

Tri-Valley CAREs

Communities Against a Radioactive Environment

2582 Old First Street, Livermore, CA 94551 • (925) 443-7148 • www.trivalleycares.org



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July 29, 2015

Claire Holtzapple
Federal Project Director
Livermore Environmental Programs
LLNL, PO Box 808, L-574
Livermore, CA 94551

Re: Review and Comment of the Draft First Five-Year Review (FYR) for Operable Unit (OU) 5 at the Lawrence Livermore National Laboratory (LLNL) Site 300

Dear Claire:

Thank you for this opportunity to review and comment on this draft document. Tri-Valley CAREs (TVC) has the following comments and recommendations.

- 1) In general, TVC supports the EPA and the Central Valley Regional Water Quality Control Board (CVRWQCB) comments on the OU5 Five-Year Review.
 - a. Specifically, we support the Water Boards General Comment 1 and 2 that there are inconsistencies in the report regarding monitoring results and conclusions, and the Specific Comments that identify the discrepancies.
 - b. We also support, and wish to highlight, EPA's General Comment #2. This concerns the drainage diversion system. TVC agrees that heavy rainfalls typically associated with "El Nino" events have not yet challenged the Pit 7 complex engineered drainage diversion system. We recommend that the fourth numbered paragraph in the protectiveness statement be removed until this system is challenged during heavy rainfalls similar to the El Nino events. It should be added as issue, and it should be added as well that enhanced monitoring of the system will be undertaken when high-duration rainfall accompanying an El Nino (or similar) event occurs.
 - c. We also support in particular the EPA General Comment #4. This concerns information regarding the extraction of uranium, perchlorate, and nitrate from the tritium-bearing groundwater and re-injection of this water. It is not clear from the FYR that re-injection is not accelerating downgradient migration of tritium. We concur with EPA that re-injection should be evaluated in this FYR so ensure that there is no accelerated movement of tritium through the environment. If data are

not available, we recommend that this be added as an issue, and that this work be accomplished in the next Annual Groundwater Report.

- d. We also support in particular the EPA General Comment #10. This concerns HMX and RDX found in groundwater at B-850. These contaminants were found recently, as noted in Issue #1 of the FYR. We note that this could affect future protectiveness. While the recommendation is to monitor activities and evaluate attenuation mechanisms, as EPA states, the monitoring wells to be sampled and the frequency of sampling are not discussed. Additionally, we have not seen a discussion of how LLNL intends to evaluate attenuation mechanisms. Further, we recommend that contingencies be discussed early in the process in case attenuation mechanisms prove insufficient as a remedy.
- 2) TVC also notes that the Background section of the FYR on the B-850 firing table (Section 3.1.1.1) states that, prior to 1988, firing table gravel was routinely removed and disposed of in the Pit 7 complex. High explosive compounds, beryllium and lead, as well as large quantities of PCBs, dioxin and furan, contaminated these gravels, along with the Contaminants of Concern (COCs) of tritium, uranium, perchlorate and nitrate. We recommend adding (as a Table) previous sampling results that rule out any of these contaminants as COCs for Pit 7. If not available, we recommend that a new issue be added that would evaluate the surface soil and groundwater for these additional contaminants.
 - 3) At pit 7, one issue is to improve the surface and slope of road to the east of the Pits to minimize erosion reduce flooding, and improve operation and reduce maintenance of the "eastern drainage swale". Although it reportedly has no effect on future protectiveness, as EPA points out, this issue is not discussed in the text of the report. TVC recommends that it should be included.
 - 4) Regarding the first numbered item in the protectiveness statement, please define what is meant by "reasonable timeframe". Is this consistent with the National Contingency Plan and EPA's definition of "reasonable timeframe"?
 - 5) Given the current drought conditions in CA, it is imperative that all steps be used to conserve and replenish groundwater resources. Section 3.1.2.3 describes the catchment basin used for infiltrating diverted water. TVC recommends that the catchment basin be evaluated and redesigned if necessary, to provide as much infiltration as possible. Needless to say, the basin should be designed without accelerating the migration of tritium. Any basin design that may accelerate the migration of tritium through the environment should be rejected.

Sincerely,

Marylia Kelley
Executive Director

Peter Strauss
Technical Advisor