Tri–Valley CAREs

Communities Against a Radioactive Environment

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Peace Justice Environment since 1983

U.S. EPA, Solid Waste and Emergency Response
Integrated Cleanup Initiative
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January 10, 2011

RE: Tri-Valley CAREs' Comment Letter on EPA's Integrated Cleanup Initiative

Tri-Valley CAREs is a community -based organization in Livermore California that was founded in 1983. A significant part of our core mission is to monitor the cleanup of two Superfund sites, one is Lawrence Livermore National Laboratory (LLNL) main site, and the other is the nearby LLNL high explosives testing range, called Site 300. Both are part of the Department of Energy (DOE) nuclear weapons complex.

Tri-Valley CAREs has received Technical Assistance Grants from EPA Region IX to better inform, educate and involve the community in LLNL Superfund decisions, and has been the recipient in 2000 of the federal EPA's Most Effective Hazardous Waste Community Award.

We support and encourage EPA's Integrated Cleanup Initiative, and are encouraged by proposed actions that include:

* Exploration of opportunities to revise the hazard ranking system, including the need to incorporate the vapor intrusion pathway and exploration and stakeholder input regarding policy guidance on sensitive populations

* Leveraging program resources to better bring sites from assessment and cleanup to re-use

* Improving tracking of institutional controls

* Improving community understanding of Five-Year Reviews

* Improving Performance Metrics

Notwithstanding the above, we have several additional suggestions that would enhance community involvement and participation. These are:

* Improving Performance Reporting

* Helping communities better understand what Community Acceptance really means

* Integrating Optimization on a regular basis

Our suggestions in these three key areas are provided below:

1) Improving Performance Reporting

In almost all Superfund cleanup projects, commitments and milestones concerning the cleanup performance (e.g. timing of cleanup, how much contaminant will be removed) are disregarded in Records of Decision (ROD). Most RODs list a series of documents that must be completed and an estimate of time to cleanup the site, with no indication of the expected rate of actual progress along the way.

We suggest that the Proposed Plans, RODs, and subsequent Five-Year Reviews contain both a measurable schedule and performance milestones with which the community can gauge progress. Too often, communities are told that cleanup will take 50 to 100 years, without any tangible way to gauge interim progress along the way against the end-date estimated in the ROD.

Performance metrics that we suggest include measureable schedules of time expected to contain plumes, time expected to reduce the mass that contributes to the contamination of the soil, groundwater and indoor air, and the time expected to achieve regulatory milestones such as achievement of MCLs.

We suggest that each site spell out the mass in the soil and groundwater and lay out a conservative timetable of performance milestones. These can be updated by the site, as appropriate and as more information becomes available, e.g., through additional site characterization. This timetable would then be used to monitor the performance of cleanup, and provide interested parties with an idea how cleanup is progressing, and will progress.

We regard the lack of performance milestones as a fundamental problem with the government's approach to CERCLA enforcement.

Furthermore, in the Five-Year Review, we suggest there should be a comparison between expected results and observed performance. We understand that these milestones may be controversial to establish, as PRPs are often resistant to estimating mass removal rates, and generally do not like to be held to performance indicators. To get past this barrier, it should be made clear that the performance milestones that we are requesting are estimates to keep the community informed of progress. It is our hope that PRPs, and their Superfund documents, be better able to inform the community of success and/or an early warning of the need for adaptation of the remedy.

We note that this can aid the overall Superfund cleanup, as engaged communities and other interested parties can, as appropriate, advocate for actions that will benefit the cleanup and ensure that it stays on track to a positive outcome.

2) Helping communities better understand what Community Acceptance really means.

One of the nine EPA criteria for evaluation of the cleanup strategy is community acceptability. In our experience, we have not seen a methodological evaluation of community acceptance, and

it is difficult for regulators or the PRPs to explain what it means and how community support or resistance may alter projects.

Regarding the LLNL main site and Site 300 Superfund cleanups, our organization held meetings in the surrounding communities and drafted a consensus list of criteria as an acceptable framework for cleanup. These criteria are broad, and they are evolving as additional community views come to our attention.

Below are examples of the consensus Community Acceptance Criteria that Tri-Valley CAREs drafted. The specific example used is the LLNL Site 300 Superfund cleanup. The examples are generalized here as much as possible for the purpose of a national strategy comment, but some site-specific information is retained for better readability and comprehension of the underlying principle involved in the comment.

- Complete the cleanup project in a timely manner. Set a schedule for cleanup activities and adhere to it. The goal should be to complete cleanup ten years after the DOE's last scheduled ROD, with up to the year 30 years after for monitoring of residual contamination.

- PRPs must be held accountable for contamination and cleanup agreements that it has entered into with the State of California and EPA and these should not be altered. Federal Facility Agreements (FFA) that DOE has signed are binding documents. They are the only mechanisms which surrounding communities, local governments, and the states can hold DOE accountable for cleanup. If alterations are made in the FFA schedule, the committed levels of cleanup must remain the same, and the community should be informed

- Cleanup levels should support multiple use of the property that is unrestricted by environmental contamination. Only in very specific circumstances should a site be assumed to be forever restricted. Any modeling assumptions should assume residential communities relying on the regional aquifer for drinking water. Second, we do not believe that DOE sites will always remain in DOE's stewardship. The "need" for developing nuclear weapons and testing components is a political decision, not a technically necessary mandate. We recommend that these areas be assumed to have multiple uses including mixed residential, recreational, ecological preserve and industrial land uses.

- Cleanup levels should be set to the strictest state and federal government levels. We believe that the strictest cleanup levels should be met in cleaning up the site. Federal and state Maximum Contaminant Levels (MCLs) for all groundwater (on-site and off-site) should be the "bottom line below which the cleanup will not fall." In many cases the technology exists (and/or can be developed) that will clean up contamination to "background" or near background levels. At a minimum, the standard of 1 in 1 million excess cancer deaths should be adhered to, as well as meeting a hazard index of less than 1 (non-cancer health effects).

- Remedies that actively destroy contaminants are preferable. In order of preference, Tri-Valley CAREs recommends the following types of cleanup measures: a) remedies that destroy contaminants (i.e. by breaking them down into non hazardous constituents), such as by ultra-violet light/hydrogen peroxide, permeable barriers, or biodegradation; b)

active remedies that safely treat or remove contaminants from the contaminated media; c) monitored natural attenuation in so far as it relies on natural degradation (and not further dispersion of the pollution) within a reasonable time frame. What is called "risk and hazard management" (i.e., restrictions on land use, fencing, signs and institutional controls), while potentially useful for reducing short-term risks, is not a valid cleanup in our eyes and should only be used as an interim measure. In no case do we think that "point of use cleanup" (e.g., placing filters on off-site drinking water wells) is appropriate. In all cases, hydraulic control should be established to halt migration of contaminant plumes to pristine waters. When soil excavation takes place, it should be properly controlled to minimize releases of contaminated soil into the air, and onto adjacent properties.

- Decisions should not rely on modeling alone. The Site-Wide Feasibility Study points out just how complex the hydrogeology of the site is, and how little is known about it. Given this, Tri-Valley CAREs believes that over reliance on modeling to predict the fate and transport of contaminants is not a good idea. Computer modeling should be used as a tool only, and continually updated by field-testing as that information becomes available. We believe that if it becomes necessary to base a decision primarily on modeling, the most conservative assumptions should be used.

- A contingency plan should be completed and subject to public review prior to the signing of a ROD. Tri-Valley CAREs recommends that a site-wide contingency plan be part of this document or part of the draft Remedial Action Plan. This is needed because the cleanup of a few sites are put off until the future, there are many uncertainties, innovative technologies will be used, and contingent actions should be part of the cleanup plan and thus incorporated into the site wide Record of Decision.

- Any ongoing activities should be designed to prevent releases to the environment. Releases to soil, air, groundwater and surface water from nuclear weapon development and component testing are no longer acceptable. Any activities, if they must occur, should take all necessary precautions to avoid any releases to the environment of radioactive material and chemicals of concern.

3) Integrating Optimization on a regular basis

Years of experience have led to the realization that the significant uncertainty in cleanup approaches requires adopting a flexible, iterative approach. Frequently missed target dates and failure to meet remedial action objectives (RAOs) have forced the development of mechanisms that allow for the continuous improvement and optimization of remediation technologies and techniques, known as Remedial Process Optimization (RPO). The ROD is essentially the strategic plan for achieving the Remedial Action Objectives (RAOs) (e.g., preventing plume migration). By its very nature, the ROD should incorporate a decision logic and the basis for future adaptations as part of the overall completion strategy for the site.

The Interstate Technology Regulatory Council (ITRC) notes that "Optimization should be an inherent element of the remedy evaluation, selection, and design process". (ITRC - Remediation Process Optimization: Identifying Opportunities September 2004 for Enhanced and More Efficient Site Remediation). Other agencies have developed guidance on adaptable management and Optimization. We would like to see these integrated into the RODs.

This concludes Tri-Valley CAREs' January 2011 comment on the EPA Integrated Cleanup Initiative based on our decades of experience, and, particularly, our work on the Superfund cleanups at the LLNL main site and Site 300. Thank you for this opportunity.

Please keep us apprised of EPA's decision(s) and action(s) taken on this 3-year strategy to better serve communities and improve the cleanup process.

And, if you have any questions about this comment, please do not hesitate to contact Tri-Valley CAREs by email (marylia@trivalleycares.org), by phone (925/443-7148) or by postal mail (2582 Old First Street, Livermore, CA 94550).

Submitted via email by:

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