Dante,

The followings are DTSC's suggested ideas: (Please consider this email as a draft since we might revise it based on additional comments from the geologist unit 'supervisor.

In terms of the cleanup objective and exit strategy for NAPL remediation as posed by the Remedy Review Board, followings are my two-cent take-on.

Cleanup Objective:

A: NAPL remediation for Soil - the ultimate goal is not to generate any adverse health impact to surface receptors such as unhealthy vapor presence in the trench impacting construction workers/utility installers and prevention of indoor vapor intrusion into existing or proposed buildings over the impacted area, plus prohibit soil gassing from exposed native soils. Additionally, all the NAPL chemicals trapped inside the soils should not migrate downward and leachate into the groundwater at concentrations exceeding their respective MCLs, in particular for benzene to degrade the groundwater quality (No Anti-Degradation Policy).

B: NAPL remediation for Groundwater - all impact to groundwater should clean up to the drinking water MCL standards since the underlying aquifers are designated by WRD as drinking water source serving 4 million households (Central & Western Coast Basins altogether) as a beneficial use for domestic water supply. The regional groundwater dependence alone can allow to serve up to 1 million household water needs. Thus, the protection of groundwater quality can not be compromised.

Exit Strategy:

The NAPL active remediation should perform and fulfill the objectives outlined in both A and B above to achieve the protection of public health and environment for surface and groundwater receptors. The exit strategy should only apply to whenever the stipulated conditions in both A and B are complete or an asymptote condition being achieved after exhaustive avenues are successfully proven to be completely conducted from all available resources (including BAT - best available technologies). Even under the asymptote condition, the plumes have to sufficiently demonstrate they are in complete control and won’t cause any other adverse health impact.

I understand these proposed measures might encounter with some difficulty which exists in the EPA acceptance of groundwater TI waiver in the groundwater ROD. The dilemma is the TI waiver is in place, then how can we ask the RPs cleaning up the NAPL to the MCL levels in groundwater? This question, in my opinion, can be analyzed in two ways. First, this may be the best time to revisit the groundwater ROD with all available data to see if the TI waiver meets all the technical justifications to stay put. So far, as we discussed at 2/4/09 meeting with Remedy Review Board in SF, no regular monitoring groundwater data is generated from the groundwater dual sites except for conducting the theoretical modelling. It may serve a good opportunity to
reexamine the suitability of the groundwater ROD and amend it accordingly. Secondly, the argument rests upon that whether the benzene/chlorobenzene plumes will migrate laterally and vertically by not pursuing active NAPL remediation, and ultimately the plumes result in impacting the groundwater quality of underlying aquifers for drinking water resource. It may certainly invite the WRD's litigation for oversight and cost recovery issues if there is any detection or finding on the nearby production well might be in jeopardy due to the impact from those plumes. In fact, WRD already expresses those pressing concerns to DTSC/EPA verbally and expects a timely effective resolution to treat/control the impacted plumes in Del Amo/Montrose dual sites. Please keep in mind that benzene groundwater data showed concentrations up to 1,800,000 ug/l at well XMW-20 in 1990 at source area 3, and no sample was ever collected since then. In addition, several other data indicated benzene concentrations in groundwater were detected in the range of 430,000 ug/l to 860,000 ug/l at source area 11. Combined with these important and pressing factors, it definitely reinforce our belief that NAPL remediation should be actively pursued to protect all stakeholders' concerns.

And finally, we should consider that the TI waiver were in place for about 10 years; those might considered to be revisited based on the selected alternative.

Dante, please let us know if we need to a conference call to go over with all issues.

Thanks.

Safouh Sayed
Hazardous Substances Engineer
Brownfields and Environmental Restoration Program
Department of Toxic Substances Control
5796 Corporate Ave
Cypress, CA 90630
(714) 484-5478
(714) 484-5438
ssayed@dtsc.ca.gov

>>> <Rodriguez.Dante@epamail.epa.gov> 2/17/2009 1:54 PM >>>
Ted and Eva -

There is a follow-up task to an issue that was raised by the Remedy Review Board for which I could use both your help. The Board recommended that we specify in our ROD our "exit strategy" for the NAPL remediation, to clearly establish the desired clean-up outcomes. I am looking for your ideas on what we can use for our clean-up goal and our exit strategy for Del Amo. Please send me your ideas. I will then set-up a conference call, and we can discuss the ideas and select the best approach. Please provide your ideas by the end of next week (2/27), and I will arrange our call for the week thereafter.

One additional follow-up task for DTSC. Ted, could you also follow-up on the following issue? The Board raised the issue of cost-effectiveness, saying that we did not present them with information regarding the estimated mass removal of the various NAPL remediation alternatives. They said that we should present such information in our decision documents, along with costs and estimated groundwater clean-up time-frames. All this
information was estimated at various points in the process and is available, but needs to be looked up. Can you please do this? The documents to use are the draft final Feasibility Study, and the "MW-20 Pilot Program Summary Report" by URS, dated October 15, 2003. Thank you very much.

Let me know if you have any further questions, or if you have any problems with these time-frames. Thanks!

Dante Rodriguez, P.E.
Remedial Project Manager
U.S. EPA Region 9
(415) 972-3166
rodriguez.dante@epa.gov
====================================