

SUPERFUND CLEANUP PROGRAM

Tri-Valley CAREs' Comment on The Lawrence Livermore National Laboratory Main Site Draft Fifth Five-Year Review

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I. Introduction

The Lawrence Livermore National Laboratory has completed the first draft of its required fifth five-year review of the Main Site. The Environmental Protection Agency has five-year review guidelines that are recommended when a five-year review is required.

II. Question presented

Does the Lawrence Livermore National Laboratory's five-year statutory review follow the Environmental Protection Agencies' five-year review guidelines procedurally and substantively?

III. Statement of facts

In 1987, Lawrence Livermore National Laboratory ("LLNL") Main Site was named to the Superfund/CERCLA national priorities list for hazardous waste sites eligible for remedial action.

In 1992, a record of decision was signed to determine the scope and remedies for the cleanup of the LLNL Main Site. The 1992 record triggered the first statutory requirement requiring a five-year review. A five-year review is required for so long as the hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure.

The March 2017 draft review (on which Tri-Valley CAREs is commenting) is the fifth review

completed since 1992. The triggering event was the approving signature for the completion of the fourth review, which occurred in 2012. The lead agency is the Department of Energy (“DOE”) which must conduct overviews, prepare reports, and submit the five-year review to support agencies for review and comments.

A five-year review guideline created by the United States Environmental Protection Agency (“EPA”) sets forth the standards used when a site conducts a five-year review.

IV. Discussion

1. Statutory Five Year Review

A five-year review is required by statute if contaminants remaining at the site are above levels that allow for unlimited use and unrestricted exposure. CERCLA §121 and 40 CFR §300.430 (f)(4)(ii). A statutory review is triggered by the first remedial action that leaves hazardous substances, pollutants or contaminants on site at levels that do not allow for unlimited use and unrestricted exposure. EPA Comprehensive Five-Year Review Guidance (2001) p. 2 <https://nepis.epa.gov/Exe>. Each subsequent five-year review is triggered by the signature of the prior five-year review.

The LLNL five-year review was triggered by the 1992 remedial action. The current draft five-year review was further triggered by the signing of the prior review in 2012. P. Mckereghan, K. Oldani, C. Noyes, A. Porubcan, Z. Demir, Draft Fifth Five-Year review for the Lawrence Livermore National Laboratory Livermore Site p. 1-5 (2017).

2. LLNL more than likely follows the EPA procedural guidelines for the Five Year Review

The EPA five-year review guideline recommends the following outline for the report: (1) Introduction; (2) site chronology; (3) background; (4) remedial action; (5) progress since last

review; (6) the five-year review process. EPA Comprehensive Five-Year Review Guidance (2001).

LLNL's five-year review incorporates an introduction, site chronology, background, remedial action, progress since last review, and the five-year review process. LLNL has outlined its report in the order and with all the recommended components in the five-year review guidelines set forth by the EPA. P. Mckereghan, K. Oldani, C. Noyes, A. Porubcan, Z. Demir, Draft Fifth Five-Year review for the Lawrence Livermore National Laboratory Livermore Site p. 1-5 (2017). They have, more than likely, followed the procedural components recommends within the five-year review for the LLNL Main Site.

3. LLNL more than likely partially followed the substantive guideline for a five-year review.

There are 6 main components recommended for a five-year review: (1) community involvement and notification; (2) document review; (3) data review and analysis; (4) site inspection; (5) interviews; (6) and protectiveness. The Document review is not discussed in this memorandum. EPA Comprehensive Five-Year Review Guidance (2001) p. 3:1-5.

a. LLNL most likely met the minimum standards recommended for Community involvement:

The EPA five-year guideline recommends, at a minimum, that LLNL notify the public when the review will be conducted and completed, and provide the review results at the local site repository. EPA Comprehensive Five-Year Review Guidance p. 3:2 (2001).

LLNL put a three-paragraph notice in The Independent Newspaper and the East Bay Times on March 9, 2017 explaining the basic five-year review protocol. EPA Comprehensive Five-Year Review Guidance (2001) p. 30. LLNL sent a draft of the review to Tri-Valley CAREs and

made one available at the local repository. Id. LLNL conducted tours May 21, 2013, November 13, 2015, and November 19, 2015. Id. LLNL sent out an annual near neighbor report in 2015, and held “EPA Technical Assistant Grant” meetings with Tri-Valley CAREs. Id. Even though LLNL has completed the minimum requirements along with further involvement, the community and LLNL may benefit from further involvement in the form of a community meeting where interested parties and those who live close to the LLNL site may hear about the draft five-year review from LLNL and discuss the document and provide input for consideration before the final document is completed.

LLNL has likely met the minimum five-year review guidelines for Community Involvement. However, a community meeting prior to finalizing the five-year review would be very useful and is therefore strongly recommended by Tri-Valley CAREs.

b. It is unclear whether LLNL has completed the site inspection because of the incomplete site inspection checklist.

The EPA recommends a site inspection conducted by the lead agency (DOE) no more than nine months from the expected signature date of the review. Id. at 3:5. Furthermore, a checklist guide for use during an inspection is included to guide the inspection in accordance with the EPA recommendations for a site inspection.

The Department of Energy conducted a site inspection. However, according to the EPA comments, the checklist was incomplete. Memorandum from the United States Protection Agency Region IX to Phil Wong, Fed, Proj. Dir., for US Department of Energy AM for sustainability and Infrastructure, (May 23,2017). The following sections on the guideline inspection checklist were not filled in or used: (1) The date of inspection; (2) site name; (3)

location and region; (4) agency leading the review; (5) EPA id; (6) The O and M and OSHA Training Records; (7) Gas Generation Records; (8) Settlement Monument Records; (9) Groundwater Monitoring Records; (10) Leachate Extraction Records; (11) Daily Access/ Security Logs; (12) All of IV. O & M costs; (13) All of V. C. Institutional Controls; (14) all of V. D. General; (15) All of VII. Landfill Covers; (16) All of VIII. Vertical Barrier Walls; (17) All of IX. B Surface Water Collection System Pipelines, Valves, Valve boxes, and Other Appurtenances; (18) all of IX. D. Monitoring Data; (19) X. other remedies; (20) and XI. Overall observations. P. Mckereghan, K. Oldani, C. Noyes, A. Porubcan, Z. Demir, Draft Fifth Five-Year review for the Lawrence Livermore National Laboratory Livermore Site, p. D: 7-20 (2017). While some of these boxes may not apply to the LLNL site, an N/A box is usually provided to indicate this. None of the N/A boxes were checked. Id.

For those without detailed “insider” knowledge of the LLNL Main Site, the site inspection checklist looks incomplete. Furthermore, the LLNL five-year review draft stated that inspections were completed in the third quarter of 2016. One date appears on the checklist, November 8, 2016, when the LLNL employees were interviewed. Id. Furthermore, the draft states that on November 15, 2016 the DOE provided additional site review to EPA region nine and Department of Toxic Substances Control. P. Mckereghan, K. Oldani, C. Noyes, A. Porubcan, Z. Demir, Draft Fifth Five-Year review for the Lawrence Livermore National Laboratory Livermore Site, p. 38, D:7 (2017). The date of inspection is unclear. If the inspection was in fact conducted in November 2016, then the expected signature date for the final review must be signed by the end of July to meet the EPA guidelines of the recommended nine months to be considered a recent inspection. It is unclear if the site inspection checklist is incomplete or

if the unfilled boxes were not applicable to the LLNL site.

c. LLNL more than likely did not meet the guideline recommendations for Interviews

The EPA recommends that the Lead Agency (DOE) conduct interviews tailored to the remedy evaluation on a site-specific basis. EPA Comprehensive Five-Year Review Guidance, p. 3:4-5 (2001). Examples of preferred interviewees include: (1) site manager; (2) site personnel; (3) federal, state, and local officials; (4) community action groups; (5) and residents/ businesses who reside near the site. Id. The EPA point out that interviews may be key to understanding the site. Id. at c:3.

LLNL states in the five-year draft review that LLNL and DOE staff, operators, O & M managers, and RPMs were interviewed. Draft Fifth Five-Year review for the Lawrence Livermore National Laboratory Livermore Site, p. 5, D:7 (2017). As the comments from EPA point out, regulatory agencies and response agencies were not formally interviewed. Memorandum from the United States Protection Agency Region IX to Phil Wong, Fed, Proj. Dir., for US Department of Energy AM for sustainability and Infrastructure. (May 23, 2017). Local businesses, residents, and local law enforcement were not formally interviewed either as the EPA five-year guidelines recommend. EPA Comprehensive Five-Year Review Guidance, p. 3:4-5 (2001). Therefore, LLNL more than likely did not fully meet the recommended guidelines for five-year review Interviews.

d. LLNL more than likely did not meet the recommended guidelines for the remedy's Protectiveness.

The EPA recommends that three questions need to be answered to determine the protectiveness of the remedy for human health and safety. The questions ask whether: (1) the

remedy is functioning as intended; (2) the assumption used at the time of remedy selection is still valid; (3) and whether there is other information that may call into question the protectiveness. EPA Comprehensive Five-Year Review Guidance, p. 4:2,4:4 (2001).

According to the EPA five-year draft comments and the Regional Water Board five-year draft comments, a protectiveness statement for Hexavalent Chromium is inconsistent with the new clean-up standards. California's new cleanup requirement is 10 ug/L. P. Mckereghan, K. Oldani, C. Noyes, A. Porubcan, Z. Demir, Draft Fifth Five-Year review for the Lawrence Livermore National Laboratory Livermore Site, table 7 (2017). The assumption used is based upon a former requirement from 1992 at 50 ug/ L. Id. The assumption appears to be inconsistent with the new standard.

V. Conclusion

The LLNL has followed the procedural guidelines in the EPA's five-year guideline by incorporating the sections recommended. LLNL has not however met all other substantive recommendations. LLNL likely met the minimum requirements for Community Involvement, but apparently has not completed the site inspection checklist, conducted interviews with residents, businesses, and local law enforcement, and has not remedied the assumption for the new California cleanup requirement for Hexavalent Chromium.

Additional comments:

The introduction/ executive summary is not user friendly. It is hyper-technical and does not provide an adequate understanding of what to expect when reading the five-year draft. For example, while the text of the draft five-year review does provide a history of the site, which is necessary for an interested reader's understanding of the review, it is not reflected in the

introduction/executive summary.

Tri-Valley CAREs recommends that the introduction/executive summary be re-written in the final document so that an interested community can get a true overview of the document. Indeed, it should be able to be read as a stand-alone user-friendly summary of the full document.

Tri-Valley CAREs further recommends that the introduction/executive summary be translated into Spanish and included in both English and Spanish in the final five-year review.

Thank you for this opportunity to comment. If DOE, LLNL or the regulatory agencies have questions about this comment, or simply wish to discuss it further, please contact Makayla Whitney at the Tri-Valley CAREs office at 925.443.7148; or, contact executive director Marylia Kelley at marylia@trivalleycares.org.