

Tri-Valley CAREs

Communities Against a Radioactive Environment

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**Subject: Comments on the Draft Fourth 5-Year Review for the Lawrence Livermore
National Laboratory, Livermore Main Site**

Dear Phil and Pete:

Below are Tri-Valley CAREs' questions, comments and suggestions regarding the Draft Fourth 5-Year Review for the LLNL main site Superfund cleanup. In each case where clarification and/or additional detail are requested, we would like to see the information incorporated into the draft-final document as well as responded to by letter.

In general, the draft document is readable, well-laid out and comprehensive. However the following specific areas require additional detail and/or documentation. Our comments are listed essentially in the same order as the various sections appear in the draft Review.

As always, if a comment or suggestion is unclear, please feel free to ask questions via phone or email me at marylia@trivalleycares.org.

Tri-Valley CAREs' comments on Section 4, "Remedial Actions":

- 1) Referring to Section 4.2, please explain the bullet point labeled as "regulatory closure of two sources". Please describe the two sources and the regulatory framework. Are these RCRA closures? CERCLA? Something else? Are these "source areas" for contaminants? Which ones? Further, with closure, will there be focused follow-up monitoring? Other actions?
- 2) Under Section 4 (4.3) or at another place in the document you determine would be appropriate, describe in more detail the effects of the FY2008 shutdown (e.g., water

levels, contaminant mobility, concentrations before and after shutdown, implementation of the contingency plan, start-up procedures (duration), any changes to the treatment or monitoring systems.

Tri-Valley CAREs' comments on Section 5, "Progress Since Last Review":

1. We found that Section 5.3, while a good start at progress on follow-up actions since 2007, is lacking in detail that would be helpful to the community. For example, please add specific dates or timelines when projects are expected to be completed.
2. Further, regarding Section 5.3,
 - In #2, please define TER and ERH, providing one or two sentences about the technology.
 - In #3, please provide a timeline for the report on pneumatic testing.
 - In #5, please explain what is meant by "no further actions taken". Does this mean that you are continuing with remediation at TFC and there no need to add additional extraction wells? Something else?
 - In #9, we thought that the REVAL process had been completed. If this is not the case, please explain in the appropriate section of the document.
 - # 10 is the first we have heard about a 20-foot rise in HSU 4, with groundwater contaminant concentrations going from 46 ppb prior to shutdown to 550 ppb at startup. While this section states that concentrations have since declined within the same order of magnitude as prior to shutdown, it occurs to us that this significant rebound may well indicate a problem with the treatment system used at the site. A thorough analysis, at a minimum, is called for here. Otherwise we are afraid that pumping will have to take place indefinitely. It does not appear that the draft document's conclusion (no change in treatment facility) is warranted.
 - #14 – you state that "the building has" an HVAC system operated at positive pressure. We are not clear which building this statement refers to and whether the building is operated at positive pressure at all times. We have seen many instances where positive pressure was claimed, but that claim was reversed upon further study. Also, regarding the last paragraph in this section, it is stated that volatilization of VOCs from groundwater "should not" present a health risk. Please use more accurate language because "should not" is subjective and tentative.

Tri-Valley CAREs' comments on Section 6, "Five-Year Review Process"

- 1) Section 6.4.1 states the mass removal includes a 40% drop in distal plumes, and a 25% drop in soil vapor. This is measured since the prior 5-Year Review period. It does not, however, include the fact that the systems were shut down for more than six months during this 5-year period, and that it took some additional (and significant) time to get everything back on. We suggest that the next iteration of the Review add these facts and normalize (with explanation) the percentage values so as not to overstate the drop in mass removal.
- 2) Referring to 6.4.2, HSU-5, please describe how the "new area" with higher concentrations was discovered (east of TFD South). Does this finding suggest that there are areas of the site that have been inadequately characterized?

Tri-Valley CAREs' comments on Section 7, "Technical Assessment":

- 1) Referring to Section 7.1, which includes a commitment to optimize the cleanup remedy, we have been told in fall 2011 that latest analysis by the DOE NNSA and LLNL had extended the estimate for LLNL main site clean-up time out to 2080, with an attendant cost of \$1 billion. This is not evident or described in any detail in the draft Review. Details on the changes in variables or modeling need to be discussed, as well as a description of how this may effect the budget and technology options.
- 2) From a community perspective, we recommend the inclusion of an analysis that shows that the addition of (x) treatment facilities/pumping wells or other features would likely result in (y) number of months/years shaved off the cleanup time at a cost of (z) dollars. That way, the community can see if a more aggressive cleanup strategy now would likely save M&O costs in the out years. Further, the community can determine the relative benefits of a more aggressive cleanup strategy against any costs (short term or long term) or risks that might be incurred. We do not seek to predetermine the outcome of the analysis, rather we seek to have it included in the Review so that it might be discussed. We understand that REVAL and ESR attempt to look at some of this, but there is no holistic analysis/picture of the trade-offs, and there should be.
- 3) Referring to 7.2, it appears that the inhalation pathway beneath the trailer complex does not pose a risk given the new TCE toxicity values published in September 2011. This obviously does not include all buildings, and we recommend that a thorough review of the inhalation pathway take place in the next five years. This was should be identified as a follow-up action in Section 9.
- 4) In Section 7.3, we concur with the Department of Toxic Substances Control that additional information is needed in that section regarding mercury (and low-level radioactive) contamination in soil at Building 212.

This concludes Tri-Valley CAREs' comments. We sincerely appreciate the opportunity to offer our questions, comments and suggestions, and we look forward to your responses and to seeing additional detail incorporated into the Draft-Final Review. Again, thank you.

Sincerely,
Marylia Kelley
Executive Director
Tri-Valley CAREs