

**COMMENTS REGARDING THE  
DRAFT PROPOSED PLAN FOR THE PIT 7 COMPLEX**

**BY**

**PETER STRAUSS**

**PM STRAUSS & ASSOCIATES**

**AND**

**MARYLIA KELLEY**

**FOR**

**TRI VALLEY CAREs**

**December 7, 2005**

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Claire Holtzapple  
U.S. Department of Energy  
Livermore Environmental Programs Division  
Lawrence Livermore National Laboratory  
P.O. Box 808, L-574  
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**Subject:        Comments on the Draft Proposed Plan for Pit 7**

Dear Claire:

Enclosed are Tri-Valley CAREs' comments that address LLNL's Draft Proposed Plan for the Pit 7 Complex, dated October 2005. The comments are submitted on behalf of the organization. (Peter Strauss serves as Technical Advisor to Tri-Valley CAREs, recipient of a Technical Assistance Grant from the U.S. EPA. Marylia Kelley serves as Tri-Valley CAREs' executive director.)

Yours very truly,

Peter M. Strauss  
and  
Marylia Kelley

cc:     Bert Heffner, LLNL  
       Kathy Setian, US EPA  
       Ted Park, DTSC  
       Susan Timm, CVRWQCB  
       Leslie Ferry, LLNL

## COMMENTS

- 1) Tri-Valley CAREs appreciates changes that were made in the Final Feasibility Study (FS) that have been suggested by TVC and EPA. The first follows a discussion that we had with DOE and LLNL staff at the March 24 Technical Assistance Grant Meeting concerning Remedial Action Objectives. The FS and the Draft Proposed Plan both reflect the addition of language that the remedy should prevent plume migration. (“Restore water quality, at a minimum, to water quality objectives that are protective of beneficial uses within a reasonable timeframe **and to prevent plume migration.**”) We hope that these are not merely words added to satisfy regulators and the community, but a real commitment on the part of DOE to attempt to actually prevent the tritium plume from migrating. Tri-Valley CAREs also appreciates that the selected remedy will extract and treat groundwater contaminated with uranium, nitrates and perchlorate, and includes treatment of some potentially naturally occurring uranium that was mobilized as a result of changes in the geochemistry of the Pits. That being said, we still have some problems with the remedy selection.
- 2) Tri-Valley CAREs is still strongly convinced that active hydraulic control of the distal end of the tritium plume should be part of the remedy, at least as a contingency, if the hydraulic diversion does not “prevent migration”. TVC does not believe that the remedy is adequate unless the tritium plume is contained. (Note that while we favor complete capture, we have not used the word “captured” here -- as we believe that there is some flexibility in meeting the goal of preventing plume migration. We think that the goal of hydraulic control does not have to be defined solely as complete stabilization or capture of the plume. Hydraulic control should slow the migration of the tritium plume to the extent practicable, which would allow more time for the tritium to decay. In other words, it does not have to be all or nothing. Thus, hydraulic control cannot and should not be dismissed in the Proposed Plan as if it were an all or nothing proposition.

We note that the remedy proposes establishing an injection well gallery, whereby extracted water containing nitrate, perchlorate, depleted uranium and tritium would be treated and re-injected. Tritiated water that is extracted would not be treated, but it would be re-injected. We have suggested that the injection well gallery could be expanded with a few additional extraction wells that would serve the purpose of slowing down the tritium plume. In our opinion, this would provide LLNL with an adaptable strategy that could be optimized at any of a number of points, as the remedy is staged and data indicates. Optimization could take place in the upstream hydraulic diversion, extraction of source material, ex-situ treatment and re-injection, and partial hydraulic control.

Comment 2a: Tri-Valley CAREs believes that LLNL intends to re-inject tritium-contaminated water back into the contaminated plume only. That said, TVC requests that the Proposed Plan include a clear, written commitment that tritium-contaminated water in any concentration above the detection limit will not be disposed of in pristine soils or groundwater or be re-injected outside of the tritium contaminant plume's boundary. The guiding principle here is to ensure that tritium-contaminated water will not be disposed of or re-injected in a manner that could lead to pollution of otherwise uncontaminated areas.

The requested written commitment includes disposal or re--injection of all tritium concentrations above the detection limit, including those that are less than the MCL of 20,000 picocuries per liter.

- 3) We also think that monitored natural attenuation (MNA) for the tritium plume is not appropriate to consider for Pits 3 and 5, until there is a stable or shrinking plume controlled at the source. There is more tritium locked up in the vadose zone than previously had been predicted, and ways to contain it, and remove the source (areas with high concentrations in the vadose zone and the pits) when practical. MNA should only be considered after the source is controlled or removed. In DOE's January 8, 2005 response to our comment, it estimates that only 50 percent of the reduction in activity is due to radioactive decay (meaning that additional reduction in tritium concentration is due to dispersion and sorption). We think that this is inadequate, and further supports the need for hydraulic control. TVC re-iterates from previous comments that if MNA is selected, most of the contaminant mass must be reduced through degradation. We propose that an objective for any remedy that uses MNA have at least 75 percent of the reduction take place through biological, chemical or radiological degradation. The assumed future use of the land will dictate the clean-up levels, and thereby restrict the allowable uses of the land. This is a conundrum (i.e., current cleanup levels dictating future land use) that we would not like to see.
- 4) Tri-Valley CAREs' disagrees that industrial standards should be used for Site 300. As we have stated in our Community Acceptance Criteria for Site 300, the strictest clean-up standards should be applied to the site. We recognize that residential standards may not be feasible in a few small places, but on the whole, residential standards should be used. In the future, this would allow DOE to more easily dispose of the property and limit its liability. Also, because the Bay Area is growing so rapidly, and residential growth is beginning to occur in Tracy and near Site 300, it would be unfortunate if the cleanup performed in 2005 -2006 dictate how this 11 square mile site will be used in the future.
- 5) TVC strongly reiterates that State Water Resource Control Board Resolution (SWRCB) 68-16 (i.e., the non-degradation policy) applies to groundwater at this site, not merely to discharges of treated water. This resolution applies to discharges: either underground or above ground discharges as is commonly understood by the general term discharge. While EPA notes that Resolution 92-49, paragraph III.G may be the more stringent of ARARs for setting in-situ cleanup standards, other Sections of 92-49 are also relevant, including paragraph III. F. Specifically, this paragraph cites that cleanup and abatement activities (emphasis added) shall conform to the provisions of Resolution 68-16.
- 6) Given that there are ecological receptors of special status and several rare and endangered species at Site 300 that may be affected by remedial action, we find it improper to proceed with a decision before the effects are fully known. Of particular concern are the red-legged frog and the tiger salamander. We recommend that both the United States Fish and Wildlife Service and the California Department of Fish and Game it be provided the opportunity to comment on this document before a decision is final.