) or limitations on complete treatment (VOCs in vadose zone are emerging as a good example).

We have conducted a review of past RODs in the ERD-ROD database and located many RODs issued or approved by USEPA addressing non-landfill sites in which soil contamination/waste was left in place (sometimes as "residual contamination" following treatment of "hot spots"). The sites addressed have included mining waste impoundments, gravel pits, wood treating sites, and general industrial areas (including buildings) impacted by a range of types of repeated contaminant releases. These RODs have included the establishment of a "point of compliance" for groundwater at the downgradient edge of the waste management area where the waste was left in place. I refer you to the following example RODs:

1. Teledyne Wah Chang, USEPA R10, 6/10/94 (EDR-ID 1000201862).
2. Montana Pole & Treating Plant, USEPA R8, 9/21/93 (EDR-ID 1000396074).
3. Naval Air Station, Ault Field, USEPA R10, 12/20/93 (EDR-ID 1000141164).
4. Reilly Tar & Chemical, USEPA R5, 9/30/93 (EDR-ID 1000289722).
5. American Crossarm & Conduit, USEPA R10, 6/30/93 (EDR-ID 1000360942).
6. Reilly Tar & Chemical, USEPA R5, 6/30/92 (EDR-ID 1000289722).

Reflections Upon the "Mixing Zone" Concept

In my September 18, 1997, letter to you regarding related vadose zone cleanup issues, I inquired as to whether or not USEPA still opposed CalEPA's "drinkable leachate" cleanup goal and advocated the "mixing zone" approach as described in the Sharpe Army Depot dispute resolution documents. Upon further reflection, it appears that inherent in USEPA's "mixing zone" approach is a principle of leaving a limited amount of residual waste in place.

It appears to us that the "mixing zone" approach is legally and technically compatible with and consistent with the NCP provisions regarding "point of compliance" for groundwater remediation. Such residual VOCs that are not removed from the vadose zone soils can be considered "waste left in place". As a conservative measure institutional controls could ensure that shallow groundwater wells are not installed at or near the capillary fringe where immobilized contamination lingers. In addition, when technological and economic feasibility

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limitations at sites where source reduction is more difficult lead to a decision to shut off SVE before achievement of a water quality-based numeric limitation, the case that waste is being "left in place" is even stronger. For these reasons, establishment of a "point of compliance" at the downgradient edge of a "waste management area" and provisions for containment of groundwater contamination upgradient of that point is consistent with CERCLA and the NCP. We interpret State of California regulations and policies in a similar fashion.

I would appreciate your thoughts on these issues. We will be addressing them as we work towards a final ROD for MCLB Barstow OU1/2 over the next few months. Please feel free to contact me at (619) 532-1234 if you have any questions or comments.

Sincerely,



Walter F. Sandza
Leader
Environmental Specialist Support Team Leader

Copy to: Major Tim Evans, USMC WACO
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