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Julie Roth, Executive Director
DSCSOC

Review of Documents Related to LEHR Superfund Site

Julie,

Over the past few months there have been a number of LEHR site documents developed by PRP contractors and RPMs. I have reviewed each of these documents. My comments on them are presented below.

Data-Transmittal

UCD1-52 and UCD1-53 Well Installation

First Hydrostratigraphic Unit

Bold/Oatman, on June 28, 2004, submitted a Data-Transmittal UCD1-52 and UCD1-53 Well Installation First Hydrostratigraphic Unit. I have reviewed this report and have no comments on the overall report at this time. I will await comments by the US EPA and CVRWQCB before determining if there is need for further comments by DSCSOC. However, page 5, under section 4.0 Waste Management, states that the drill cuttings and purge water were “disposed of appropriately.” What does this mean? “Disposed of appropriately” does not provide the information needed in order to know that the wastes were appropriately managed.

Also, mention is made at several locations about finding black nodules in the drill cuttings. Samples of these materials should have been taken and analyzed to determine the characteristics of the black material that causes the nodules to be black. Nodules of this type are an indication of the heterogeneity of the aquifer, which may help explain some of the variable results that are found. These black nodules could be indicating reducing conditions, which would significantly affect transport of some pollutants. This, again, points to the need – per our repeated suggestions to the RPMs – for UCD to be required to measure down borehole DO, so that we could begin to understand the status of the redox conditions in the groundwater. Until this is done, we will continue to fumble along, not properly characterizing the aquifer.

Expanded Groundwater Source Removal Pilot Test System Summary Report

This report was submitted to Ms. Patti Collins of the US EPA on June 28, 2004. I have reviewed this report and have no comments on it at this time. I will await reviews by the US EPA and CVRWQCB before determining if there is need for comments by DSCSOC.

DTSC Site Wide Risk Assessment (SWRA), Volume 1: Human Health Risk Assessment

On June 15, 2004, DTSC (Steven Ross) submitted comments to UCD (Brian Oatman) on the Site Wide Risk Assessment, Volume 1. I find that the DTSC comments are appropriate. As has been discussed, the UCD Site Wide Risk Assessment, Volume 1, has significant problems and requires extensive revision.

In order to conserve the limited financial resources available to DSCSOC and as we have discussed, I am not providing detailed comments on the March Human Health Risk Assessment, and will examine the comments made by the US EPA, DTSC and the CVRWQCB on the revised SWRA to determine if there is need for any additional comments by DSCSOC on this document beyond those that were submitted on the original SWRA.

Recently we have received UCD's responses to the US EPA comments on the revised SWRA. Based on UCD's responses, it appears that UCD is now on track to begin to develop a credible human health risk assessment for the LEHR site. The key issue that still needs to be addressed in order to properly determine the appropriateness of the approach used by UCD in conducting the human health SWRA is an understanding of how the results of the human health SWRA are to be used to establish remediation goals and remediation approaches. DSCSOC raised this issue when it first commented on the initial human health SWRA and, thus far, has received no response.

Request for Unfiltered Methylmercury Storm Water Data

On July 16, 2004, the Central Valley Regional Water Quality Control Board (Susan Timm) submitted a request to UCD (Oatman) for unfiltered methylmercury storm water data. As I have discussed in my comments on the storm water mercury situation at the LEHR site, there is need for an expanded mercury monitoring program. I strongly support Susan Timm's request for additional monitoring. As we have discussed, this monitoring should be based on total recoverable mercury (i.e., the regulated form), and not dissolved mercury. Total recoverable methylmercury should also be measured with adequate detection limits. As DSCSOC commented several months ago when it raised the issue of the status of the data arising from the special studies on mercury concentrations in LEHR site stormwater runoff, these studies showed high concentrations of mercury in stormwater runoff that demonstrate the need to develop a mercury control program for LEHR site stormwater runoff.

UCD's Revised 2002 Comprehensive Water Monitoring Report

On June 30, 2004, UCD (Oatman) provided Ms. Patti Collins of the US EPA with some revisions of the 2002 Comprehensive Water Monitoring Report. These revisions are based on comments provided by DOE received on February 11, 2004. UCD's corrections in response to DOE's comments represent a small part of the problems that have been found with the 2002 annual monitoring report. DSCSOC provided detailed comments on the inadequacies of this report, which should be addressed before the report is finalized. Thus far, DSCSOC has not received any comments in response to its comments.

DOE Constituents of Concern Flowcharts

DOE (Bob Devany of Weiss Associates) has provided several versions of a constituents of concern flowchart. As you know, DSCSOC has provided repeated comments on the

deficiencies in LEHR site designation of constituents of concern. I have no problems with the various comments made on DOE's original draft flowchart. Flowcharts of this type, however, do not address the much bigger issue that have been raised in DSCSOC's comments. It is my recommendation that the issue that will have to be addressed in any ROD for the LEHR site is a clear, explicit statement that only a limited number of the many thousands of chemicals that have been deposited as waste at the LEHR site have been considered in the LEHR site RI/FS. There should be an ongoing effort, as part of the five-year reviews, to consider expanded COCs. The PRPs should understand that they may have to do additional remediation as further investigations are done on the LEHR site, when additional constituents of concern are identified.

In the Site Wide Risk Assessment Volume 1 Human Health Risk Assessment, page ES-1 of the Executive Summary, second paragraph states,

“The goals of the SWRA are to define the magnitude and probability of potential threats to human health and the environment posed by chemicals in soil, groundwater, sediments and surface water at the Site.”

This statement needs to be revised to reflect the fact that only a limited number of the chemicals that are potentially hazardous to public health and the environment at the LEHR site are considered in the Human Health (and, for that matter, Ecological) Risk Assessment. This situation arises out of the limited consideration of constituents of concern and the failure to acknowledge and discuss this situation.

As you may recall, about two and a half years ago, as part of a national US EPA headquarters-sponsored TAG workshop that was held in Nashville, Tennessee, I presented an invited discussion on some of the problems in adequately investigating and remediating Superfund sites. My discussion of problems was based primarily on the recent experience that we have had at the LEHR site. The PowerPoint slides of my presentation in Nashville are on the DSCSOC website as,

Lee, G. F. and Jones-Lee, A., “Improved Public Health and Environmental Protection Resulting from Superfund Site Investigation/Remediation,” presented at US EPA Technical Assistance Grant Workshop, Nashville, Tennessee, September (2000). http://members.aol.com/dscsoc4/2000/tag_082900.pdf

This spring the journal *Remediation* published a paper,

Lee, G. F. and Jones-Lee, A., “Improving Public Health and Environmental Protection Resulting from Superfund Site Investigation/Remediation,” *Remediation* 14(2): 33-53, Spring (2004), <http://www.gfredlee.com/remediation-paper.pdf>

which provides an expanded discussion of the deficiencies in the approaches that are used at the LEHR site, as well as other sites, in adequately defining constituents of concern in conducting Superfund/hazardous chemical site investigation and remediation. Beginning on page 5 of this paper is a multi-page discussion of the issues surrounding adequate definition of constituents of concern at Superfund sites.

**Department of Health Services
Draft Final Status Survey Plan Cobalt-60 Field**

I have reviewed the June 28, 2004, letter from Stephen Pay of the Department of Health Services regarding the Draft Final Status Survey Plan Cobalt-60 Field, and have no issues with this letter. Mr. Pay's comments seem appropriate.

I have also reviewed the US EPA comments on the Draft Final Status Survey Plan Cobalt-60 Field and support these comments.

Characterization of Chloroform in HSU-2 Groundwater/IRA Capture Zone Analysis

UCD (Oatman) submitted a report on June 28, 2004, to Ms. Collins of the US EPA, regarding the Characterization of Chloroform in HSU-2 Groundwater/IRA Capture Zone Analysis, which is Appendix B to the Draft 2003 Comprehensive Annual Water Monitoring Report submitted to the US EPA on May 4, 2004.

I have reviewed this report and, at this time, have no comments on it. I will await discussions by the US EPA and the CVRWQCB staff to determine if there is need for comments by DSCSOC.

If you have questions on these comments, please contact me. If you wish, please pass this on to the RPMs.

Fred

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