

Response to
Comments
for draft
RCRA
Hazardous
Waste Facility
Permit for
Lawrence
Livermore
National
Laboratory

March 9

2016

The Response to Comments document is a decision document and addresses all the comments received during the public comment period from April 30 to August 3 of 2015 for the RCRA Hazardous Waste Facility permit for the Lawrence Livermore National Laboratory.

RTC RCRA
Permit LLNL

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INTRODUCTION

Lawrence Livermore National Laboratory (LLNL) is a national laboratory owned by the United States Department of Energy (DOE) and is operated for DOE by its contractor, Lawrence Livermore National Security, LLC. Although LLNL is composed of a Main Site, located at 7000 East Avenue, Livermore, California, and Site 300, located approximately 15 miles southeast of the Main Site on Corral Hollow Road near Tracy, this document will only address comments received for the draft permit for the Main Site. When it was established in 1952, LLNL's primary mission was conducting research on nuclear weapons. Since then, other major programs have been added and removed to meet national needs including magnetic fusion energy, laser fusion and laser isotope separation, biomedical and environmental sciences, and applied energy technology. These programs required research in physics, chemistry, materials science, computer science and technology, biological sciences, and engineering. In addition LLNL conducts a variety of projects for other federal agencies.

On November 19, 1999, DTSC issued a Resource Conservation and Recovery Act (RCRA) equivalent Permit for the LLNL hazardous waste facility to be operated by DOE and the University of California Regents, which allowed the continued management of hazardous and mixed waste activities, with an expiration date of November 19, 2009. The Permit was modified on October 1, 2007 to reflect a single Operator, Lawrence Livermore National Security, LLC. The Permit has also been modified and updated many times since it was issued to ensure that it remains current and enforceable.

On April 23, 2009, the Lawrence Livermore National Security, LLC, and the DOE submitted a timely application for renewal of the RCRA equivalent hazardous waste facility permit consisting of a Part A and Part B application. DTSC reviewed the LLNL's application and found that it met the regulatory requirements for management of hazardous and mixed waste. Based on this review, DTSC prepared a draft Permit and an addendum to the previously adopted California Environmental Quality Act (CEQA) document (negative declaration) and requested public comments. The public comment period was open from April 30, 2015 to August 3, 2015.

Written comments were received during the public comment period. This Response to Comments document summarizes and responds to all relevant comments received by DTSC during the comment period. Some comments presented in this document are directly quoted from the commenters while others recurring comments were summarized in a representative comment. Some comments were also edited for clarity.

Each individual who made a comment is accompanied by a comment number in parenthesis, which indicates the comment number associated in the RTC document. Because the RTC is organized by subject, the same number in parenthesis that is associated to a commenter may appear under the different subjects of the RTC. All the documents received, including the public hearing transcript, are included as Appendix 1.

DTSC has attempted to group the comments into various categories as listed in the Table

of Content. However, you may find that certain comments could have been placed in other section because of the similarity of the subjects.

DEFINITIONS

“2011 SWEIS” refers to the document entitled *Supplement Analysis of the 2005 Final Site-wide Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory* consisting of 2 Volumes dated August 2011

“Addendum” refers to the document entitled Addendum to Previously Adopted Negative Declaration Lawrence Livermore National Laboratory Hazardous Waste Facility Permit.

“CEQA” refers to the California Environmental Quality Act.

“Draft Permit” refers to the document entitled California Environmental Protection Agency, Department of Toxic Substances Control, Draft Hazardous Waste Facility Permit.

“EIS” refers to the Site-Wide Environmental Impact Statement required by the NEPA.

“Environmental Document Analysis” refers to the document entitled Environmental Document Analysis Lawrence Livermore National Laboratory Hazardous Waste Facility Permit.

“Health Risk Assessment” refers to the document entitled Health Risk Assessment for Hazardous Waste Treatment and Storage Facilities, LLNL, Livermore Site.

“Main Site” refers to the Lawrence Livermore National Laboratory located at 7000 East Avenue, Livermore, which is owned by the Department of Energy and operated by Lawrence Livermore National Security, LLC.

“NEPA” refers to the National Environmental Policy Act.

“Permit” refers to the document entitled *California Environmental Protection Agency, Department of Toxic Substances Control, Hazardous Waste Facility Permit*.

“Permit Application” refers to the document entitled *Part A Permit Application for Hazardous Waste Treatment and Storage Facilities LLNL, Livermore Site and Part B Permit Application* consisting of 3 Volumes dated October 2014.

“Project” refers to the proposed hazardous and mixed waste treatment and storage activities at the Lawrence Livermore National Laboratory located at 7000 East Avenue, Livermore.

“SWEIS” refers to the document entitled *Site-wide Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory and Supplemental Stockpile Stewardship and Management Programmatic Environmental Impact Statement* consisting of 4 volumes dated March 2005

REFERENCES

1. Transcript of public hearing in the matter of "Lawrence Livermore National Laboratory Draft Permit Renewal Public Meeting," held on June, 2015, reported by Karen Andasola CSR No. 10919; 31 pages.

Testimony from Mr. Cho Lee Chung; 2 pages (Comment 36)
Testimony from Ms. Marylia Kelley; 6 pages (Comment 30, Comment 53)
Testimony from Mr. Scott Yundt; 9 pages (Comment 31)
Testimony from Ms. Gail Rieger; 1 page (Comment 25)
Testimony from Ms. Stephanie Ericson; 2 pages (Comment 32)
Testimony from Ms. Janice Turner; 1 page (Comment 26)
Testimony from Ms. Joann Frisch; 2 pages (Comment 33)
Testimony from Ms. Pamela Richard; 1 page (Comment 27)
Testimony from Ms. Stella Goodpasture; 1 page (Comment 37)

[The following were written comments received during the public comment period.]

2. Letter from Tim O'Connor (Comment 1)
3. Letter from Gary Patton (Comment 1, Comment 50)
4. Letter from Tara S. Green (Comment 1, Comment 35)
5. Letter from Stephanie manning (Comment 1)
6. Letter from Joseph DiFalco (Comment 1, Comment 51)
7. Letter from Gertrude Reagan (Comment 1, Comment 52)
8. Letter from Nancy Nolan (Comment 1, Comment 57)
9. Letter from Louise Chegvidden (Comment 1, Comment 58)
10. Letter from Mary Laan (Comment 1, Comment 59)
11. Letter from Elizabeth Brown (Comment 1)
12. Letter from Jan Eiseley (Comment 1)
13. Letter from Bernice Fischer (Comment 1)
14. Letter from Christine A. Segerhammar (Comment 1, Comment 39)
15. Letter from Carole Shy (Comment 1)
16. Letter from Meredith E. Grey (Comment 1, Comment 60)
17. Letter from Ronald Stutz (Comment 1)
18. Letter from Rosylin Dean (Comment 1)
19. Letter from Susheela Farrell (Comment 1)
20. Letter from Caroly Israel (Comment 1)
21. Letter from Annemarie Donjacour (Comment 1)
22. Letter from Alexis L. Condy (Comment 6)
23. Letter from Julie Kantor (Comment 3, Comment 4, Comment 19)
24. Letter from Ernest E. Goitein (Comment 5)
25. Letter from Pamela Richard (Comment 38)
26. Letter from Perry Matlock (Comment 1, Comment 40)
27. Letter from Paula Krostovich (Comment 1)
28. Letter from Julia Winlarski (Comment 1)

29. Letter from Jane Koski (Comment 1)
30. Letter from Will McGarrey (Comment 1)
31. Letter from Eric Cavallari (Comment 1)
32. Letter from Cassidy Barne (Comment 1)
33. Letter from Cheryl K. Davila (Comment 1)
34. Letter from Natalie DaSilva (Comment 1)
35. Letter from Meave O'Connor (Comment 1)
36. Letter from Robert Duli (Comment 1)
37. Letter from Paulo Daniel Hernandez (Comment 1)
38. Letter from Michael and Tammy Little Bear (Comment 1)
39. Letter from Nanette C. Deetz (Comment 1)
40. Letter from Amy Hutto (Comment 1)
41. Letter from Rebecca Holdgr (Comment 1)
42. Letter from Nina Wilson (Comment 1)
43. Letter from Corrina Govid (Comment 1)
44. Letter from Diana Cab Cabin (Comment 1)
45. Letter from James H. Ito (Comment 1, Comment 41)
46. Letter from Catherine Webster (Comment 1, Comment 61)
47. Letter from Margaret Koren (Comment 1, Comment 62)
48. Letter from Robert Z. Alpern (Comment 1, Comment 42)
49. Letter from Phillip R. Trapp (Comment 1)
50. Letter from Jane Bark (Comment 1)
51. Letter from David A. Coolidge (Comment 1)
52. Letter from Judy Nakadegawa (Comment 1)
53. Letter from Janet R. Weil (Comment 1)
54. Letter from Deanne Thompson (Comment 1)
55. Letter from Kristina Cramer (Comment 1)
56. Letter from Maureen Wesolowski (Comment 1, Comment 63)
57. Letter from Amy Osorio (Comment 1)
58. Letter from Norma Quiroga (Comment 1)
59. Letter from Joan Mumna (Comment 1)
60. Letter from Kristi Miller (Comment 1)
61. Letter from Daniel Phillips (Comment 1)
62. Letter from Kelly Wheelak (Comment 1)
63. Letter from Lisa Fogelsanger (Comment 1)
64. Letter from Mike Casey (Comment 1)
65. Letter from Bill Addison (Comment 1)
66. Letter from Leland Thomas Rogers II (Comment 1)
67. Letter from Alyssa Proudfoot (Comment 1)
68. Letter from Brian Roberts (Comment 1)
69. Letter from Danuta Ramos (Comment 1)
70. Letter from Ashley Hodapp (Comment 1)
71. Letter from Julie Gallagher (Comment 1)
72. Letter from Gretchen Day (Comment 1)
73. Letter from Tracy Proietti (Comment 1)
74. Letter from Holley Latuski (Comment 1)

75. Letter from Aimie Foster (Comment 1)
76. Letter from Michelle Mitchell (Comment 1)
77. Letter from Kenda Burke (Comment 1)
78. Letter from Alexis Condy (Comment 1, Comment 6, Comment 48)
79. Letter from Nancy Gorrell (Comment 1, Comment 64)
80. Letter from Wendy & Carl Black (Comment 1)
81. Letter from Jonathan Oldfather (Comment 1, Comment 43)
82. Letter from Robert R. Donjacour (Comment 1)
83. Letter from Anamarie Donjacour (Comment 1 and Comment 44)
84. Letter from Aimee Durfee (Comment 1)
85. Letter from Linda Beny (Comment 1)
86. Letter from Pearl Wafel (Comment 1)
87. Letter from Tav Palumbo (Comment 1)
88. Letter from Dalia Ortiz (Comment 1)
89. Letter from Amber Hicks (Comment 1)
90. Letter from Paul Ehara (Comment 1)
91. Letter from Marsha Feinland (Comment 1)
92. Letter from Narine Ortiz Pon (Comment 1)
93. Letter from George Cammarota (Comment 1)
94. Letter from Phyllis Olin (Comment 1)
95. Letter from Loulena Miles (Comment 1)
96. Letter from Elena Dorabji (Comment 1)
97. Letter from J.W. Mealy (Comment 1)
98. Letter from Barbara J. Cella (Comment 1)
99. Letter from Henry Clark (Comment 1)
100. Letter from Lauren Ornelas (Comment 1)
101. Letter from Janice Schroeder (Comment 1, Comment 65)
102. Letter from Peggy Purnell (Comment 1, Comment 45)
103. Letter from Gary Purnell (Comment 1)
104. Email from Tri-Valley CAREs (Comment 2, Comment 7, Comment 8, Comment 11, Comment 12, Comment 13, Comment 14, Comment 15, Comment 16, Comment 17, Comment 18, Comment 20, Comment 21, Comment 22, Comment 23, Comment 24)
105. Email from Suzanne and Allen Cofer (Comment 54)
106. Email from Steven L. Thompson (Comment 55)
107. Email from Jim Tan (Comment 56)
108. Email from Carolyn S. Scarr (Comment 9, Comment 28)
109. Email from Dorah and Goeff Shuey (Comment 34)
110. Email from Christina Bliss (Comment 10)
111. Email from Martha Bronson, Esq. with Bronson & Associates (Comment 29)
112. Email from Hector and Linda Mendez (Comment 49)
113. Email from James J. Mullins (Comment 46)
114. Email from Physicians for Social Responsibility San Francisco Bay Area Chapter (Comment 1)
115. Email from Lynda Seeley (Comment 1)
116. Email from Donna Gilmore (Comment 1)

117. Email from Daniel B. Zwickel (Comment 1, Comment 66)
118. Email from Phoebe Ann Sorgen (Comment 1)
119. Email from Patricia St. Onge (Comment 1)
120. Email from Lawrence Livermore National Laboratory (Comment 47)

WHETHER AN ENVIRONMENTAL IMPACT REPORT (EIR) SHOULD BE PREPARED

Topic 1 Conducting a full EIR

Comment 1

I am submitting this letter as a public comment on DTSC's proposal to grant the Lawrence Livermore National Laboratory (LLNL) a permit renewal to store and treat hazardous wastes that are toxic, reactive, corrosive, ignitable, and/or mixed with radioactive elements without conducting an EIR pursuant to the California Environmental Quality Act.

In sum DTSC must not issue the permit in its present form. At a minimum, DTSC must first conduct an EIR, fully analyzing LLNL's hazardous waste streams, operations and facilities, as well as alternatives and mitigation measures

Comment 2

The Department of Toxic Substances Control (DTSC) claims to have evaluated any potential environmental impacts associated with the continued operation of the site. On the basis of this analysis, DTSC prepared the draft Addendum to previously adopted Negative Declaration, which states that this document, "is the appropriate document to prepare for the proposed project pursuant to CEQA Guidelines section 15164(b) based on the determination that none of the conditions described in CEQA Guidelines section 15162 calling for the preparation of a subsequent EIR or Negative Declaration have occurred." For the reasons detailed below, the analysis contained in the initial study is obsolete and inadequate. As such, this analysis cannot be used to support the issuance of the draft Addendum. On the contrary, the potentially significant environmental impacts associated with the project activities that are reasonably foreseeable probable future projects necessitate the preparation of an Environmental Impact Report (EIR).

Comment 5

Considering the hazardous materials and the history of earlier leaks and contamination that has occurred onsite as well as offsite absolutely demand that an EIR is required under CEQA. Considering that there is a major potential risk to public health and the agricultural activities in the area, trying to get by with no CEQA required review would be a lack of public responsibility.

Comment 10

It would like to add my vote to insist on an Environmental Impact Report BEFORE a new permit is issued to Lawrence Livermore National Laboratory. I have lived in Tracy for over 30 years and hopefully will continue to do so, but I do have great concerns about storing or even transporting hazardous wastes in or around our community.

Comment 12

A new EIR analysis should evaluate impacts from TRU mixed waste activities and also the transportation corridor.

Comment 24

There is no support for the assertion that the proposed project activities could not have a significant effect on the environment since all reasonably foreseeable probable future projects were not considered. As such, the issuance of the draft Addendum to Previously Adopted Negative Declaration was not warranted. Instead, the potentially significant environmental impacts associated with continued operation of the Facilities necessitate the preparation of an EIR pursuant to CEQA.

Comment 25

Common sense would just tell you that information for the initial permit is so outdated. And we're all concerned about the health and safety of our community, of our kids, of our family, and it just makes sense to do a complete environmental impact report.

Comment 26

In the name of environmental justice, we would ask the DTSC to not issue a permit in its present form. They must first conduct an EIR fully analyzing LLNL's hazardous waste streams, operations, and facilities.

Comment 27

I think that environmental review is definitely in order.

Comment 29

I am, and have been for seventeen years, employed and reside in Tracy. I understand that the California Department of Toxic Substances Control ("CDTSC") carelessly intends to issue Lawrence Livermore National Laboratory a permit renewal to treat and store hazardous wastes that are toxic, reactive, corrosive, ignitable and/or mixed with radioactive elements, without conducting an Environmental Impact Report ("EIR".) Stated differently, I understand CDTSC thoughtlessly intends to allow the Lab to treat and store over 900,000 gallons of liquid and solid hazardous wastes, as well as treat 600 tons of solid hazardous waste per year, some of which will be transported from Site 300 on Corral Hollow in Tracy to the Lab's main site in Livermore, without conducting an EIR.

This letter is intended as the voice of the tens of thousands of Tracy residents who are already exposed to Site 300's known dangers and who will be subjected to significant increased risk of harm by virtue of making the decision to renew the subject permit

WITHOUT conducting an EIR.

We DEMAND that a thorough EIR be conducted before granting a renewal permit and that the decision to grant the renewal permit be dependent upon the outcome of the EIR.

Comment 30

My main comment for tonight is that the Department of Toxic Substances Control must, must conduct an environmental impact report in accordance with the California Environmental impact report in accordance with the California Environmental Quality Act. The EIR must analyze all hazardous and radioactive operation at Livermore Lab comprehensively and in depth. The initial study is not sufficient under the law. There has never been an EIR, as was stated, focused on the lab's generation of hazardous and radioactive waste and related waste management activities. The most recent EIR – and for the record, there have been environmental impact reports under CEQA. The most recent one was 1992. It wasn't just on hazardous waste. It was a site combined EIR and EIS that covered all Livermore activities, programs, projects, et cetera of which waste management was only one among many. However, that EIR was done 23 year ago, is wildly out of date, and is obsolete.

CEQA has certain mandates that are more stringent than those of the federal guidelines for the National Environmental Quality Act which is one reason why Tri-Valley CAREs is calling on DTSC to conduct an EIR. That said, it's also true that the last federal impact statement conducted on the Livermore Lab was in 2005. So it's a full decade old making it also obsolete particularly regarding Livermore Lab's documented radioactive waste operations.

And specifically I want to reiterate that the last federal site-wide EIS was 2005 because the DTSC team might be tempted to reply or to say that the lab conducted a supplemental analysis of that 2005 site-wide EIS in 2011. However, in 2011 the lab made a formal decision that it would not, would not conduct any fresh analysis of its hazardous and radioactive waste management activities. Instead the lab stood pat on its 2005 analysis. And I brought a copy of that of the relevant pages here that specified that they are not doing any additional analysis that 2005 would stand.

Comment 31

I am not convinced after reviewing the project permit that the objectives are being met here. As a threshold issue I particularly disagree with DTSC that an addendum was the appropriate CEQA document and I believe that an EIR or subsequent EIR on Livermore's hazardous waste is necessary. I think new information exists of substantial importance which could not have been known at the time of the previous negative declaration in 1999. There are many additional check changes planned for Livermore Lab over the next decade. The limited analysis included in the addendum to the adopted negative declaration has not information on any plan changes or proposed changes, yet it summarily finds less than a significant impact to the environment will result.

Comment 34

I am strongly opposed to renewing the permit. The lab has been allowed to skirt CEQA laws for far too long, to the extreme detriment of the environment. Long after our children and grandchildren are dead, pollutants from Livermore will continue to contaminate the environment and endanger health and public safety.

Some of the key reasons for calling for an EIR, public hearings and strong control by your department are:

The sheer amount of waste- over 900,000 gallons of liquid and solid waste per year

The permit renewal period is at least a decade

The use of a negative declaration is ludicrous when the waste is radioactive and also contains other pollutants- exactly what is not even known

Radioactive contamination at least four sites are among the worst in the nation

Earthquake and seismic safety issues, especially in light of the recent USGS findings that larger earthquakes are more likely in California than previously thought

The DTSC needs to do more to protect the safety of our beautiful abundant state.

California has been damaged more than enough by lax regulation. The hazardous waste permit process needs to be strengthened. It should not be a rubber stamp and we are just two of the many citizens who are calling for actual protection of the environment.

Comment 41

I request that you follow the requirements pursuant to the California Environmental Quality Act and conduct an Environmental Impact Report for recommendations regarding a permit renewal for the Lawrence Livermore National Laboratory.

Comment 42

A comprehensive EIR is essential to evaluate the LLNL current conditions.

Response to Comments 1, 2, 5, 10, 12, 24, 25, 26, 27, 29, 30, 31, 34, 41, 42

DTSC disagrees that an EIR is required for this project.

The 1999 Permit authorized LLNL to construct a \$32-million Decontamination and Waste Treatment Facility (DWTF) to replace current storage and treatment facilities used for hazardous and mixed wastes generated at LLNL. Mixed wastes are hazardous wastes regulated under RCRA that also contain radioactive materials. The DWTF featured new waste treatment equipment, including closed top tanks with air pollution control devices, an advanced air monitoring system, an alarm system and state of the art process controls. The permit also allowed the continued operation of LLNL's existing container storage and treatment units at Area 612 and Building 693, and modification of an existing

structure (Building 280) for storage of hazardous and mixed waste. The 1999 permit did not authorize any overall increase in waste storage and/or treatment capacity for this facility and was supported by a negative declaration.

None of the activity changes that have been approved by DTSC through the permit modification process since 1999 involved significant effects and were approved by DTSC through either a Notice of Exemption or an Initial Study/Negative Declaration. Only one of these modifications allowed an increase in treatment capacity.

The proposed permit subject to DTSC approval will not result in construction of new units or buildings or expansion of the HWF footprint beyond that approved by the 1999 Permit or an increase in authorized storage capacity. The proposed Permit will apply to all activities authorized in the modified 1999 Permit and the following new activities:

- Establishment of a new permitted area within the existing hazardous waste facility (HWF) to accommodate the relocation of hazardous waste solids currently stored in a different permitted area within the HWF and the conversion of the vacated area to a 90-day hazardous waste accumulation area;
- Addition of one evaporator to the existing Evaporator Unit which will consist of two evaporators; and
- Use of a new macro-encapsulation process for the packaging of certain RCRA and/or mixed waste.

In the future, LLNL cannot change waste operations which are authorized in the hazardous waste facility permit, without applying for a permit modification, which must be reviewed and approved by DTSC in compliance with CEQA.

The Environmental Document Analysis examined the potential environmental effects of all the proposed Permit activities upon the current physical environmental conditions in the vicinity of the LLNL hazardous waste facility and in light of the current regulatory standards and new information. Based on this examination, DTSC concluded that none of the conditions described in CEQA Guidelines section 15162 that would require the preparation of a subsequent EIR or Negative Declaration has occurred. DTSC has reviewed this conclusion in light of the comments received during the public comment period and concluded that they do not support the preparation of an EIR or negative declaration.

With regard to the management of TRU wastes and the transportation corridor, please see the Response to Comment 1, 2, 5, 6, 14 under Topic 7 Other Needed Analyses on page 23 and the Response to Comments 3, 12 under Topic 2 Management of Transuranic Mixed Waste on page 29.

Topic 2 Authorized Volumes
Comment 1

The permit would allow LLNL to treat and store 913,270 gallons of liquid and solid hazardous wastes. Further, it would allow LLNL to treat 600 tons of solid hazardous wastes per year, including uniquely dangerous wastes.

Comment 5

Considering the scope of the quantities of wastes consisting of toxic, corrosive, inflammable, materials that can contain radioactive elements requires a new permit or at least an EIR review of any permit extension. The permit extension would allow LLNL to treat over a million pounds of solid hazardous wastes per year and treat over 900,000 gallons of liquid wastes. Surely an EIR is required.

Comment 11

The draft Permit Renewal authorizes LLNL to continue to store a maximum of 913,270 gallons of liquid and solid hazardous waste in 12 container storage units. The permit will also allow LLNL to store and treat 45,000 gallons per day of hazardous waste in one treatment and storage unit, in association with three miscellaneous treatment units, and treat from 0.23 short tons per day to 600 short tons per year in the remaining six miscellaneous units. The hazardous waste management units are located in Area 625 and in the Decontamination and Waste Treatment Facility (DWTF). All waste management units in these areas can also be used to store and treat hazardous wastes that may potentially have a radiological component.

Comment 33

The draft permit very confusingly states that it will allow the lab to treat and store 913,270 gallons of liquid and solid hazardous waste. It also says it will allow the lab to treat 600 tons of solid hazardous waste per year. Right way I'm in trouble with how do you figure gallons and tons, liquid and solid, and how do know how much of the solid is in the liquid and the solid amount. How does that equate to the 600 tons of solid waste. So I'm confused.

The draft does not state how much that means in an increase of volume from the prior outdated permit. How much increase in volume of waste does the new permit cover or does it?

Response to Comments 1, 5, 11, 33

The Environmental Document Analysis contains a typographical error. Under the proposed project, LLNL is authorized to store a total of 476,077 gallons of hazardous and mixed waste that contain free liquids, and 64,710 cubic feet of hazardous or mixed

waste that do not contain free liquids, in authorized containers. This represents a decrease from the volumes authorized in the previous permit. The permit issued in 1999 (previous permit), authorized LLNL to store a maximum of 975,210.9 Gallons of hazardous waste and treat a total of 2,381.23 Short Tons of hazardous waste. The decrease in volumes authorized in the proposed permit does not change the conclusion of the previous negative declaration.

***Topic 3 Effective Term of Permit
Comment 1***

If issued, the permit will remain in place for ten years according to regulations. However, the duration could be even longer given that DTSC issued LLNL its first and only similar operating permit for “hazardous waste treatment and storage” in November 1999, nearly 16 years ago. Waste operations at LLNL have changed considerably since then. Further, DTSC is using a mere “addendum to the adopted negative declaration” of 1999 as its basis for issuing a permit now. This decision will have a long-lasting, and potentially negative, impact on our public health and the environment.

Comment 5

The permit extension would remain in place for at least ten more years. Since waste processes and handling methods have changed in the past ten years it is only to be expected that they will change in the next ten years. How these expected changes are to be reviewed prior to approval must be examined in the new permit subject to an EIR. Without such a review, reliance would be on a bureaucratic process, which has been shown to be inadequate. An EIR reviewed new permit is required.

Response to Comments 1, 5

Changes in the waste operations at LLNL since 1999 were evaluated in the Addendum to the Negative Declaration. The changes would not result in significant environmental effects and thus do not warrant a subsequent EIR per 14 CCR §15162. In the future, LLNL cannot change waste operations which are authorized in the hazardous waste facility permit, without applying for a permit modification, which must be reviewed and approved by DTSC in compliance with CEQA to determine if an EIR or some other CEQA document is required.

***Topic 4 CEQA Evaluation of Future Activities
Comment 1***

The 2015 permit decision document (the “addendum to the adopted negative declaration”) identifies future activities that will take place at LLNL in 2010 and 2011, revealing that parts of the decision basis for this permit were written years ago and not

updated. Moreover, the “future” activities include increases in “non-routine” mixed radioactive wastes, low-level radioactive wastes and transuranic (plutonium) wastes that DTSC noted are outside the bounds of LLNL’s prior site-wide study. The “addendum” summarily asserts that these increases, which it calls “fluctuations,” pose no additional risk. However, the “addendum” lacks an in-depth analysis to bear out that conclusion. And, it is silent on post-2015 “fluctuations.”

Comment 9

LLNL's environmental impact study is way out of date and it is embarrassing to read that they are submitting to the state documents which refer to "future activities" in 2010 and 2011. They are assuming you will not be reading their papers. As civil servants, you should all be very insulted by their presumptions. My father worked for USGS and in his name I am insulted on behalf of the many people who work in the interest of the public.

Comment 31

I think that the CEQA addendum is obsolete and inadequate both for the reasons I stated, but I'd like to provide an example. The addendum identifies that increases above the 2005 site-wide environmental impact state, and to quote it, it talks about this as though it's in the future: Are expected for routine radioactive low level waste temporary increases will occur in 2010 and '11 for non-retained waste. This is not helpful to that document that is, you know, notifying the public of temporary increases that occurred in the past. And then rather than analyzing the impacts of these increase, which were never evaluated in the addendum, asserts that the impact of these fluctuations and temporary increases would be consistent with the cumulative impacts analyzed and are small compared to the DOE's operations nationally or total waste for California annually, but there's no support for these – for those assertions nor does a comparison to national agency operation or total waste in California assure that site specific increases in radioactive waste at the Livermore Lab will not have the potential to significantly impact our local environment here, and that should have been the inquiry under CEQA.

Response to Comments 1, 9, 31

The commenter appears to be referring to the summary of the 2010 Health Risk Assessment in the Hazards and Hazardous Materials section of the Environmental Document Analysis (EDA). This section discusses temporary increases that “occurred” in FY 2010 and 2011 (past tense). DTSC disagrees that the Addendum lacks the in-depth analysis to support the conclusions in the Hazards and Hazardous Materials section of the Addendum. The EDA summarized the results of the 2010 Health Risk Assessment. The EDA concluded that the increases that occurred in FY 2010 and 2011 present a very low risk to public health or the environment. DTSC has reviewed the operations plan submitted by LLNL as a part of its permit application and has concluded that it complies with all of the regulatory and statutory requirements to protect human health and the environment. In addition to the regulatory and statutory requirements, DTSC implements

permit special conditions in order to assure that LLNL operates the permitted hazardous waste management facility at the highest standard possible under the law in order to protect human health and the environment. Should future projections for the site-wide generation of LLW and MLLW require changes to the permitted facility or the operations plan, LLNL must follow DTSC's permit modification process, which requires review and prior approval of the proposed changes by DTSC in compliance with CEQA.

Topic 5 Waste Streams and Activities

Comment 1

The permit fails to consider foreseeable waste streams that may differ from present operations. For example: LLNL is home to four of the ten most dangerous toxic and radioactively-contaminated facilities in the US nuclear weapons complex awaiting decontamination & decommissioning (D&D). Needed hazard mitigation and D&D activities will involve new waste streams and potential new exposure scenarios. Yet DTSC makes no mention of them.

Comment 2

The limited analysis included in the Addendum to the Adopted Negative Declaration has no information on any programmatic changes (or proposed changes) or new activities planned at the lab during the permit period. Despite the lack of information, it summarily finds that "less than a significant impact to the environment" will result.

Comment 28

I am alarmed that the State of California [would] be thinking of permitting LLNL to continue to store wastes they have been leaking into the Livermore neighborhoods over the years, let alone allowing them to expand these operations. This crud doesn't stay put, of course. It will be able to be blown all over the greater Bay Area.

Comment 30

There's another big change. The DOE, National Nuclear Security Administration, has taken a look at old contaminated buildings. These are buildings radioactively and toxically contaminated in the nuclear weapons complex because of old activity. And they're deteriorating. Four of the top ten most dangerous facilities in the nation are at Livermore Lab. Those facilities are likely to be decontaminated and decommissioned during the lifetime of this permit.

Remember the last permit was 1999, 16 year[s] ago. Those wastes will impact waste management and treatment of Livermore Lab. They have beryllium. They have a multitude of toxins. They have a multitude of radioactive materials. In fact, one of them has nothing else in the facility and that is going to be a bear to decontaminate and decommission. And one of them is an old nuclear reactor, the old Cobalt source reactor.

And I can go on and on. So these buildings are – this is news in terms of DTSC. There was nothing in their analysis about this. This is forward looking. I am saying that to comply with the law, the DTSC must do a fresh up-to-date analysis before issuing a permit.

Comment 31

It appears DTSC actually made no inquiry into activities at the lab or the agency presumed that the activities would continue as they have for the past decade, but let me tell you that that presumption is wrong if it was made. To illustrate that, I recently met with the constituents on NEPA compliance in Washington D.C. and they informed me that the preparation of a full site-wide environmental impact statement would take place for Livermore Lab in 2016. That illustrates that the DOE itself believes that the Lab's activities over the next ten years will involve activities that could significantly impact the environment. And all of those activities in this case can potentially change hazardous waste operations.

Comment 38

I just had a short tour of the perimeter of the Livermore Lab, and there are significant amounts of toxics that have been released into the environment already. We need you to redouble your monitoring and regulation of the toxic emissions – and pursue stricter clean-up standards for past pollution. The lives our children and future generations are depending on you.

Comment 44

We must decontaminate our environment – not give a “pass” for more. Update this review!

Response to Comments 1, 2, 28, 30, 31, 38, 44

The scope of DTSC's project description under CEQA and hence its environmental analysis, the Environmental Document Analysis and Addendum, is the operation of specific hazardous waste storage and treatment facilities enumerated in the draft permit. The project scope does not include the overall operation of the LLNL complex, Site 300 (which is under a separate permit for storage and treatment of hazardous waste), or the clean-up activity under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) program. Any future change in the permitted activities needed to accommodate changes in overall operation of the LLNL complex, Site 300, CERCLA clean-up activity, radiologic decontamination and/or decommissioning, or any other activities would require LLNL to submit a modification to the permit which must be reviewed and approved in advance by DTSC in compliance with CEQA.

DTSC does not have the authority to reevaluate the DOE's proposed action, which was analyzed in the both the SWEIS and 2011 SWEIS for the overall operations and management of the LLNL complex. It should be noted, however, that the SWEIS has been reevaluated by DOE through the 2011 SWEIS. Further, the fact that the SWEIS and 2011 SWEIS were prepared by the National Nuclear Security Administration does not invalidate their content. Both CEQA and NEPA fully anticipate that public entities may prepare an environmental analysis of their own project proposal and both processes provide for review by both public and other affected public agencies. The draft SWEIS was issued for public review and comment on February 27, 2004 and was delayed to May 27, 2004, which promulgated major changes as described on page S-12 of the SWEIS.

The project controls within the proposed DTSC permit provide for the proper and lawful management of hazardous waste in storage and treatment units. . None of the hazardous waste management operations of the facility since it has been allowed to operate under interim status through issuance of the permit in 1999 have been identified as contamination sources under CERCLA investigation and cleanup activities at the Main Site. With the prescribed project controls (permit conditions), the potential for future releases from the permitted unit is minimized. The cleanup activities under CERCLA are in response to the contamination which resulted from historic laboratory materials releases and disposal. Such cleanup activities are symptomatic of older industrial plants and DOE facilities throughout the country. The historic practices that caused those releases pre-dated many of the current environmental laws. DOE acknowledges its responsibility and will continue to progress through required site cleanup activities and address all materials released at the Main Site.

With regard to emissions, the DWTF waste treatment equipment, includes closed top tanks with air pollution control devices, an advanced air monitoring system, an alarm system and state of the art process controls in order to assure that continuous monitoring of potentially harmful toxic emissions from LLNL and offers significant enhancement in protection of human health and the environment from the continued operation of the storage and treatment of hazardous or mixed waste.

Topic 6 Earthquake Analysis

Comment 1

The permit is based on outdated analyses of potential earthquake damage leading to hazardous waste releases. LLNL is updating its seismic hazard analysis on new information from the USGS. While LLNL has not yet released its results, it is known that the USGS determined there are increased risks from more significant ground motion and liquefaction than previously considered at an around LLNL.

Comment 5

New earthquake data must be analyzed and considered as required by CEQA before a permit renewal can be granted.

Comment 6

There are other concerns involving hazardous waste treatment at the Lab. Chief among them is the fact that the analyses of potential earthquake damage which could lead to hazardous waste release is outdated.

Comment 30

There are many, many factors that make an environmental analysis done ten to 23 years ago obsolete. Among them is the decades old assumptions in those documents that earthquake hazards at Livermore Lab are no longer valid. The USGS has changed its assessment of the potential for liquefaction in case of an earthquake at Livermore Lab and the latest facts show liquefaction on site at Livermore Lab as a likelihood. In fact, it's bright red in some places. The assessment for the amount of shaking has changed. The assessment for the amount of motion has changed, and there's a recent update even changing the potential or the percentage likelihood of an 8.0 quake in California with two areas highlighted, the Bay Area and the Los Angeles area.

Livermore Lab itself is internally redoing its earthquake assumption. That analysis has not yet been published, but that is something that would be very different in an environmental impact report done today rather than 23 years ago.

Response to Comments 1, 5, 6, 30

DTSC has evaluated seismic hazards associated with the proposed project. The following response further clarifies the conclusion in the Environmental Document Analysis supporting the Addendum to the Negative declaration:

1. None of the proposed permitted areas are located within State of California-Alquist-Priolo Earthquake Fault zones.
2. None of the proposed permitted units are located within USGS Quaternary fault zones (source of Magnitude 6 or greater earthquakes during the past 1,600,000 years).
3. The strongest shaking severity at LLNL is associated with earthquakes on the Greenville Fault. The closest branch of the Greenville Fault with movement within the last 150 years is located approximately 11,100 feet or 2.1 miles northeast of the closest permitted unit at the DWTF.
4. None of the proposed permitted units are located within State of California – Zones of Required Investigation for Liquefaction or Earthquake-Induced Landslides.
5. None of the proposed permitted units are underlain by USGS National Earthquake Hazards Reduction Program (NEHRP) Soil Types D or E, where significant or the strongest amplification of shaking by these soils is generally expected.
6. Groundwater is present at depths of approximately 60 feet or greater below the ground surface in the DWTF and over 110 feet below the ground surface in Area

612 and 625.

7. In contrast, localities most susceptible to liquefaction – induced damage are underlain by loose, water saturated, granular sediment within 40 feet of the ground surface.

In addition, DTSC would like to clarify that although a new USGS Earthquake Forecast UCERF3, might consider a higher potential of earthquakes taking place in California due to the direct connection between faults, the Greenville Fault being the closest one to LLNL will not be triggered by the Hayward or the Northern San Andreas faults since it is not connected to either. In other words, the Greenville Faults might be indirectly affected by the Hayward or Northern San Andreas Fault but it will not break at the same time or due to the Hayward or Northern San Andreas Faults. Also, if a larger earthquake were to occur at the Northern San Andreas or at the Hayward and Calaveras, due to its distance and type of soil at Livermore the earth movements at LLNL would be decreased to be Moderate to Strong.

Topic 7 Other needed analyses
Comment 1

The permit lacks other needed analyses, including [consideration] of cumulative impacts, housing incompatible wastes in close proximity (2.5 feet apart for solids while stacked 2 barrels high) and more. Further, the permit does not state the frequency of DTSC inspections, consider alternative processes that could reduce the generation of hazardous wastes, or include specific measures to mitigate potential hazards.

Comment 2

Scientific and nuclear weapons programs, many of which produce hazardous and mixed radioactive waste, at Livermore Lab are constantly changing and evolving. The DTSC should not approach a Hazardous Waste Permit renewal for a research and development facility that produces novel and varied waste streams with the same approach as it does industrial production facilities that have consistent waste streams.

Comment 5

Current storing of wastes, such as close proximity of wastes that could interact, as well as improperly stacked waste containers, need to be reviewed, as improper storage of these wastes is a public health hazard. An EIR is clearly required by CEQA.

The current permit does not define the frequency of inspections by DTSC. This oversight is not compatible with assurance of safe operation, particularly considering past lapses. A new permit subject to CEQA review is required. Extending the current permit without an EIR obviously does not address this shortcoming.

Comment 6

Also, the permit is not clear with regard to the types of frequency of inspections of the plant which could be necessary to ensure public safety.

Comment 14

There is no indication of the anticipated frequency of DTSC inspections to enforce the many standards that apply in this permit. The history of inspections on the DTSC website also gives no clear indication since it shows that they are not conducted every year (no inspections in 2012 or 2014) and would seem to be completely arbitrary.

Has the DTSC conducted an investigation of how LLNL handles its TRU waste? Are the operations safe and protective of human health and the environment?

There is also no indication of the actual frequency of the DTSC to enforce the many standards that apply other than that there are going to be random inspections. It is useful for the public to have an idea of how often those random inspections can or should or do occur.

Response to Comments 1, 2, 5, 6, 14

Cumulative impacts were analyzed in the Environmental Document Analysis (EDA). DTSC considered the applicable environmental media areas within Appendix G of the CEQA Guidelines that could be potentially affected by the project, as well as the cumulative impacts analysis contained in the 2005 SWEIS and its 2015 SWEIS Supplement Analysis. The 2005 SWEIS analyzed cumulative impacts in the context of the more than 10 years that had passed since the publication of the 1992 LLNL EIS/EIR and because of the proposed modifications to existing projects and programs, including changes to waste management activities to accommodate increased waste generation and to improve overall operational methods. These proposed changes included obtaining hazardous waste facility permits for areas being used for nonhazardous or radioactive waste management, and for relocation of permitted waste treatment units from old facilities to newer facilities. The 2015 Supplement Analysis includes: (1) an examination of the cumulative impacts in the 2005 SWEIS; (2) a review of past, present and reasonably foreseeable actions for other federal and non-federal agencies; (3) a summary of impacts identified in the Supplement Analysis; and (4) a summary of the cumulative impacts and changes since the 2005 SWEIS was issued. Reasonably foreseeable actions for the region impacted by LLNL were also reviewed in the analysis. The 2010-2015 projections for each resource area included consideration of the proposed new and modified projects and modifications in site operations at LLNL likely to be implemented through the year 2015. For the few instances where the 2010-2015 projections differ from the 2005 SWEIS analysis, the 2015 Supplement Analysis determined that the changes in environmental impact are not significant and concluded that a supplement to the 2005 SWEIS is not needed.

With regard to constantly changing and evolving research and development projects that produce novel and varied waste streams, please see the Response to Comments 1, 2, 28, 30, 31, 38, and 44 under Topic 5 Waste Streams and Activities on page 18.

DTSC has determined that the 30 inches of aisle space for the storage of hazardous waste in containers meets the regulatory requirements of title 22 of the California Code of Regulations, allowing for the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment as required under title 22, specifically, section 66264.35.

Containers will not be stacked higher than two containers high as specified by Special Condition 3 on page 43 of the draft permit.

Hazardous waste facility permits do not include the frequency of inspections. It is DTSC policy to carry out un-announced inspections to make sure that the facility operates in compliance with the permit and all the applicable regulatory and statutory requirements. According to DTSC's Resource Conservation and Recovery Act (RCRA) grant agreement with EPA Region IX for the period of July 1, 2014 to June 30, 2017, DTSC will inspect treatment, storage and disposal facilities (as defined in RCRA §3007(e)) at least once every two years.

In addition to DTSC inspections, the Alameda County Environmental Health Hazardous Materials/Waste Program Certified Unified Program Agency (Alameda CUPA) inspects the LLNL as a Large Quantity Generator (LQG).

LLNL has a waste minimization plan in place in accordance with Senate Bill (SB) 14, and the permit does not need to explicitly state such a requirement since this requirement is stipulated in regulation and is available and provided at LLNL upon request.

No impacts that require mitigation measures were identified in the Environmental Document Analysis, and LLNL has a contingency plan in place in case of emergencies that require immediate action in order to protect human health and the environment.

DTSC regulates LLNL's management of the hazardous waste constituents in mixed waste, including TRU mixed waste, pursuant to Health and Safety Code, division 20, chapter 6.5 (sec. 25100 et seq.). DOE regulates management of the radiological constituents in mixed waste. DTSC has reviewed LLNL's operations for the storage and treatment of radioactive or mixed waste within the permitted facility, including TRU and TRU mixed waste, and concluded that such operations will be safe and protective to human health and the environment when managed in accordance with chapter 6.5, DOE requirements, and specific conditions included in the proposed permit (e.g., section V.4). DTSC also determined that these operations are in compliance with all the statutory and regulatory requirements.

With regard to cumulative impacts, please see the Response to Comment 2 under Topic

9 Cumulative Impacts on page 26.

***Topic 8 Other Important Information
Comment 2***

New information exists that is of substantial importance, which could not have been known at the time that the previous negative declaration was adopted, 16 years ago in 1999. This satisfies the CEQA Guideline requiring an EIR to be done (Cal. Code Regs., tit. 14, § 1562(a)(3)). Between 1999 and 2015, Livermore Lab's operations have significantly changed, including the development of an entirely new Decontamination and Waste Treatment Facility (DWTF), significantly changed lab operations and activities, and substantial new information has come to light regarding the existing environmental conditions. For this information, the DTSC properly looked to the 2005 Site Wide Environmental Impact statement (SWEIS). However, this inquiry does not satisfy the requirements of CEQA for the purposes of issuing a permit that will last for another decade since that report only looked at operations for the decade spanning from 2005 to 2015.

Response to Comment 2

DTSC has not found new information of substantial importance that would require the analysis of an EIR pursuant to the requirements under the California Code of Regulations, title 14, section 15162. In addition, the Decontamination and Waste Treatment Facility (DWTF), including the construction, development, and its operations, was analyzed and a Negative Declaration adopted in 1999. Also, all of the changes that have taken place from 1999 were performed following the modification process in California Code of Regulations, title 22, section 66270.42. For some of these changes a CEQA analysis was performed as stipulated under regulations, and for other minor changes, CEQA exemptions applied. The modifications that required a CEQA analysis are enumerated in Table A referenced in the Environmental Document Analysis. Similarly, LLNL will be required to follow the permit modification and CEQA evaluation processes in order make any change to an activity covered by the proposed permit after it becomes effective. Such changes would require LLNL to submit a modification to the permit which must be reviewed and approved in advance by DTSC in compliance with CEQA.

***Topic 9 Cumulative impacts
Comment 2***

CEQA requires an analysis of all of the cumulative impacts of a project (§ 15130). An adequate cumulative analysis requires a list of projects producing related or cumulative impacts (§ 15023.5(c)(1)). The content of this list are closely related past, present, and reasonably foreseeable probably future projects (§ 15023.5(b); See also *San Franciscans for Reasonable Growth v. City of S.F.*, 151 Cal. App. 3d 61, 74 n. 13 (1st Dist. 1984)).

Response to Comment 2

San Franciscans for Reasonable Growth v. City of S.F. relates to the EIR stage of CEQA. The Environmental Document Analysis (EDA) analyzed the project for cumulative impacts following the approach specified in 14 CCR section 15064(h) to determine if any of the 14 CCR section 15162 criteria which would require the preparation of an EIR were met. This evaluation included consideration of the 2005 SWEIS and 2015 Supplement Analysis. The 2015 Supplement Analysis considered lists and projections such as you suggest. See the Response to Comments 1, 2, 5, 6, 14 under Topic 7 Other needed analyses on page 23.

Topic 10 Future Research Activities Comment 2

It appears DTSC made no inquiry into future activities at the lab or the agency presumed that activities at the lab will continue as it has for the past decade. That presumption, if made, is false. Many additional changes are planned for LLNL in the next decade, some of which are outlined in the 2015 Lawrence Livermore National Laboratory 10-Year Site Plan (TYSP) (The LLNL TYSP, published May 14, 2014, was surprisingly not cited by the CEQA addendum, though it was readily available during the preparation of that document. U.S. Dep't of Energy, Nat'l Nuclear Sec. Admin., Lawrence Livermore National Laboratory FY 2015 Ten Year Site Plan Limited Report (2014)). Additionally, TVC recently met with the DOE office of NEPA Compliance who informed us that preparation of a new SWEIS would/should place in 2016. This illustrates that the DOE itself believes that the labs activities over the next 10 years will involve activities that could significantly impact the environment. "Projects that are undergoing environmental review are reasonably probable future projects. Any future project where the applicant has devoted significant time and financial resources to prepare for any regulatory review should be considered as probable future projects for the purposes of cumulative impacts." (Gray v. County of Madera, 167 Cal. App. 4th 1099, 1127-1128 (5th Dist. 2008)).

Response to Comment 2

DTSC reviewed the FY 2015 Lawrence Livermore National Laboratory Ten Year Site Plan (2015 TYSP). DTSC does not consider the time and financial resources that LLNL spent in preparing the 2015 TYSP to be for the purpose of preparing any of the projects contained therein for DOE or DTSC environmental review in that the TYSP does not describe or evaluate the conditions, if any, that any of these planned projects would contribute to the cumulative effects evaluated in the 2015 SWEIS Supplement Analysis.

These expenditures appear to be for the purpose of identifying and prioritizing future projects which LLNL would like DOE Headquarters to approve for implementation at LLNL, when funding becomes available. Until DOE makes information available that describes or evaluates which of the planned projects will create conditions that should be considered in a cumulative impacts evaluation, DTSC can only speculate about such conditions, which CEQA does not require.

As the commentator notes, DOE has not yet initiated the preparation of a new SWEIS. Based on its review of the 2015 SWEIS Supplement Analysis, DTSC anticipates that any new SWEIS will consider the projects identified in the most recent TYSP in its screening process to determine which, if any, of the projects referenced therein should be considered to be likely or reasonably foreseeable, and, therefore, included in the SWEIS's cumulative impacts evaluation.

In response to this comment, DTSC obtained and reviewed the FY2016 TYSP for changes to the FY2015 TYSP. The FY2016 TYSP notes that projections regarding storage capacity for transuranic (TRU) waste within the radiological hazardous waste management (RHWM) storage facilities estimate that there will be sufficient storage capacity for TRU waste until 2019 based on current generation rates. DTSC anticipates that the new SWEIS planned for 2016 will consider this new information in its future project screening process. Additionally, such a capacity change will require LLNL to complete DTSC's permit modification process, which includes review of the proposed changes by DTSC in compliance with CEQA prior to LLNL implementing the change. DTSC will consider the new SWEIS in its CEQA evaluation.

The other future projects outlined in the FY2015 TYSP, including any changes reflected in the FY2016 TYSP, do not appear to relate to the HWF. However, if any of these projects do become a reality and give rise to the need to change any of the HWF storage or treatment activities included in DTSC's proposed project, LLNL will again be required to complete DTSC's permit modification process in compliance with CEQA, prior to LLNL implementing the change.

WHETHER AN UPDATED HUMAN HEALTH RISK ASSESSMENT SHOULD BE PREPARED

Topic 1 New Human Health Risk Assessment Comment 3

An updated Human Health Risk Assessment should be prepared before making any permit decision. The CEQA document relies on a Human Health Risk Assessment for Hazardous Waste Treatment and storage Facilities at LLNL that was completed in 2010 using data from 2008 and earlier. This document also does not necessarily apply to LLNL's future activities. We request that DTSC demand preparation of an updated Health risk Assessment and a CEQA EIR that forecasts health impacts based on anticipated

activities. One activity is discussed next.

Comment 24

The DTSC should also prepare an updated Health Risk Assessment that forecasts health impacts based on current and anticipated activities. Also, the entire Draft Permit should be re-evaluated and the deficiencies addressed.

Response to Comments 3, 24

An updated Health Risk Assessment is not indicated. DTSC concludes that the submitted HRA complies with the requirements under section 66264.601(c) of title 22 of the California Code of Regulations. DTSC would like to clarify that the Environmental Document Analysis supporting the Addendum was not based solely on the HRA... For example, DTSC utilized information found in the SWEIS, 2011 SWEIS, and the adopted Negative Declaration. See Response to Comments 1, 5 under Topic 3 Term of Permit on page 16 in regards to future activities and what LLNL would need to do in order for such activities to become effective or authorized within the permit.

***Topic 2 Management of Transuranic Mixed Waste
Comment 3***

The Human Health Risk Assessment does not evaluate waste management activities from Transuranic radiological contaminated hazardous waste, commonly known as Transuranic (TRU) Mixed Waste from nuclear weapons work. Additional shipment of TRU mixed waste to the Waste Isolation Pilot Plant in New Mexico are planned in the future in order to comply with the Federal Facility Compliance Act. A CEQA EIR analysis should evaluate impact from TRU mixed waste activities and the transportation corridor.

Comment 12

The human health risk assessment does not evaluate waste management activities from transuranic radiological contaminated hazardous waste, commonly known as Transuranic (TRU) Mixed waste from nuclear weapons work. Additional shipments of TRU mixed waste to the Waste Isolation Pilot Plant in New Mexico are planned in the future in order to comply with the Federal Facility Compliance Act. WIPP, however, is presently closed to all waste shipments including from LLNL, and WIPP management has announced that its plans to reopen have been moved out to a future date yet to be determined. Thus, it may remain closed into the foreseeable future.

Response to Comment 3, 12

Mixed waste is defined as waste that contains both hazardous waste and source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954. DOE regulates

all nuclear material and the way it is handled for nuclear product, nuclear waste, and/or mixed waste through the entire site of LLNL. DOE transuranic mixed waste is defined as mixed waste that contains more than 100 nanocuries of alpha-emitting elements with atomic numbers greater than 92 (the atomic number for uranium). The HRA used the information provided in the LLNL NESHAPs 2008 Annual Report, which addresses the management and volume of all radiological isotopes, including transuranic ones.

The Environmental Document Analysis, Hazards and Hazardous Materials analysis, Section 8, evaluated the transportation of hazardous or mixed waste taking into consideration that hazardous waste transportation will be in compliance with United States Department of Transportation (US DOT) and DOE requirements. Procedures for emergencies, security, and routine transportation are discussed within Section 8 of the Environmental Document Analysis.

Whether WIPP is open or closed does not affect the management of TRU mixed waste within the permitted hazardous waste facility under the proposed permit. DTSC has reviewed LLNL's operations for the storage and treatment of radioactive or mixed waste within the permitted facility, including TRU and TRU mixed waste, and concluded that such operations will be safe and protective to human health and the environment when managed in accordance with Health and Safety Code, division 20, chapter 6.5 (sec. 25100 et seq.), DOE requirements, and specific conditions included in the proposed permit.

Topic 3 Cancer Rates
Comment 6

Some have pointed to population studies of cancer rates and other health problems which occur near facilities such as Lawrence Livermore Lab. This type of data should be reviewed as part of the permitting process.

Response to Comment 6

DTSC and LLNL have reviewed cancer rates and the risks that are directly associated with the management of hazardous or mixed waste. The information can be found in the Environmental Document Analysis within the Hazards and Hazardous Materials analysis, Section 8. Section 8 evaluates the direct effects of the proposed project activities of storage and treatment of hazardous or mixed waste.

Topic 4 Intentional Act Analysis
Comment 12

The hazard impact analysis in the Addendum does not take into consideration the

potential for an intentional act. It again relies on the out-of- date SWEIS that did not take into account potentially increased levels of LLW and MLLW.

The DTSC based its decision on an old and outdated risk assessment that was conducted in 2010 using data from 2008. A new human health risk assessment using current information and protocols should be conducted. The application includes new units and operations and the risk assessment should evaluate future operations, including new units. The old risk assessment considered waste management units that have since been removed. The new risk assessment must evaluate the new operations and the effect of the removal of waste management units and air pollution control devices.

Also, Vol. 2 Sec. 5 of the application indicates nine miscellaneous units. The application does not contain enough technical information for evaluation of these units. Many of these units handle radioactive and hazardous wastes, including evaporation, and washing contaminated debris with hot water, etc. According to section 5.4, waste can be heated to 140 degrees F. There is not enough information to assess the adequacy of the air pollution control devices and what kinds of emissions are affecting the workers and others in the public from these operations. The application must contain enough information to evaluate the safe operation of the facility. The current application mostly contains trivial descriptions of operations and units that make the assessment of safety and impact to human health and the environment impossible. The application must be rewritten to provide relevant information.

Also worth noting are that LLNL and Los Alamos National Laboratories (LANL) have similar operations and generate the same wastes. Recently, LANL's waste operations caused a serious accident that impacted worker's health and closed the Waste Isolation Pilot Plant, as noted above. LANL has been issued violations and required to pay millions of dollars in penalties. Has the DTSC conducted an investigation of how LLNL handles its similar waste? Are the operations safe and protective of human health and the environment?

Comment 31

I also wanted to mention that the hazard impact analysis in my opinion is inadequate. The hazard impact analysis of the addendum does not take into consideration the potential hazards on this facility. It again relies on the out-of-date data which it did not take into account -- which also did not take into account the increased levels of low level of the waste and mixed low level waste that might sometimes be present.

I would also mention that the health assessment does not appear to analyze an accident, but instead is based on worst-case scenario on routine operations. And I would also ask DTSC to list the health assessment from 2010 on your website.

Commingling of waste is one thing I want to mention too, which I already asked a question about, but the draft permit allows radioactive materials and radioactive waste which are regulated separately to be managed in the same areas of the facility that will

[be] regulated by the permit. The permit that I just mentioned applies to the unregulated waste to the extent that it is necessary to protect human health or safety or the environment. However, the public is left without any description of how this will be determined or whether it will be enforced when there is radioactive material or waste present – purely radioactive material in the permitted areas. So a description of that would be useful to the public.

Response to Comments 12, 31

DTSC agrees that the hazard impact analysis in the Addendum does not take into consideration the potential for an intentional act. CEQA only requires that an agency evaluate the proposed project's effects on the environment based on reasonably foreseeable upset and accident conditions. Speculation of intentional acts is not required pursuant to the CEQA provisions as stated in CEQA Guidelines section 15064(d)(3). If an intentional act of release of hazardous or mixed waste to the environment were to occur, such an event would result in an investigation, remediation, application of fees, and/or fines/penalties, as well as a criminal investigation by DTSC and other public agencies with jurisdiction over such act. In addition DTSC did analyze the hazards and hazardous materials proposed on this project in section 8 on page 21 of the Environmental Document Analysis supporting the Addendum to the adopted Negative Declaration and concluded that the approach to respond to fires, explosions, spills or material releases, whether intentionally or unintentionally caused, meets all regulatory requirements in addition to being protective to human health and the environment.

DTSC finds that the submitted HRA considered the latest published information submitted under the requirements of section 66260.601(c) of the California Code of Regulations, title 22. The Environmental Document Analysis and Addendum were developed using information found in the HRA and other information found in the documents referenced within the EDA. Consequently, the analysis is not based only on the HRA. Although the application includes two new units, neither poses a significant increase in the volume for the storage or treatment of hazardous or mixed waste that is currently authorized. See Response to Comments 1, 5, 11, 33 under Topic 2 Authorized Volumes on page 15 with regard to the volume to be managed under the proposed project.

The 1999 permit authorized LLNL to construct a \$32-million Decontamination and Waste Treatment Facility (DWTF) to replace the existing storage and treatment units used for hazardous and mixed wastes generated at LLNL. The DWTF featured new waste treatment equipment, including closed top tanks with air pollution control devices, an advanced air monitoring system, an alarm system and state of the art process controls. The DWTF offers significant enhancement in protection of human health and the environment than continued operation of the storage and treatment units that it replaced. The Environmental Document Analysis further explains and analyzes the potential for cancer risk associated with the DWTF, since it is understood to be the major probable source of hazardous or mixed waste with the potential to impact the environment (See Environmental Document Analysis, page 9 Air Quality, section 3, analysis). Please also

see Response to Comment 46 under Topic 5 Airborne Contaminants on page 33.

All of the technical information provided by LLNL Vol 1., Section 5, of the permit application for all miscellaneous units was found to be of sound engineering and in accordance with all statutory and regulatory requirements. DTSC would like to clarify that section 5.4 in volume 2 of the application provides sufficient technical information to ascertain that both evaporators operated in a safe manner. Both units operate in a closed system to drive evaporation and condensation through a thermodynamic exchange. The same coolant is used to heat up the evaporator and condensate the water within the evaporator unit. The water captured in the distillate collection tanks of the unit, that is, the water that was evaporated from the waste in the evaporation chamber, will be transferred to a container, portable tank, or tank farm for further analysis to undergo further treatment, be managed as a hazardous or mixed waste, or be managed as a non-hazardous waste.

DTSC cannot comment on the similarity between LLNL and Los Alamos National Laboratory since DTSC's review of the LLNL is based on California law and regulatory requirements. DTSC has evaluated the hazardous waste being handled in the storage and treatment units to be authorized in the draft permit. DTSC concluded that the operations conducted under the proposed project for the storage and treatment of hazardous or mixed waste under the proposed permit conditions, are protective of human health and the environment and are in accordance with regulatory and statutory requirements. Please also see Response to Comment 1, 2, 5, 6, 14 under Topic 7 Other needed Analyses on page 23.

***Topic 5 Airborne Contaminants
Comment 46***

Please review carefully both airborne contaminants as well as threats to Livermore's water source.

It would certainly be helpful to your decision making if some epidemiologic study has been conducted related to cancer rates in the community of Livermore. The people deserve to know this information.

Response to Comment 46

Airborne contaminants were evaluated under the Air Quality analysis section 3 of the Environmental Document Analysis. DTSC concluded that the activities proposed under the proposed permit will have less than significant impacts to the environment for four CEQA significance criteria (Appendix G of the CEQA Guidelines, Cal. Code Regs., tit. 14) and no impact to the environment for two of the CEQA significance criteria.

DTSC analyzed the hydrology and water quality conditions (ground water) for Livermore

with respect to the proposed project under the Hydrology and Water Quality section 9 of the Environmental Document Analysis and concluded that the proposed project will have a less than significant impact on the environment based on the CEQA significance criteria. In addition, refer to Response to Comments 1, 2, 28, 30, 31, 38, 44 under Topic 5 Waste Streams and Activities on page 19 with regard to the scope and relationship of the proposed project to the cleanup activity taking place at LLNL.

The analysis of cancer rates data with regard to the scope of the proposed project can be found in the Environmental Document Analysis, Hazards and Hazardous Materials section 8, which also provides the cancer risk associated with the proposed project. DTSC concluded that the facility's operations pose a less than significant impact to the environment based CEQA significance criteria.

WHETHER AN ECOLOGICAL RISK ASSESSMENT SHOULD BE PREPARED

Comment 4

Title 22 of the California Code of Regulations, Specific Part B Information Requirements for Miscellaneous Units, requires "information on the potential pathways of exposure of humans or environmental receptors to waste constituents, hazardous constituents and reaction products, and on the potential magnitude and nature of such exposures."

The DWTF includes Miscellaneous Units that have the potential to impact the California Red-legged Frog, California Tiger Salamander and White-tailed Kites.

We request that DTSC demand preparation of an ecological risk assessment as required by 22 CCR 66270.23(c) in order to evaluate impacts to potentially affected biological receptors.

Comment 16

LLNL is home for endangered species including the red-legged frog. As required by regulation, an ecological risk assessment must be conducted to evaluate the impact on these species. 22 CCR, Specific Part B Information Requirements for Miscellaneous Units, requires "information on the potential pathways of exposure of humans or environmental receptors to waste constituents, hazardous constituents, and reaction products, and on the potential magnitude and nature of such exposures."

The DWTF includes Miscellaneous Units that have potential to impact the California Red legged Frog, the California Tiger Salamander and the White-tailed Kites. The DTSC should prepare an ecological risk assessment as required by 22 CCR §66270.23(c) in order to evaluate the impacts to potentially affected biological receptors.

Response 16:

Response to Comment 4, 16

Section 66270.23(c) does not require an ecological risk assessment. Rather section 66270.23(c) requires LLNL to supply additional information in regard to the operation of miscellaneous units as part of the permit application. DTSC concluded that the information provided in the HRA covers the potential pathways of exposure of humans and environmental receptors to waste constituents, hazardous constituents and reaction products, and on the potential magnitude and nature of such exposures. The information can be found in Volume 1 Section 5 and 19, and Volume 2 Section 5.5 of the operations plan as well as in the HRA.

LABORATORY SAFETY/SECURITY

***Topic 1 Authority to Handle Plutonium
Comment 6***

It should be noted that Lawrence Livermore Laboratory lost authority to handle and store bomb usable quantities of plutonium in 2012. This loss of authority point to problems with the security infrastructure at the Laboratory which highlights the need for a new and more thorough analysis of security as part of the process involved with evaluating the permit renewal.

Response 6

LLNL meets the security requirements stipulated in the California Code of Regulations, title 22, section 66270.14(b)(4) and 66264.14 for the management of hazardous wastes activities defined in the draft permit.

***Topic 2 Suggested Measures
Comment 6***

Additionally, the permit does not include a variety of suggested measures which could be used to control waste.

Response to Comment 6

DTSC concludes that the commenter is referring to measures that could be implemented to control hazardous waste or mixed from being released to the environment. The proposed permit, including the Permit Application submitted by LLNL, does have the necessary mechanism required under the California Code of Regulations, title 22 to

prevent any hazardous or mixed waste from being released to the environment. The proposed permit limits the volume that the facility can store and/or treat in the authorized units. All authorized units have the adequate secondary containment to prevent waste from being released to the environment. All secondary containment areas, with the exception of those that store solid hazardous waste, are epoxy-coated with a non-reactive material that makes the secondary containment area impermeable. In addition, LLNL inspects the secondary containment, containers, and tanks on a daily and/or weekly basis depending on the applicable regulatory requirements.

Topic 3 Public Safety Analysis
Comment 6

Renewing this permit based on outdated and inadequate analyses with regards to public safety would not be a responsible action. A responsible approach to renewing this permit would take into account the need for updated analyses of current operations at the lab with regards to safety and security.

Response to Comment 6

DTSC agrees that renewing the permit on outdated and inadequate analyses with regards to public safety would not be a responsible action; however, DTSC has provided an adequate environmental analysis based on the latest published information available. In addition to the Environmental Document Analysis, DTSC analyzed the current storage and treatment operations for the LLNL facility's hazardous waste and has concluded that it is operating in accordance with all the California regulatory and statutory requirements to assure the protection of human health and the environment.

Topic 4 LLNL held to Highest Standard
Comment 6

In the past, proven radiation releases at other nuclear facilities have been shown to put public safety at risk. Unless Lawrence Livermore Laboratory is held to the highest standards, the public cannot be assured that hazardous waste release won't be a feature there as well. This laboratory is located near highly populated areas, and any release could have deleterious results.

Response to Comment 6

DTSC has reviewed the operations plan and has concluded that it complies with all of the regulatory and statutory requirements to protect human health and the environment. In addition to the regulatory and statutory requirements, DTSC implements through the permit special conditions in order to assure that LLNL operates at the highest standard

possible under the law in order to protect human health and the environment.

IMPACTS

Comment 7

The Addendum identifies that increases above the 2005 LLNL Site Wide Environmental Statement are expected for routine radioactive Low Level Waste (LLW), and temporary increases occurred in 2010 and 2011 for non-routine LLW and non-routine Mixed Low Level Waste (MLLW). Rather than analyzing the impacts of these increases, which have never been evaluated, the Addendum summarily asserts that the impacts of “these fluctuations and temporary increases” would be consistent with the cumulative impacts analyzed in the SWEIS and small, “compared to DOE/NNSA operation nationally or total waste in California annually.” No support to these assertions is offered, nor does a comparison to national agency operations or total waste in California assure that site specific increases in radioactive waste at Livermore Lab would not have the potential to significantly impact the local environment (Dep’t of Toxic Substances Control, Cal. Env’tl. Quality Act Addendum to Previously Adopted Negative Declaration, No. 97092042, Lawrence Livermore National Laboratory Hazardous Waste Facility Permit (2015)).

Response to Comment 7

The Environmental Document Analysis/Addendum, in the Hazardous and Hazardous Waste analysis section 8, does consider the expected increases described. As analyzed in the Environmental Document Analysis, there were fluctuations and increases of waste generation that occurred in 2010 and 2011. However, these fluctuations and increases did not exceed the existing waste management capacities authorized under the permit for the storage and treatment of hazardous or mixed waste. Should a future increase in either of these capacities be required, LLNL must follow DTSC’s permit modification process, which requires review and prior approval of the proposed changes by DTSC in compliance with CEQA.

LACK OF SPECIFIC INFORMATION

Topic 1 Application Comment 7

The application has been written in such a general way that it is impossible to conduct a detailed technical review. The DTSC has prepared the CEQA Addendum for the basis of its decision. This implies that not much has changed in the operations of LLNL waste management activities. Yet, the application, used for the permit issued in 1999, for this

facility, has gone from including many binders, to the current application that includes three volumes. The application has been stripped of all of the detail and necessary information. This lack of information allows LLNL huge flexibility to conduct activities that were not intended or previously allowed. For an example, the proposed application allows LLNL to become a full off-site facility. This will allow LLNL to take off-site wastes from hazardous waste producers other than Site 300. This is a huge change in the status of the facility. (See specific comment XIV)

Many places in the application generally refer to regulations and guidance with no site-specific information. This does not meet the intent of the regulations. LLNL's waste management facilities are complex and handle dangerous wastes. The regulations require that the facility provide detailed information for the regulatory agency to assess its impacts to human health and the environment. The DTSC could not have possibly conducted an adequate review of the operations because of lack of site-specific information in the application.

Response to Comment 7

DTSC performed the required permit application technical review and concluded that the application submitted complies with all the applicable requirements under the California Code of Regulations, title 22. It is speculative to assume that because an application is concise that it does not include all of the required information needed in order to comply with all of the statutory and regulatory requirements and explain with detail the operation related to the storage and treatment of hazardous or mixed waste.

Furthermore, DTSC would like to clarify that although the Part A of the application does check the box defining that the facility will receive offsite waste, the draft permit further limits that activity under Special Condition 2 of Part V. Special Condition 2 of Part V of the draft permit reads: "The Permittees shall not accept any off-site hazardous or mixed wastes generated by commercial or government facilities other than Lawrence Livermore National Laboratory Site 300, EPA ID No. CA2890090002." This same condition can be found under the permit issued in 1999 under General Condition 3.(c).

Topic 2 Impact of Waste After Leaving LLNL Comment 15

There is no analysis of this impact other than the assurance that all applicable regulations will be followed during transit to its next location. We learned that most of the Labs hazardous waste goes to Clean Harbors in San Jose for additional treatment and eventual disposition into landfills. It would be useful to the public if DTSC permits outlined the eventual disposition of different waste streams so that the public is aware of where the generator's waste ends up. The Biennial Reports that are on the DTSC website are inadequate to show the actual hazards and what waste in particular is ending up in a

certain location.

Also, Volume 3, Waste Analysis Plan does not contain enough information. Since there are many waste producers at LLNL, the Waste Analysis Plan must first contain a description of how wastes flow through the system and eventually are accepted into the waste management facilities on-site and off-site.

Comment 31

Finally, there's no analysis of the impact of the waste after it leaves Livermore Lab other than assurance that the Lab's regulations will be followed during transit to its next location. We learned that the Lab has – some of the Lab's hazardous waste goes to Clean Harbors, a facility in San Jose for additional treatment and eventual disposal into the landfills. It would be useful for the public if the DTSC permit outlines the eventual disposition so that the public is aware of where the generator's waste ends up. And that could be done in a full EIR.

Response to Comments 15, 31

The scope of the project is in regards to the storage and treatment of hazardous or mixed waste. CEQA only requires the analysis of the project activities on the environment. The impact that the waste will have at the destination disposal facility would be a separate project under CEQA and would be based on the operations of the disposal facility. Such a CEQA analysis would be directly related to the authorization (permit) that the receiving facility is applying for the management of hazardous waste. When transported, all LLNL hazardous waste is accompanied by a manifest which lists the destination facility, and a manifest copy is kept by DTSC within its Hazardous Waste Tracking System (HWTS) database. The HWTS can be accessed by the public at www.hwts.dtsc.ca.gov.

The scope of the project is for the storage and treatment of hazardous or mixed waste. DTSC concluded that the Waste Analysis Plan contains the adequate information in accordance with the regulatory requirements for Owners and Operators of Hazardous Waste Transfer, Treatment, and Disposal Facilities, as required under Chapter 14 of the California Code of Regulations, title 22, division 4.5. The requirements for the generation of hazardous or mixed waste are covered under Chapter 12 of division 4.5 and, as such, are not required to be part of the permit since that activity is independent of permit requirements. The different management activities under Chapter 12 for Generators of Hazardous Waste are enforced by DTSC's Enforcement and Emergency Response Division and/or by the Alameda County Environmental Health, Hazardous Materials/Waste Program Certified Unified Program Agency (CUPA).

Topic 3 General questions

Comment 23

It is not enough to mention, “Approved sampling devices are used following EPA or ASTM guidance to collect a representative sample . . .” These statements are meaningless without specific citations of guidance and detailed procedures for implementing the guidance. The facility must have detailed processes and procedures to implement the EPA and ASTM guidance method.

The Waste Analysis Plan is full of statements such as “when sampling homogenous solids, a representative sample is collected for analysis. Like liquid sample . . .” Again, this is meaningless without being accompanied by implementing procedures.

The Waste Analysis Plan, Sec. 4 states, “Existing waste streams are verified annually.” What is the process for this verification and what does it entail?

Vol. 3 Sec. 5.2 includes a process that is not explained in the miscellaneous treatment unit section in Vol. 2. The application should be concise and include all the information in appropriate sections. This new unit and a process are added to the application in an inappropriate manner. The section does not provide enough information for evaluation of the process for protecting human health and the environment.

What is a specially lined container?
How are the liner and lid liners sealed?
Is the container heated and/or cooled?
How is the container heated or cooled?
What is “low temperature”?

Vol. 3 Sec. 6 states, “Pursuant to 22 CCR §66264.13(c), occasionally LLNL receives off-site waste (e.g. from Site 300).” This section of Title 22 CCR is for off-site facilities. The section states, “For off-site facilities, the waste analysis plan required in subsection (b) of this section shall also specify the procedures which will be used to inspect and . . .” Has LLNL become an “off-site” facility? LLNL has been specifically allowed to receive waste from Site 300 only. The application clearly states that LLNL is going to be an off-site facility and it can receive wastes from anywhere. This is a major change in the status of the facility and in contradiction with the CEQA document. This change coupled with lack of specific information about the waste management processes will allow LLNL to receive waste and treat waste from anywhere, including dangerous wastes from other DOE facilities.

Vol. 3 Attachment 3, the stated reporting requirements are inadequate. It is not clear when LLNL will notify the DTSC in case of an incident in these facilities.

Vol. 3 Attachment 4, the closure plan as provided is not adequate and does not meet the requirements of Title 22 CCR §66264.111 through 66264.115. The section must include provisions that at the time of partial or final closure, LLNL must submit a detailed closure plan for review and approval. The detailed closure plan must consider future operations, spills, etc. The section does not contain enough information such as sampling and analysis plan for implementation as required by the regulations.

Response to Comment 23

The permit application makes reference to 40 CFR section 261, Appendix I, as well as, U.S. EPA Test Methods for Evaluating Solis Waste (SW-846), Chapter 9 and can be found in Section 3 of Volume 3 of the application.

The existing waste streams are verified annually using either a full-scale analysis or fingerprint analysis as explained in sections 1.4 and 1.5 of Volume 3 of the permit application.

Macro-encapsulation is a packaging process used to meet Land Disposal Requirements; it is not a miscellaneous unit that requires permit authorization in order to be used. The Macro-encapsulation process consists of packing closed containers that hold hazardous or mixed waste in a bigger polyethylene lined container. Vermiculite is then used to fill the void spaces between the containers set inside. A lid is lowered onto the macro-encapsulation unit (bigger container) which is also polyethylene lined. Once the lid is in place, a current is applied to the wire heating element embedded in the lid causing the polyethylene layer from the bigger container that is in direct contact with the polyethylene layer on the lid to fuse the lid and container body. The hazardous or mixed waste is now totally isolated from the environment by the drum containing the hazardous waste, the vermiculate material, the thickness of the Polyethylene liner, and the outside container.

LLNL is authorized to receive off-site hazardous or mixed waste generated at LLNL Site-300. The reason why LLNL needs the authorization to receive off-site hazardous or mixed waste is because LLNL and LLNL Site-300, although owned by the same entity, do not meet the "onsite" definition found in section 66260.10 of title 22 of the California Code of Regulations, According to section 66260.10 of title 22 of the California Code of Regulations, , "onsite" means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroad intersection, and access is by crossing as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which that person controls and to which the public does not have access, is also considered onsite property. DTSC would like to reiterate that although LLNL is considered to be an off-site facility it is restricted to receive hazardous or mixed waste only from LLNL-site 300 with EPA ID No. CA2 890 090 0002 as is stipulated under special condition 2 of the proposed permit.

According to the Contingency Plan, LLNL will notify DTSC in case of Fires, Explosions, and/or Releases of hazardous waste or hazardous waste constituents which could threaten human health or the environment. Section 2.2 of Volume 3, Attachment 3 of the application also explains what will be defined as an emergency that requires notification and implementation of the Contingency Plan. According to section 66264.56(i) title 22 of the California Code of Regulations, the owner or operator needs to notify DTSC and appropriate State and local authorities that the facility is in compliance with section

66264.56(h) of the California Code of Regulations, title 22 before operations are resumed in the affected areas. In addition 15 days after any incident that requires the implementation of the contingency plan, LLNL needs to submit a written report of the incident to DTSC which needs to include all the required information per the California Code of Regulations, title 22 section 66264.56(j).

DTSC analyzed the Closure Plan and determined that it complies with the regulatory requirements. Section 3 of the Closure Plan complies with the requirements under 66264.111; the Closure Plan itself complies with the requirements under 66264.112; Section 4 of the Closure Plan complies with the requirements under 66264.113; Section 6 and 7 of the Closure Plan comply with the requirements under 66264.114; and Section 11 complies with the requirements under 66264.115. Approval of a new closure plan at the time of partial closure or final closure would require a class 2 modification before it can be implemented.

SEISMIC HAZARDS

Topic 1 Update in process by LLNL Comment 8

LLNL is in the process of updating the seismic hazard potential for the Lab based on significantly revised USGS seismic information. It is known that the USGS has determined that substantially more seismic risk exists in the Livermore area than it previously had determined. These risks include liquefaction and more significant shaking. Moreover, while not yet released, LLNL is in the process of updating its own assessment of earthquake risks on site, an acknowledgment that the old assessment on which DTSC is relying is out of date. The Permit assumes that the DWTF and other areas covered by the permit are all compliant with seismic safety standards, which they may not be. This is especially concerning given that the Draft Permit allows incompatible hazardous wastes that do not contain free liquids to be kept 2.5 feet apart and stacked two barrels high. This distance seems very small for the potential hazards that would arise if the wastes come into contact with each other in a reasonably foreseeable earthquake.

Response to Comment 8

See Response to Comments 1, 5, 6, 30 under Topic 6 Earthquake Analysis on page 21 in regards to earthquake and liquefaction.

See Response to Comments 1, 2, 5, 6, 14 under Topic 7 Other needed analyses on page 23 regarding aisle spacing.

Topic 2 LLNL lies in Fault Zone
Comment 8

According to the California Geological Survey's interactive fault map, LLNL lies directly in a Fault zone, and Landslide and Liquefaction zone. Liquefaction zone maps are intended to prompt more detailed, site-specific geotechnical investigations, as required by the California Seismic Hazards Mapping Act (Seismic Hazard Zone Report 119, SEISMIC HAZARD ZONE REPORT FOR THE ALTAMONT 7.5-MINUTE QUADRANGLE, Alameda, California 2009). According to the CEQA addendum in the draft report, there is no indication that any site-specific investigation was performed.

Response to Comment 8

The Alquist-Priolo (AP) Earthquake Fault Zoning Act ensures public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. None of the proposed units are located within the State of California – Special Studies Zones (<http://gmw.consrv.ca.gov/shmp/download/quad/ALTAMONT/maps/ALTAMONT.PDF>). The proposed project does not have units constructed within the Las Positas Fault Zone or the Greenville Fault Zone. In fact, Areas 612 and 625 are approximately 1,200 to 1600 feet respectively of the northern limit of Las Positas Fault zone. In addition, the United States Geological Survey (USGS) and the California Geological Survey (CGS), 2015 Quaternary fault and fold database for the United States contains information on faults and associated folds in the United States that are believed to be sources of Magnitude 6 or greater earthquakes during the past 1,600,000 years. None of the proposed project Units is located within Quaternary fault zones. The closest branch of the Greenville fault with movement within the last 150 years is located approximately 11,100 feet or 2.1 miles northeast of the DWTF. The closest branch of the Greenville fault zone with movement within the last 15,000 years is located approximately 5,250 feet or 1 mile northeast of the DWTF. Therefore, DTSC disagrees that any of the proposed units lie directly within a Fault zone. DTSC does not agree there is need for a more detailed analysis than that clarified through this explanation and that contained within the Environmental Document Analysis and Addendum.

Topic 3 Geotechnical Logs
Comment 8

Most of the geotechnical logs that have been evaluated represent boreholes drilled into the floor of Livermore Valley. Collectively, these logs provide the level of subsurface information needed to conduct a regional assessment of liquefaction susceptibility with a reasonable level of certainty. Analysis of soil property measurements reported in the logs indicate that most of the boreholes penetrated one or more layers of liquefiable material where seismic stress ratio (CSR) is greater than the soils' seismic resistance ratio (CRR).

Accordingly, all areas covered by loose, unconsolidated soil/sediments that is [are] saturated within 40 feet of the surface are designated Zones of Required Investigation (Seismic Hazard Zone Report 119). Also, 21.7 percent of the Altamont Quadrangle (where LLNL is located) is lying within the earthquake-induced landslide hazard zone.

Response to Comment 8

The California Geological Survey (Released: February 27, 2009) Seismic Hazard Zones – Altamont Quadrangle Official Map shows Zones of Required Investigation for Liquefaction and Earthquake-Induced Landslides. However, none of the proposed permitted units are located within State of California – Zones of Required Investigation for Liquefaction or Earthquake-Induced Landslides. At the LLNL, Zones of Required Investigation for Liquefaction are limited to areas near Arroyo Seco along the southwestern boundary and buffer zone. Zones of Required Investigation for Earthquake-Induced Landslides are not present at the LLNL. In addition, groundwater is present at depths of approximately 60 feet or greater below the ground surface in the DWTF and over 110 feet below the ground surface in Areas 612 and 625. In contrast, localities most susceptible to liquefaction-induced damage are underlain by loose, water saturated, granular sediment within 40 feet of the ground surface.

Topic 4 Major Quake Hayward Fault Comment 8

There was a recent earthquake this past month on the Hayward fault. While damage from the quake was minimal, scientists warn that a much larger one is expected on the Hayward Fault, which extends from San Pablo Bay in the north to Fremont in the south and passes through heavily populated areas including Berkeley, Oakland, Hayward and Fremont. The last big earthquake on the fault, estimated to have a 6.8-magnitude, occurred in 1868. Until the larger 1906 earthquake, it was widely referred to as the “Great San Francisco Earthquake.” The USGS shake map shows residents experienced some weaker shaking from this event in Livermore. Scientists believe that another big earthquake could happen on this fault at any time now (USGS Scientist; Major Quake On Hayward Fault Expected ‘Any Day Now’ <http://sanfrancisco.cbslocal.com/2015/07/21/major-quake-on-hayward-fault-expected-any-day-now-fremont-earthquake/>). There is not analysis given for how LLNL is preparing for this type of event, whether on the Hayward fault or on other area faults capable of large seismic events.

Response to Comment 8

The Hayward, Calaveras, and/or the Northern San Andreas faults may experience a large magnitude earthquake; however, it will not have a negative effect on the LLNL facility or the proposed areas under the draft permit due to the distance of the LLNL to these faults

and the type of soil at LLNL. The USGS – National Earthquake Hazards Reduction Program (NEHRP) has evaluated the project area. On September 30, 2015, DTSC obtained data from the USGS web site information under the heading, “Soil Type and Shaking Hazard in San Francisco Bay Area” (<http://earthquake.usgs.gov/regional/nca/soiltype/>).

The NEHRP has defined 5 soil types based on their shear-wave velocity and has modified these definitions slightly, based on studies of earthquake damage in the Bay Area. The USGS indicates that the NEHRP soil Type D – Significant amplification of shaking by these soils is generally expected. The USGS indicates that for NEHRP Soil Type E, the strongest amplification of shaking is expected for this soil type. However, none of the proposed units in the draft permit are underlain by USGS NEHRP Soils Types D or E. LLNL is underlain predominantly by NEHRP Soil Type C. In contrast, NEHRP Soil Type D is limited to the southwestern and western portions of the Livermore site, respectively. NEHRP Soil Type E is not present at the Livermore site. DTSC understands the public concern for faults that may affect the proposed project.

HISTORY OF PROBLEMS

Comment 13

The Wastewater Filtration Unit, aka the Dorr Oliver Unit. This machine, which has been at the lab since 1962, or 53 years, was acknowledged to “occasionally” leak. It is known to have leaked 20 years ago. There are several exposed areas where the contaminated water passes that are simply covered in plastic during operations. This unit, which is part of the permit, poses various pathways by contaminated water, and vapor can be released. It is now a skid mounted portable unit and bare floor lie beneath it. We encourage DTSC to require some sort of catchment below this unit and require other modifications to prevent escape of contaminated water and vapor from this unit. In the alternative, the DTSC could require the unit’s replacement with more advanced technology that has enhanced worker safety controls.

Cal Fran Evaporator modules. One of the two modules was broken and largely disassembled. We want to make sure the DTSC is aware of the units’ problems and ensure that it is sufficiently repaired prior to reuse. Also we were told that the ISA evaporator is new and will be newly permitted under this renewal, but that is not explicit in the permit. It is not explicitly listed as a newly permitted unit.

Internal Inspection Process. According to the Permit, the Radioactive and Hazardous Waste Management (RHWM) personnel conduct inspections of the waste management areas. However when we spoke to RHWM personnel, they informed us that they only inspect the “real property” i.e. the non-attached items in the facility, like the various permitted units. They described their relationship to the lab as landlord- tenant. The lab/landlord has facilities maintenance teams inspect the DWTF’s piping that connect the

many treatment units (which includes hundreds of yards of pipes that move contaminated liquid and vapors) venting, roof, plumbing, etc. However, the facilities maintenance inspection schedule of the DWTF is not included in the permit's "General Inspection Schedule" (U.S. Dep't of Energy Nat'l Nuclear Sec. Admin., Lawrence Livermore National Laboratory, No. LLNL-MI-420944-Rev-9, RCRA Part B Permit Application, Volume 3, Attachment 2 (2014)) which indicates that the DTSC is not aware of the Facilities Maintenance Inspection schedule or the general thoroughness of their preventive maintenance inspection regime.

Comment 31

We were able or I was able to tour the DWTF, which I was very appreciative to the lab for letting us do. And one thing that stood out to us was the wastewater filtration, also referred to as the Door Oliver unit. And I want to explain what it does because – I don't think I'm even capable of explaining all it does. We got a great presentation what it does, but that machine has been at the lab since 1962, which is 53 years, and it was acknowledged to occasionally leak. It actually had been acknowledged to occasionally leak to Tri-Valley CAREs about 20 years ago that that unit leaked. And there are several exposed areas where contaminated water passes that are simply covered with plastic during operations. This unit, which is part of the permit, poses various pathways that contaminated water and vapor can be released. We understand it's secondary, but it's still of concern. And it's currently mounted on a skid, which is a portable unit, and bare floor lies underneath it. We would like DTSC to require some sort of catchment below this unit or require other modifications to prevent contaminated water or vapor from this unit. Or [as] an alternative, DTSC requires the unit's replacement with more advanced technology that has – including better worker safety controls.

Also noticed on the tour, one of the calibrated evaporator modules is broken and largely disassembled. We want to make sure that the DTSC is aware of the unit's problems and ensure – and that the DTSC ensures it's sufficiently repaired prior to use.

We were also told on the tour that the ISA evaporator under this renewal will be permitted under this renewal, but that's not explicit in the permit as a newly permitted unit in the permit. I could be wrong on some of this, but that was my understanding so I just want clarification as to whether that was a newly permitted unit.

According to the permit, the RHWM personnel conducted inspections of waste management areas, however, when we spoke to the personnel, they informed us that they – that they only inspected the real property, not the nonattached items or – excuse me. The nonattached items in the facility. In other words, the units themselves, the various permitted units. They described their relationship to the lab as landlord/tenant style where the lab or landlord has facilities maintenance that inspects the DTWF's piping that connects and includes hundreds of yards, if not more, of pipes that move contaminated liquid and vapors around Building 395. Maybe I'm wrong in that number. And it also includes venting, certain venting, roofs, plumbing, et cetera. However, this facility's maintenance inspection schedule, Volume III, Attachment 2, which indicates that

the DTSC is not aware that the facility's maintenance schedule exists or that the general – or of the general thoroughness of their preventive maintenance inspections regime, but is only aware of the RHWM inspection machine.

Response to Comments 13, 31

DTSC understands the concern in regards to the Wastewater Filtration Unit. DTSC would like to clarify that the units are operated under vacuum and the pathways for vapor release are highly unlikely. The occasional leak that occurs is from water recirculating in a closed system that is used as a lubricant and positive pressure barrier preventing wastewater from moving down the agitator axel. Although it is highly improbable for wastewater being agitated to leak, LLNL implements the monitoring and testing on the leaked material that occurs from the recirculating water and implements maintenance procedures to address the leak. Although the Dorr Oliver Unit sits on a skid mount, it does not lie on a bare floor, rather the unit lies on a floor that has been epoxy-coated, and this coating serves as the secondary containment as permitted under regulatory requirements.

DTSC thanks and assures the commenter that all maintenance activities carried out by the facility are designed to maintain the equipment performing at the standards required under regulations, and the facility activities are operating within the applicable regulatory authorization. The maintenance activities and records become part of the LLNL facility's operating record, which is examined in detail by DTSC at the time of inspection to ensure that the units are operating as required.

The ISA evaporator is not covered under the proposed permit as a new hazardous waste management unit. It is covered as one of the two evaporators that are a part of the existing evaporator unit (Unit #14) and is subject to the Unit #14 special conditions and air emission standards. The addition of this new evaporator to Unit #14 will not pose any significant environmental impact since the volume authorized to be treated by Unit #14, is not increasing from the previously authorized volume.

In accordance with industry safety operations, the facility must maintain their equipment to safely store or treat hazardous or mixed waste. In accordance to the California Code of Regulations, title 22, section 66264.15 and to ensure that the operation of the equipment used in Unit #14 does not lead to an environmental or human health hazard LLNL shall remedy any deterioration or malfunction revealed during inspection or under a maintenance schedule. LLNL facility does have a maintenance program, which in turn has a maintenance log that is maintained in the facility's operating record. This record is reviewed at the time of inspection by DTSC to ensure all equipment is being kept and operated in accordance with the requirements specified by the manufacturer or that of a California registered professional engineer in order to comply with all statutory and regulatory requirements. LLNL has an inspection schedule which is carried out by the RHWM personnel which, in turn, also is incorporated into the facility's operation record and is reviewed by DTSC at the time of inspection.

STORAGE OPERATIONS

Topic 1 Storage of Mixed and Hazardous Waste

Comment 17

The Draft Permit Part V. Special Conditions #12 states: “The Permittees are authorized to store hazardous waste, including mixed waste not incorporated into the Site Treatment Plan (STP) that is incorporated by reference and attached to Compliance Order, HWCA 96/97-5002, 2/7/97, in the permitted storage units up to a maximum of one calendar year from date of first acceptance at any of the hazardous waste management units.” (Emphasis added). According to LLNL, the permitted storage units are being used to store waste that is to be treated on-site but also to store waste that will be shipped off-site for treatment/disposal. “The wastes are either transferred to on-site waste management facilities for treatment, storage, and/or preparation for off-site disposal or to various offsite permitted treatment, storage, and disposal facilities” (U.S. Dep’t of Energy Nat’l Nuclear Sec. Admin. DOE/EIS-0348 and DOE/EIS-0236-S3, Final Site-wide Env’tl. Impact Statement for Continued Operation of Lawrence Livermore Nat’l Laboratory and Supplemental Stockpile Stewardship and Mgmt Programmatic Env’tl. Impact Statement, Ch. 4.15.2 Waste Management (2005)). These wastes are not treated in any way before shipment. “Except for empty-container crushing, hazardous wastes are usually not treated before off-site shipment to a licensed treatment, storage, and disposal facility” (Id. at Ch. 4.15.2.3 Hazardous Waste.)

According to this permit and the practices currently being used at LLNL, this set-up could allow waste that will eventually be shipped off-site to remain on-site for up to 2 years. Waste in Satellite Accumulation Area’s (SAA) must be shipped off-site (or possibly sent to treatment) within 1 year of 1st accumulation (Fact sheet – Hazardous Waste Accumulation Time for Generators, Dep’t of Toxic Substances Control (August 2014), https://www.dtsc.ca.gov/HazardousWaste/upload/FS_OAD_Accumulation.pdf). LLNL’s current practice is to keep waste in SAA’s for up to 9 months (Interview with LLNL staff at tour on June 2, 2015). Waste is then moved to un-permitted Waste Accumulation Area’s (WAA) where it can be kept for up to 90 days (U.S. Dep’t of Energy Nat’l Nuclear Sec. Admin. DOE/EIS-0348 and DOE/EIS-0236-S3, Final Site-wide Env’tl. Impact Statement for Continued Operation of Lawrence Livermore Nat’l Laboratory and Supplemental Stockpile Stewardship and Mgmt Programmatic Env’tl. Impact Statement, Appendix B.1.2 Waste Management at LLNL). LLNL’s practice is to then move the waste to a permitted area to be held up to another year, both for treatment and/or shipment (Id.).

This process is allowing them to keep RCRA Hazardous waste, which is to be shipped off-site for disposal, on-site for a year longer than is permitted by RCRA and the DTSC. Also, waste analysis is done before waste is transferred to the permitted area, so it should already be known if that waste stream will be treated or shipped off-site before the one-year time limit expires (U.S. Dep’t of Energy Nat’l Nuclear Sec. Admin., Lawrence

Livermore National Laboratory, No. LLNL-MI-420944-Rev-9, RCRA Part B Permit Application, Vol. 3, Sec 1. Waste Analysis Parameters and Rationale.)

Response to Comment 17

DTSC would like to clarify that the permit only limits the storage of hazardous waste in permitted hazardous waste management units. At LLNL, all satellite accumulation areas (SAAs) and waste accumulations areas (WAAs) are not permitted units. They are accumulation areas subject to DTSC generator requirements. . California Code of Regulations, title 22, section 66262.34 specifies the time limits and conditions applicable to the accumulation of hazardous waste in SAAs or WAAs located at the LLNL site. Therefore, the time limit for the storage of hazardous or mixed wastes in these units is independent of the limits set by the permit for permitted units. Additionally, section 66262.34 allows hazardous wastes in a SAA or a WAA to be transferred into an on-site permitted storage unit. .

Topic 2 Radioactive materials Comment 18

The Draft Permit allows radioactive materials and pure radioactive waste (which are regulated separately) to be “managed” in the same areas and facilities as the wastes regulated by the permit. The Permit alleges that its conditions apply to the un-regulated waste to the extent that it is necessary to protect human health or safety or the environment. However, the public is left without any description of how this will be determined or whether the DTSC will even be informed when there are these radioactive materials or wastes present in the permitted areas.

Response to Comment 18

The proposed permit authorizes LLNL to manage wastes and materials not regulated by DTSC in the permitted hazardous waste management units, including radioactive materials, provided that LLNL ensures that the storage and treatment of such wastes and materials does not interfere with the storage and treatment activities of the permitted hazardous waste streams or result in their radiologic contamination, and that the management of such non-regulated wastes and materials is in full compliance with all applicable Federal and State laws and regulations. Additionally, any such non-regulated wastes and materials that are stored in a permitted hazardous waste storage unit shall be subject to any condition of the proposed permit for which application of the condition to the non-regulated waste or material is necessary to protect human health or safety or the environment (e.g., unit capacity, limitations, aisle space requirements, container stacking requirements, and waste compatibility requirements). DTSC does not require that LLNL notify DTSC when there are radioactive materials or wastes present in the permitted

areas. However, DTSC may use its Health and Safety Code inspection and information collection authorities to obtain such information if and when needed to enforce permit requirements.

Topic 3 Permitting Advisory PA-01-01
Comment 19

The Special Conditions, Part V of the draft permit lists permitted units authorized for delay closure but fails to comply with the DTSC Permitting Division Advisory No. PA 01-01 (attached). The permit must be revised in order to comply with the requirements of the attached DTSC-approved document.

Table A of the CEQA document fails to list the closures of hazardous waste storage units 612-5T1, 612-5T2, 612-5T3, and 612-5T4. The closure plan, closure certification report, DTSC acceptance of the closure certification report and permit modification to remove the units is not discussed in any of the permit renewal documents. Hazardous waste units previously in use are not allowed to disappear from the Hazardous Waste Facility Permit without following the closure process. This discrepancy must be reconciled before the permit is reissued.

Table A of the CEQA document lists the discontinued use of the Gas Absorption System but fails to provide information on the closure plan or closure certification report. We are requesting DTSC to provide closure documentation of the closure process as required by the Title 22 closure regulations.

Comment 21

The table includes many closures of hazardous waste management units and removal of air abatement systems.

What kind of wastes were the units treating?

Did LLNL stop producing those particular waste streams? If not, how are these waste now being handled?

Where is the documentation for how these units were closed and disposed of? This information should be provided.

What effect did the removal of air pollution control systems have on human health and the environment?

Was the 2010 Risk Assessment revised to assess the removal of the air pollution control devices?

Comment 23

The draft permit, Part V lists nine units that have been converted to “90-day generator accumulation areas.” Some of the units had been converted in 1999. DTSC Advisory No. PA 01-01 states:

“Purpose: To provide guidance, to be applied on a case-by-case basis, regarding the procedure for a delayed closure of hazardous waste management units that convert to generator accumulation only. The implementation of delayed closure is intended to be limited to facilities that cannot implement closure without shutting down the facility or seriously disrupting the facilities operations.”

How have the DTSC and LLNL demonstrated that closing the units will shut down the facility or seriously disrupt the facility’s operations? The nine areas listed have been in operation for a long time and could have contaminated soil and groundwater. To unnecessarily delay closure of these areas could be contributing to the spread of environmental contamination.

Comment 30

And a final thing, during that process, it was found that the laboratory had many program areas that were de facto base accumulation areas. And since, as I understand it, you’re allowed to store program waste for nine month after you start filling something. Then it can go to a waste accumulation area and it can be stored there for three months. Then it can go to the decontamination waste treatment facility area or another permitted area it can be stored for a year. So that’s two years from the time that that waste is generated before it actually has to be disposed of. And DTSC needs to take a fresh look at some of these program areas where waste can stay for nine months and see if they are not in fact de facto waste accumulation area that should be under the purview of the permit.

Response to Comments 19, 21, 23, 30

DTSC Permitting Division Advisory No. PA 01-01 was issued by the Permitting Division Chief in 2001 as guidance for his permit writers in evaluating facility requests for delayed closure. The advisory is applicable on a case-by-case basis for permitted hazardous waste management units that are to be converted to generator accumulation units. The Advisory is not a regulatory requirement. The applicable regulatory requirement is California Code of Regulations, title 22, section 66264.113(b), which requires that closure shall be completed within 180 days after receiving the final volume of hazardous waste or non-hazardous waste. In the case of LLNL, the units enumerated in special condition 1 of the permit will continue receiving hazardous waste for consolidation or accumulation under generator requirements and therefore LLNL is not required by regulation to complete its closure of the unit until the last volume of hazardous waste is received. Area 612, composed of the units enumerated in special condition 1, and Area 625, composed of the permitted units, are both located in the same physical area. If closure is to be performed in only part of an area and not on its entirety, it is possible that closure

standards, required under regulations, might not be met either in the presently defined Area 612 or in the future when Area 625 is closed. By conducting sampling activities required for closure, adjacent to active units, the risk of hazardous waste being released to the environment increases due to human error and/or due to the equipment that is used during the sampling activities required for closure. Furthermore, by closing an area incompletely the risk of not addressing the closure requirements in the future on the closed area increase if historical information is not kept. As stated in Response to Comments 1, 2, 28, 30, 31, 38, 44 under Topic 5 Waste Streams and Activities on page 19, none of the hazardous waste management operations of the facility since it has been allowed to operate under interim status through issuance of the permit in 1999 have been identified as contamination sources under CERCLA investigation and cleanup activities at the Main Site. With the prescribed project controls (permit conditions), the potential for future releases from the permitted unit is minimized. The cleanup activities under CERCLA are in response to the contamination which resulted from historic laboratory materials releases and disposal. Such cleanup activities are symptomatic of older industrial plants and DOE facilities throughout the country. The historic practices that caused those releases pre-dated many of the current environmental laws. In addition, LLNL has also demonstrated that the units are part of the closure plan for the permitted facility and will be closed in accordance to the approved closure plan. Based on the above considerations, and in order to guarantee the entire area is closed in the most efficient manner and to best protect human health and the environment, DTSC has decided to not implement the two year time limit suggested in advisory PA-01-01, but to require its closure when Area 25 is closed and in accordance with the requirements and standards for permitted units instead of the less stringent requirements and standards applicable to generators of hazardous waste. The more stringent requirements for closure are included in special condition 1. In addition, and in order to further protect human health and the environment, LLNL will continue the inspection of the units listed in special condition 1 per the requirements applicable to permitted units.

Table A of the CEQA analysis performed for this project lists the different CEQA documents completed due to changes conducted under a Modification that required a CEQA review. Table A of the CEQA document does not list the closures of the hazardous waste units 612-5T1, 612-5T2, 612-5T3, and 612-5T4 because each unit was closed pursuant to a closure plan initially approved by DTSC as a part of its approval of the 1999 permit. A CEQA review was not required when the units were clean closed. Units 612-5T1, 612-5T2, 612-5T3, and 612-5T4 were closed in accordance with the regulatory requirements following the authorized closure plan, and a closure certification by an independent, California registered professional engineer was performed. DTSC will, after the issuance of this permit, review the data in Envirostor and upload the electronic copies of the documents related to these unit closures. The closure documents are currently available to the public at DTSC's Berkeley office.

The Gas Absorption System (GAS) was used by the Solidification Unit in the permit. When the Solidification unit was moved to its current location, room 1038 in Building 695, the GAS was removed because the Solidification Unit was connected to Buildings 695's Air Emissions Process Control (AEPC). Therefore, the GAS was no longer needed. The

AEPC information can be found in Appendix A of Volume 1 of the proposed operations plan. DTSC will upload to Envirostor all the documentation associated to the closure of the Gas Absorption System currently available as a hard copy for public review at DTSC's Berkeley office file room.

LLNL waste streams that were treated or stored in the units that have been closed can be found in the current permit on table 2 title: "Table 2 – Form Codes and Waste Stream Description" starting on page 23. LLNL closed the existing units because the DWTF was developed in order to provide a treatment and storage area that is more protective of human health and the environment than Area 612 and not because LLNL stopped producing a particular waste stream. The waste streams are now being handled in the different proposed permitted areas in the existing permit as well as the proposed permit.

The 2010 Risk Assessment was produced after the removal of the GAS and did not require a revision. In addition the submitted HRA was submitted by LLNL in order to comply with regulatory requirements of section 66260.601(c) of the California Code of Regulations, title 22.

In regards to accumulation areas that are allowed to store hazardous waste without the need of a permit please see Response to Comment 17 and Response to Comment 20. A generator may accumulate up to 55 gallons of hazardous waste (or one quart of acutely or extremely hazardous waste) without a permit at the initial point of accumulation, known as a Satellite Accumulation Area, for up to one year in accordance to the California Code of Regulations, title 22, section 66263.34(e).

In addition:

1. Generators that generate more than 1,000 kilograms (2,200 pounds) of hazardous waste per month must remove their waste within 90 days of generation. The following considerations apply to determining whether or not a generator is in compliance with the 90-day accumulation time limit:
 - (a) If the generator generates no more than 100 kg (220 pounds) of hazardous waste (or one kilogram of extremely or acutely hazardous waste) during a calendar month, the 90-day period does not begin until the generator has accumulated 100 kg (220 pounds) or one kg of extremely or acutely hazardous waste per the California Code of Regulations, title 22, section 66262.34(b). There is no accumulation time limit for generators of not more than 100 kg (220 pounds) per month that are not using the Satellite Accumulation Area and who have not yet accumulated 100 kg (220 pounds) of hazardous waste or one quart of extremely or acutely hazardous waste according to Health and Safety Code, section 25123.3(c).
 - (b) If the generator generates more than 100 kg (220 pounds) of hazardous waste or more than one kg of extremely or acutely hazardous waste during any calendar month, the 90-day period begins when any amount of hazardous waste first begins to accumulate during that month per the California Code of Regulations, title 22, section 66262.34(c)(2). For purposes of determining the size of the generator all generator activities (including Satellite Accumulation Areas located on contiguous property

(meeting the definition of on-site) and not covered under a grant of authorization must be considered.

2. Generators that generate less than 1,000 kg (2,200 pounds) of hazardous waste per month may accumulate onsite up to 180 days or up to 270 days if the waste is shipped 200 miles or more without a storage facility permit if the total amount accumulated at any one time never exceeds 6,000 kg (13,200 pounds) and the generator complies with specified federal requirements. Generators may accumulate a total of no more than one kilogram of acutely or extremely hazardous waste under the 180/270 day accumulation time limits per the California Code of Regulations, title 22, section 66262.34(d). The time period for calculation the 180-day or 270-day period is determined in the same manner as for the 90-day accumulation.

DTSC as well as the Certified Unified Program Agency ensure that all the regulatory and statutory requirements are being implemented by LLNL in all areas that are used to accumulate and store hazardous waste. However, if LLNL has areas where hazardous waste is being stored that do not comply with the statutory and regulatory requirements for the accumulation or storage of hazardous waste explained above, DTSC or the Certified Unified Program Agency would find LLNL to be out of compliance and an enforcement action would be taken in order to bring LLNL back into compliance. Neither DTSC nor the Certified Unified Program Agency has found any de-facto waste accumulation areas that do not meet the statutory and regulatory requirements for Satellite Accumulation Areas and/or Generator Accumulation Areas and such do not require the issuance of a permit or to be included in the permit.

Topic 4 Satellite Accumulation Areas

Comment 20

The public should be made aware of what the DTSC is doing to maintain compliance with these areas and the associated time limits. SAA's must comply with strict guidelines set by RCRA, the DTSC and the local Certified Unified Program Agency (CUPA) office. Using SAA's allows for LLNL to hold onto waste much longer than if they were to just use 90-day areas. These stricter guidelines are in place to prevent accidents that occur when waste is left for longer periods of time. Also, since LLNL already has a history of storing wastes longer than allowed, and has been cited at least 4 times for storing waste longer than 1 year, they should be looked at more closely to ensure compliance (Found during DTSC inspections in 2000, 2002, 2003, and 2004).

Response to Comment 20

California Code of Regulations, title 22, section 66262.34 specifies the time limits and conditions applicable to the accumulation of hazardous waste in a Satellite Accumulation Areas (SAA) or a Generator Accumulation Areas (GAA) located at the LLNL site.

DTSC's enforcement office and/or the Alameda CUPA inspect these areas and initiate enforcement actions as necessary to assure compliance with these time limits and conditions. DTSC would like to clarify that the SAA and GAA do not require a permit pursuant to the regulations, and are not permitted units. Consequently, the SSA and GAA units are not associated with the proposed permit.

TREATMENT OPERATIONS

Comment 27

And I'm wondering about this batching process of 5,000 gallons each. I mean, how many times a day do they do this? How long does it take? We're worried about these streams. Where is it coming from? Where is it going to?

And then you said it's under negative pressure. If there was an earthquake, what would be happening if there's some really dangerous contaminants going through this process and there is an earthquake and you can't automatically switch from a generator to this?

And I did not know how old that water treatment plant is?

At one point they wanted to – the lab wanted to disperse a million gallons of radioactive water into the sewage treatment plant, have it go right into the bay. And this is a continuation of their just cynical attitude towards the people of this area that we don't matter.

Response to Comment 27

The draft permit limits the facility on the volume for the storage and treatment of hazardous or mixed waste as well as the length of time that LLNL is authorized to store the hazardous or mixed waste. Please see Table 1 within the draft permit for a summary of such volumes authorized under the proposed permit.

DTSC would like to clarify that the batch process does not consist of 5,000 gallons. The batch process, in the case of LLNL, can vary in volume depending on the amount of hazardous or mixed waste to be treated. The volume of a batch however, cannot exceed 45,000 gallons since that is the maximum capacity when processing waste within the Building 695 Tank Farm. The treatment time per batch depends on the concentration, types of chemical constituents, and goal of treatment of the batch. For example, if there are 8,000 gallons of a mixed waste that is corrosive due to its acidity and requiring volume reduction, it will be treated in two different tanks. The 8,000 gallons, although separated in two tanks, is considered the batch to be processed. The 8,000 gallon batch might be first treated with an alkaline solution to bring the pH up to a neutral level and neutralize the corrosive characteristic of the waste stream. Once the pH reaches the

required neutral level, a flocculent might be introduced to promote clumping of particles which then can be filtered out either by evaporation or by filtration through one of the miscellaneous units. In some cases, and in order to ensure that the radioactive or hazardous constituents comply with Land Disposal Restrictions, the solid waste might be solidified in a 55-gallon container for further treatment or disposal. The waste streams that are received for treatment and storage come from the different research and development facilities within the LLNL, which are the generators of the hazardous or mixed waste, as well as from the LLNL Site-300 facility. Once LLNL finishes their treatment process, LLNL sends the hazardous or mixed waste to the appropriate transfer, storage, or disposal facility in order to comply with RCRA and/or DOE requirements, as appropriate. For example, if the waste being transferred has radiological components, it can only be sent to facilities that are authorized by the DOE to dispose of waste containing radiological constituents, and it cannot be received by any other facility.

Building 695 and rooms 1001, 1009, 1007, and 1008 of building 696 of the DWTF are all under negative pressure. The negative pressure is accomplished by the use of an air filtration system that sucks the air into the system. After going through the different filters, the air is then released to the environment through a stack located in building 695. Since air is being sucked into the air filtration system, when a door is opened in any of the four rooms of Building 696 or in building 695, the air will flow inside due to the difference in pressure. Although Building 695 is structurally built to withstand an earthquake, all processes during a treatment operation would be interrupted. In addition, every permitted area that holds hazardous or mixed waste that contains liquid has ample secondary containment in case there is a leak from the tanks, containers, or any ancillary equipment. Once the earthquake has subsided, should a leak occur, LLNL will implement its contingency plan to address the spill. DTSC understands the concern with regard to the need for power in the event of earthquakes. Although LLNL does not require immediate power to finish the process, LLNL is equipped with emergency generators on-site to address any loss of power in the event of an earthquake.

DTSC assumes by "water treatment plant" the commenter is referring to the Wastewater Filtration Unit within the proposed permit. This unit has been in operation since the 1960's

DTSC is unaware of LLNL wanting to disperse a million gallons of radioactive water into the sewage treatment plant and have it go right into the bay. However LLNL is operating in accordance with DOE orders and federal regulations which establish the standards of operation at LLNL, including the standards for sanitary discharges. Primarily the standards for radioactive material releases are contained in section of the DOE Order 458.1 and 10 CFR Part 20.

For sanitary sewer discharges, DOE Order 458.1 provides the criteria DOE has established for the application of best available technology to protect health and minimize degradation of the environment. These criteria (the DCSs) limit the concentration of each radionuclide discharged to publicly owned treatment works. If the measured monthly average concentration of a radioisotope exceeds its concentration limit, LLNL is required to improve discharge control measures until concentrations are again below the DOE

limits.

The 10 CFR Part 20 sanitary sewer discharge numerical limits include the following annual discharge limits for radioactivity: tritium, 185 GBq (5 Ci); carbon-14, 37 GBq (1 Ci) and all other radionuclides combined, 37 GBq (1 Ci). The 10 CFR Part 20 limit on total tritium activity dischargeable during a single year (185 GBq [5 Ci]) takes precedence over the DOE Order 458.1 concentration-based limit for tritium for facilities that generate wastewater in large volumes, such as LLNL. In addition to complying with the 10 CFR Part 20 annual mass-based discharge limit for tritium and the DOE monthly concentration-based discharge limit for tritium, LLNL also complies with the daily effluent concentration-based discharge limit for tritium established by WRD for LLNL. The WRD limit is smaller by a factor of 30 than the DOE monthly limit, so the limits are therefore essentially equivalent; however, the WRD limit is more stringent in that it prevents large single event discharges.

LLNL determines the total radioactivity contributed by tritium, gross alpha emitters, and gross beta emitters from the measured radioactivity in the monthly effluent samples. The 2014 combined release of alpha and beta sources was 0.19 GBq (0.005 Ci), which is 0.5% of the corresponding 10 CFR Part 20 limit (37 GBq [1.0 Ci]). The tritium total was 1.54 GBq (0.04 Ci), which is 0.8 % of the 10 CFR Part 20 limit (185 Gbq [5 Ci]).

Discharge limits and a summary of the measurements of tritium in the sanitary sewer effluent from LLNL and the Livermore Water Reclamation Plant (LWRP) are reported in LLNL monthly reports. The maximum daily concentration for tritium of 0.099 Bq/mL (2.674 pCi/mL) was far below the permit discharge limit of 12 Bq/mL (333 pCi/mL).

Complete calendar year 2014 data for measured concentrations of cesium-137 and plutonium-239 in the sanitary sewer effluent from LLNL, the LWRP, and in LWRP sludge are reported in the LLNL March 2014 Report (Jones 2014). Cesium and plutonium results are from monthly composite samples of LLNL and LWRP effluent and from quarterly composites of LWRP sludge. For 2014, the annual total discharges of cesium-137 and plutonium-239 were far below the DOW DCTS's. Plutonium discharged in LLNL effluent is ultimately concentrated in LWRP sludge. The highest plutonium concentration observed in 2014 sludge is 0.6 mBq/g (0.016 pCi/g), which is many times lower than the National Council on Radiation Protection and Measurements (NCRP) recommended screening limit of 470 mBq/g (12.7 pCi/g) for commercial or industrial property.

LLNL also compares annual discharges with historical values to evaluate the effectiveness of ongoing discharge control programs. During 2014, a total of 1.54 GBq (0.04 Ci) of tritium was discharged to the sanitary sewer, an amount that is well within environmental protection standards and is comparable to the lowest amounts discharged during the past 10 years.

WASTESTREAM IDENTIFICATION

Comment 22

Part A lists almost all of the EPA waste codes, except for manufacturing facilities waste codes. Only wastes that are produced and need handling at the facility should be listed. Since LLNL is not an offsite commercial facility (LLNL receives wastes generated at Site

300 only) LLNL and the DTSC need to study and include only the waste types that have been produced in the past few years.

- a. Part A also lists capacities of millions of gallons for storing and treating hazardous wastes. LLNL and the DTSC should study waste production rates for the past few years and only permit activities that are actually needed.
- b. Finally, Part A includes a waste minimization certification. How has LLNL minimized its waste production in the past 15 years since the original permit was issued? There is no indication on what was done and what the results were.

Response to Comment 22

DTSC studied and determined that LLNL appropriately lists all the wastes that it is expected to manage. By not authorizing the storage and treatment of hazardous or mixed wastes, DTSC would be limiting LLNL's ability to reduce the volume of hazardous waste or mixed waste through the appropriate treatment prior to sending the waste for further treatment and/or disposal at an authorized facility.

DTSC would like to clarify that the estimated annual quantity of waste is an annual estimate of the amount of waste expected to be generated. In addition, the volumes enumerated in the Part A of the permit, although indirectly related, are not the volumes authorized by the permit activity. The permitted volumes can be found in Table 1 of the permit. DTSC uses the application in order to authorize the needs enumerated by the applicant. DTSC does not have the statutory authority to define the needs of the facility nor the day-to-day operations that lead to the need described in the permit application.

According to Senate Bill (SB)-14, the facility has a Waste Minimization Plan which LLNL certified in accordance with SB-14. Part of the Waste Minimization plan is the implementation of the different treatments currently carried out at the facility in order to minimize the waste being sent for disposal from the generator. For example, the waste generated at one of the labs will undergo a treatment process in order to minimize or decrease the volume generated through the different treatment units authorized in the proposed permit. The Waste Minimization Plan is available upon request at the LLNL facility. DTSC will upload a copy of the plan to our Envirostor.

PUBLIC OUTREACH

Comment 31

I do want to point out that this is the first opportunity for the public to comment on Livermore Lab's full hazardous waste operations with the DTSC, the regulator, for 16 years. As an initial comment, I just want to say that I think that's far too long. Many of us

live, work, and play in very close proximity to this facility every day. Its operations, which are known to include research and development of nuclear weapons, also are known to utilize radioactive contaminants as the permit delineates. It is a matter of fact that nearly 2,000 former and current employees of Livermore have acquired illnesses from exposures to toxic chemicals and radiation on the job. They have applied for benefits, and we believe these exposures have caused those illnesses. There are also public health studies showing elevated health risks due to lab activities to the general public. For these reason[s], the public has an interest in speaking to regulators more than every 16 years.

I also wanted to remind you of some helpful words from the EPA's public participation guide which says that public participation provides not just an opportunity for all interested parties to become informed the involved, which it is doing tonight, but it's also an opportunity for the public to influence program development and implementation. So, I hope our comments tonight are heard with open ears and a willingness to allow us to influence hazardous waste operations and at our local national lab.

I would add that I have thus far been unimpressed with DTSC's outreach efforts by getting members of the public to this hearing. I do not think one notice in a circulated paper is sufficient. I didn't see that notice in the most recent edition of the paper. I urge the DTSC to do more during the public comment period, which lasts until August 3rd, to encourage the public to review the permit and submit written comments.

I also just want to make some quick comments about DTSC's public process in general. I urge DTSC to conduct multilingual outreach to publicize how the public can sign up to receive notices of public participation opportunities and permit application and decision. Specifically, Livermore does have a fairly substantial Spanish speaking only population, and none of the outreach materials I've seen have been in Spanish. I encourage DTSC to provide public notices and other documents and public meetings and hearing be provided in languages spoken by in this case Spanish. I urge you to work with communities to identify the time and location of public meetings and hearings to maximize public participation. I urge DTSC to webcast public meetings and hearings in the future.

Response to Comment 31

DTSC would like to clarify that the public has had the opportunity to participate more than once and to submit their comments regarding the storage and treatment of hazardous or mixed waste operations at LLNL since the issuance of the original permit in 1999. Although 24 class 1 modifications were not open for public comment; 24 Public Notices were sent by LLNL to inform the public of those proposed changes. In addition, there were 5 Class 2 modifications that were open for public comment with regard to changes proposed by LLNL on the storage and treatment of hazardous or mixed waste. With regard to the 2,000 former or current employees of LLNL acquiring illnesses from exposures to toxic chemicals and radiation, DTSC encourages the commenter to contact the California Division of Occupational Safety and Health (DOSH), better known as

Cal/OSHA, and to report any unsafe activity in which workers are being exposed to a dangerous environment. DTSC does not have evidence that the different jobs conducted at the storage and treatment hazardous waste areas have exposed any of the employees conducting storage and treatment activities to toxic chemicals and radiation levels harmful for their health. Although it analyzes the proposed permit activities in order to ensure that operations are protective of human health and the environment, DTSC cannot oversee or enforce other LLNL activities at locations unrelated to those that concern the proposed permit. The jurisdiction to view the work environment throughout the entire LLNL is under DOSH.

In addition to the Public Notice in the newspaper, DTSC followed all of the regulatory requirements under section 66271.9 of the California Code of Regulations, title 22, including: mailing of the public notice to the applicant, any other agency which DTSC knows has issued or is required to issue a permit, federal or state agencies, persons listed on a mailing list, any unit of local government having jurisdiction over the area as well as a radio announcement on a local radio station. DTSC also used social media to perform outreach on twitter @SacBerkeley. Tweets were published on May 6, May 11 (Tweeted to Scott Yundt), and May 29, communicating that DTSC will be accepting public comments on the LLNL Draft Hazardous Waste Facility Permit. In addition DTSC, in accordance with Tri-Valley CAREs request, extended the public review comment period from 45 to 95 days.

GENERAL

Comment 32

I am aware that the staffing at DTSC over the years has gone down dramatically. In 2007 I was looking at a report that the permitting staff was about at the level of 95 for the state, and the last figure I saw was in 2013 and it was 29. So, I can be sympathetic to maybe the pressures that the agency feel[s] in terms of – and the causes for such a long delay, but just like an parent of a child at a school that is underfunded or special Ed. program that's underfunded, you still have to go to bat for your kid and I still feel we have to go to bat for our community to get something that is more complete for all the reasons that have been specified before. And I just hope that you take this to heart and manage to really seriously address it.

And finally, I just have to say that there is often a comment, and maybe I shouldn't make too much of it, oh, there's radiation coming from a room or whatever we're exposed to all the time. And I hope that doesn't reflect a casualness towards the seriousness [of LLNL's activities] because it's often an argument presented to justify a certain level of contamination. Well, it's in the national environment so, you know, you don't have to be too concerned. And I have to say it makes me a little bit more worried when I hear that kind of comment.

Comment 35

Please consider the health and well-being of your children's generation and their children's generation and the harm these hazardous wastes can cause.

Response to Comment 32, 35

DTSC's mission is to protect human health and the environment. DTSC takes every project seriously and analyzes the project in order to protect human health, including the health and well-being of children and generations to come, and the environment. The Environmental Document Analysis and Addendum that DTSC prepared for the storage and treatment activities detailed in the proposed permit, show that such activities will not negatively affect human health or the environment

DTSC understands that radiation is a sensitive subject but can be difficult to understand. The intent of comparison of the radiation coming from the waste and that we are exposed to all the time was an intent to quantify and describe in simple terms the amount of radiation or exposure that Livermore residents could expect. It was never done out of insensitivity nor to reflect in any way that DTSC is not taking the matter in a serious way.

DTSC is aware of the delays that have been delaying the issuance of permits including this one. DTSC is currently implementing the Permitting Enhancement Work Plan (https://www.dtsc.ca.gov/InformationResources/upload/Permitting_Enhancement_Workplan.pdf) to address such delays and issue permits in a timely manner.

Comment 9

I urge you to read carefully the research and analysis of TriValley CAREs and refuse the renew LLNLs permit to store and process the dangerous waste materials they have been mishandling for too many years.

Response to Comment 9

DTSC carefully reviewed all comments received, including those by TriValley CAREs, and prepared this RTC document in response.

Comment 10

This is something that needs to be strongly regulated, not just renewed; like a driver's license.

Response to Comment 10

DTSC understands and appreciates your concern. The review process that DTSC performs on the permit application for consideration to re-issue the facility permit is detailed, comprehensive, prescribed by regulation, and does not bear any resemblance to the process followed by the Department of Motor Vehicles for the reissuance of a driver's license. DTSC would like to further emphasize that the review process and environmental analysis is carried out by more than one subject matter expert in order to ensure that LLNL operations are examined carefully and thoughtfully, protective of human health and the environment, and in accordance with all statutory and regulatory requirements in California.

Comment 25

My second comment is that the initial permit period ended in 2009 and it's now six years later. Why is there such a delay in this permit process?

Response to Comment 25

The operations carried out at LLNL are extensive and require the review of different subject matter experts in order to consider the protection of human health and the environment and to ensure that the permit is legally bound, enforceable, and complies with all the statutory and regulatory requirements.

Comment 37

For example, there is – there is supposed to be an effort in our country to rid ourselves of nuclear weapons. This is part of the international documents about – that we have signed and Russia has signed. We're supposed to be reducing. We have nuclear weapons reported in places where people do not want them. We don't acknowledge the needs of people. It's this nuclear arms race continuing and I see this Lab as part of it. To take a contact and design whatever components for future nuclear weapons, and then that creates the waste that we're worried about harming children and our environment. I'm concerned about what happens to those chemicals, if you want to go that level, in the long-term.

The possibility that in the future – because nuclear radiation and nuclear materials are long lasting, the future. I don't hear anything about the future concern for people who live in a community where there is the kind of releases that we have here and the kind of danger for the future. Nuclear dangers are not just now; they're for the future. How is this lab – how is this lab working to make the world nuclear free? We are telling Iran that they must not have a nuclear weapon. Why? I mean if they're so good, what's wrong with

having them? I mean, you can have them, you can't have them, et cetera. I mean, can we be part of a process of ending any work with nuclear materials? Can we be part of it? Can you as a lab be a leader in this?

Response to Comment 37

DTSC is unable to comment in regards to U.S. policy; however, DTSC acknowledges the comment. DTSC's jurisdiction is over the proper and lawful operation of the LLNL hazardous waste facility only.

Refer to Response to Comments 1, 2, 28, 30, 31, 38, 44 under Topic 5 Waste Streams and Activities on page 19 that explain the scope with regard to contamination and cleanup activities and the scope of the proposed permit project. In addition, DTSC would like to clarify that because LLNL understands the dangers behind hazardous and mixed waste, LLNL currently complies with all legal operating requirements and is applying for the authorization to operate under a hazardous waste facility permit issued by DTSC. DTSC is unable to respond to the questions regarding nuclear weapons and related questions because they are not within DTSC's jurisdiction to manage.

Comment 39

Please make sure this vital concerns are addressed and public safety is foremost in these permit plans!

Response to Comment 39

DTSC would like to assure that the mission of DTSC is to protect human health and the environment and has taken all the legal, necessary steps to assure that the issuance of the LLNL is protective to human health and the environment.

Comment 40

Our lives are worth more than their nuclear lifestyle

Response to Comment 40

DTSC would like to clarify that it understands the concerns from the community and has worked diligently to assure that the proposed project is protective of human health and the environment by assuring that the proposed project complies with all the legal requirements.

Comment 43

These mixed wastes are very difficult to deal with, very toxic, and are in a metropolitan area. The permit proposal is not sufficient.

Response to Comment 43

See Response to Comments 1, 2, 5, 6, 14 under Topic 7 Other needed analyses on page 23.

Comment 45

We have grave concerns about toxic contamination of our shared groundwater aquifer.

Response to Comment 45

Refer to Response to Comments 1, 2, 28, 30, 31, 38, 44 under Topic 5 Waste Streams and Activities on page 19 regarding the cleanup activities and the scope of the proposed project. For more information with regard to the groundwater aquifer related to the clean-up activities, please contact Mr. Jacinto Soto, DTSC Project Manager, for the clean-up activities occurring at LLNL.

Comment 47

LLNL would like to address a few small items within the permit application that require clarification or correction (e.g., typos, minor changes for consistency or clarity, contact changes)

In association with Table 3, added back in the footnote regarding the varied waste streams as follows: "Due to the nature of the research and development activities at Lawrence Livermore National Laboratory, these are a large number of waste streams generated with varying hazardous constituents. Therefore, the form codes, EPA hazardous waste numbers, and California waste codes shown are the codes typically found within the management unit, though others may be present, including U and P-codes. These codes shown are meant to provide insight for the management unit, and are not a description of a single waste stream."

Part A Permit Application; Part I, Facility Description changes:

In section 3, changed "Livermore Site Office" to "Livermore Field Office" to reflect the current organization's title.

In section 4.1, changed the formal correspondence contact information to William H. Goldstein, President, (925) 422-2515.

In section 4.2, changed the facility technical contact to Thomas T. Kato, Manager (925) 422-9642, L668.

In Section 5, changed the Part A Permit Application Preparation contact to Thomas T. Kato, Manager, (925) 422-9642.

In section 7, changed the Operator name to William H. Goldstein, President, and changed the Owner name to N. Nicole Nelson-Jean, Manager.

Part B Permit Application; Volume 1

In Table 1-1 changed the responsible person contact information to William H. Goldstein, President, (925) 422-2515.

In Table 1-2, changed "Livermore Site Office" to "Livermore Field Office" to reflect the current organization's title. Changed the site operator phone number to (925) 422-2515.

In Table 1-3, changed the formal correspondence contact information to William H. Goldstein, President, (925) 422-2515. Changed the facility technical contact to Thomas T. Kato, Manager, (925) 422-9642, L668.

Replace Figure 3-2 with a corrected figure to reflect the correct permitted units within the perimeter.

In Table 9-2, corrected the name of the Building 695 Drum Rinsing Unit for consistency with the rest of the permit application.

In section 15, page 12-2, last paragraph, removed the references to the second release which involved a leaking drum where the release contents were contained by the secondary containment pallet. This was removed as it was not a release from the permitted unit.

Part B Permit Application; Volume 2

In Table 1-3, added 40x8x8 foot and 20x8x8 foot Sealand containers (item 29) for clarity.

In Section 1, page 1-29, paragraph 1, added "(e.g., pallet or container support structure)" for clarification of the term "elevated".

In Section 1.6, page 1-32, paragraph 5, rewrote the third sentence to clarify that

halogenated solvents are not generally stored in polyethylene.

In Table 1-16, page 1-35, DWTF Container Storage Unit, corrected the Approximate Dimensions (feet) from 90x100 to 90x110 for consistency with other unit references.

In Section 3 (page 3-1, 3-2, and 3-6), corrected the name of the Building 695 Drum Rinsing Unit throughout this entire section for consistency with the rest of the permit application.

In Section 3, page 3-3, first paragraph, removed the word "all" in the first sentence as not all waste is transferred using the PLC.

In section 5 (paged 5-13, 5-36, and 5-37) corrected the name of the Building 695 Drum Rinsing Unit throughout this entire section for consistency with the rest of the permit application.

In section 5.1 (page 5-22) replaced Figure 5-17 with a corrected picture.

In section 5.1 (page 5-26), deleted the model and manufacturer names for consistency with the other unit description in the permit.

In Section 5.4 (page 5-32), second paragraph, deleted the fourth and fifth sentences. Only one of the evaporators has conductivity sensors and we did not want the discussion regarding conductivity sensors to seem to apply to both evaporators. In addition, conductivity is no longer one of the factors used to determine if concentrate needs to be removed from the evaporator pot because evaporator performance (e.g., rate) and visual examination of coils are the primary factors.

Part B Permit Application, Volume 3

Attachment 2, General Inspection Schedule:

In Section 2, page 2-1, paragraph 3, it called for daily when-in-use inspection of "some storage areas". In Table 2-1, it stated "container storage areas when movement or handling of waste occurs." In Section 3.1, paragraph 1, it stated "container storage units" as requiring daily when-in-use inspection. These three statements were removed as they are inconsistent, cause confusion, and are somewhat redundant with requirements because loading, unloading, and staging areas are still inspected daily when-in-use. Container storage units are inspected weekly. Additionally, in Table 2-1 we removed "infrequently used" as it relates to process areas [...] as those areas are inspected daily when-in-use, regardless of frequency of use.

Attachment 3, Contingency Plan:

In Table 3-1, Updated the LEDO contact to Joel Bowers, (925) 423-6811, pager #02601, L-113, 2256 Rhone Drive, 94550.

In Section 6, changed "Livermore Site Office" to "Livermore Field Office" to reflect the current organization's title.

Attachment 4, Closure Plan:

In Section 2.1, clarified that epoxy is reapplied as needed to define the performance of epoxy repairs in the following locations:

Page 2-1, paragraph 1, third sentence.
Page 2-2, paragraph 3, second sentence.
Page 2-2, paragraph 4, eighth sentence.
Page 2-3, paragraph 2, last sentence.
Page 2-5, paragraph 4, last sentence.
Page 2-8, last paragraph, fourth sentence.

In Section 2.1, pages 2-6 and 2-7, the Drum rinsing Unit name was corrected for consistency with the rest of the permit application.

In Section 2.1, page 2-7, paragraph 4, in the third sentence, "transferred via stinger, or hand poured" was added to clarify that containers are dumped into the pan in ways besides just drum dumpers.

In Section 2.1, page 2-8, paragraph 4, second sentence, corrected the location of the fume hoods, clarified that the floor has a low point, not a sump, and corrected the low point's location.

Response to Comment 47

After review of all the proposed changes above, DTSC has verified that all are changes that will not change the environmental analysis and are changes to add clarification and will therefore be incorporated to the permit application. The section titled "Permit Application Documents" of the draft permit located in page 8 under "Part III. General Conditions" will be changed to reference the revised application and will read:

"The permit application consisting of the Part "A" and Part "B" Application (Operation Plan) titled "Part A Permit Application and Part B Permit Application for Hazardous Waste Treatment and Storage Facilities LLNL, Livermore Site", dated July 2015 version number LLNL-MI-420944-REV-11 is hereinafter referred to as the "Permit Application" and is hereby made a part of this Permit by reference."

COMMENTS NOTED

The following are comments received to which a response could not be formulated due to its context; therefore, they are noted as received.

Comment 32

First of all, I think of California—my comments are going to be general, but California is sort of often looked as a leader in environmental matters, and that sort of reflects my disappointment or makes it more disappointing, perhaps, that I feel that the level of review and serious attention to what is a complex, large facility with an array of different kinds of wastes. It is not a simple – you know some places that you may regulate and they have one or two toxic materials. This is far more complex than many and yet, you know, the – I forget what you call it. The initial study, I think that's what you call it, yeah, was considered adequate. It took six years to occur which also makes me disappointed.

Response 32

Comment Noted.

Comment 33

And also it's been kind of inadequately answered, a question of where does the waste come from.

They do all kinds of experiments out there. They use all kinds of toxic and radioactive deadly, deadly things to do their experiments. Experiments for modernization, modification of nuclear weapons. While this facility waits for cleanup on a Superfund list, 3 percent of the budget goes for cleanup while millions go for modernization, they call it, of nuclear weapons facilities. But that's okay. There's lots of tax dollars, your tax dollars pay for it. If this doesn't make you outraged, then you're not paying attention. The Lab needs to clean up its act and there needs to be adequate funding to do that. And this permit is a whitewash, a continuation of inadequate treatment over years and years.

There's no future projection of how much more waste there's going to be and how much it will be handled, how it will be off site put somewhere else. We don't even have a permanent storage place for these radioactive things.

What is the – what is the increase in volume of this radioactive and toxic strain.

The Lab has shown that it is nonchalant in how it contaminates the environment. Why is it on a Superfund list? Because of mishandling in the past of these dangerous chemicals and radioactive components. And the average person cannot wrap their mind around what is being done here in the name of safety while it puts us all at risk.

Comment 36

Okay. So I will want is to demonstrate the – Cho Lee Chung [phonetic]. Okay. So what I feel is it's appropriate coming in the study and what I'm really missing, but I'm here basically what I care most about the air quality and water quality and how that relates to this community and I want to see how it's here. So I think it's appropriate to see how it intrudes on air because we will require that the most.

I do not see how the matter of national security that you have to abide will be allocated to [inaudible] for 20, 40 years, 50 years. So those studies of those numbers as we said detectable and undetectable accumulate over the years. I'm not sure they are justified for that. And so I'm questioning on the standards and the instrumental sensitivity of the scale, whether the sensitivity of the scale, whether the sensitivity or the standard itself the numbers are high enough that you have to show to the public safety is question one.

Secondly, you're talking storing, not just the treatment, but storing. But the lab is here right at my back yard and I'm asking the government why don't we just remove these thing, find another place that is far away from my kids, far away from my place, to put it over there. It sounds to me that it is the logic. I have a time bomb just ticking over here that something might trigger.

All right. So my question to the government is that can we spend some money? This is the national security so the national benefits – the national benefits from this program and that our community locally suffers from this kind of risks. So the national government should do something to remove this risk from the local community. That's my comment.

Comment 48:

It was a pleasure to meet you at the hearing in Livermore where the renewal of the permit was discussed. I realize that the scope of your job is limited, and that the issues involving permit renewal are technically complex. I am also sure you have a fantastically busy schedule and don't want to waste your time. I am writing to encourage you to work with Tri-Valley Cares and other concerned citizens to authentically address issues raised in the hearing involving outdated analyses of data upon which the current permit is based.

My family has roots in a part of the country which experienced over forty years of early mortality before needed legislation was passed to begin to address problems with the way nuclear radiation has been handled- as the country works to maintain military hegemony within the nuclear sector. I, personally, cannot begin to address the level and complexity of the tasks which face the country in the cause of providing safety to the civilian populations which live near- and have experienced the harsh effects of cynical planning processes relative to nuclear waste, however I have written a three page letter so that the attorney for Tri-Valley Cares can go over it and fact check it before I send it on to you. I am not writing to you solely in your current capacity working with the state of California, but am addressing you as a concerned citizen who I am sure cares deeply about the future of the world in which you live.

Most of us don't hear or find out much in our day to day lives about the problems and

challenges faced by the civilian populations living near weapons plants. It isn't in the national interest to generate hysteria or over concern about very real challenges faced as civilian populations work to understand health issues related to advanced and sophisticated technology. I can assure you, however, that pollution emitted by plants like the one in Livermore emit very different and dangerous types of pollution which put at risk everything that makes life meaningful. I am sure that, in your current capacity, you have some knowledge of those risks and have an interest in mitigating them.

Fortunately, there has been a lot of progress over time in recognizing needless risk, but more needs to be done.

It is important to know that years of epidemiological data are often needed before even a rudimentary sense of environmental harm caused by weapons testing and storage is admitted to the public, but experiencing the effects of tumors, lost pregnancies, cancers, and other immunologic disease can be part of the daily struggles of those living near weapons plants. Often, it is tempting to just ignore signs of problems and do nothing because the problems are complex and not going away. I don't have special expertise in epidemiology, but have been aware of health problems affecting family members of mine who may have been exposed to preventable nuclear effluent....if only some process had been in place to prevent it, my family members might not be having to live with chronic illness.

Tri-Valley cares has been around, I believe since 1983, and has a documented record of concerns about Lawrence Livermore plant. I have been following the issues for quite a while. At one point, I believe plutonium had been found in a city park in Livermore. There is a lot more bad news for the people of Livermore, but I am only one concerned citizen and all I can do is provide some catalyst for others concerned to really take a look at the issues. I hope to hear from someone at Tri-Valley CARES who can take the time to fact check my letter before I send it on to you. Thank you for your time in reading this communication.

Grant, The last time I faced the police I almost got billy clubbed in the head. Bill, my husband, was there and wants to go to this one. Dorothy Legretta, whom you met- is someone I have only read about, however she and her son were both very ill from disease which could have been caused by her work...Dorothy died like Karen Silkwood. Bill is interested in meeting pentagon papers leaker, Daniel Ellsberg...who was in the press for quite a long time in an earlier era, and is an invitee to this event at Livermore. I don't have time to rave about what I know because we are preparing, in real time, for a Fourth of July celebration and Bill my husband has two atomic watches. Bill and I are still debating the fate of Brian Wilson...in the movie "Love and Mercy". Epidemiology is often considered a pseudo-science; however what matters is who is looking at the data. Scott, the attorney for Tri-Valley cares should have my letter by now. I am hoping to get it back with comments. I found my shares at the Quaker Meeting seemed to be misunderstood over the years, so right now I am trying to stay close to people who have some understanding of the "Cold War"....however one defines those years, and mulling over our decision to buy property in yet another downwind community...because now my geologist

husband has become obsessed with "fracking". Somehow, I just cannot escape the news.

Comment 49:

Estamos muy preocupados por el hecho que la mayoría de los residentes del Area de la Bahía, que son de origen Hispano, desconocen la seriedad de esta peligrosa amenaza que presenta la presencia de estos elementos nucleares para la salud de cada uno de nosotros, incluyéndolo a Ud. Esperamos su apoyo y su presencia el 8 de Agosto en las puertas del LLNL comenzando a las 8 am.

Comment 50:

Obviously I am "piling on" to this form letter but I feel very strongly about thy! Please take heed!!

Comment 51:

Get with it! We rely on you. Thank you!

Comment 52:

As a former resident of Livermore, 1960-63 (during the Cuban Missile Crisis), and as a wife of a physicist knowledgeable about the dangers of missile materials. I feel strongly about this

Comment 53:

I got email and Facebook from several people who specifically asked me if this was being webcast, and I promised them that I would give you that comment that hearings like this, not just in our community, but in all communities, should be webcast. It's sort of easy these days.

Comment 54:

We do not want the hazardous waste permit renewed for the lab on East Ave in Livermore

Comment 55:

I believe that the historic mission and importance of LLNL in and to our national security means the facility should have its permit renewed without delay.

Comment 56:

"No" to the renewal draft permit.

Comment 57:

Protect people from these cancer causing toxins!!!

Comment 58:

We continue to watch in dismay, as the fallout in Fukushima spreads. Humans have proven their ingenuity. We can find other ways

Comment 59:

The lack of commitment being shown, as noted above is something you should be very concerned about. We should not have to write this letter. You are part of the mess lawlessness, exhibited by many officials throughout the country, We the people will not stand for it.

Comment 60:

Protection of public health and food supply is essential to national security.

Other concerns of mine are:

Glyphosates

“Contraails” containing possible toxins

Fracking substances possible contamination of water tables and soils

Comment 61:

Granting a permit given these facts would certainly transgress DTSC’s mission: Restoring Communities, Safeguarding Communities, Protecting Future Generations.

Comment 62:

When will this insanity end?

Comment 63:

Please put a stop to this madness!

Comment 64:

Time to end the nightmare!

Comment 65:

The Alliance urges you to do the right thing and not issue the permit in its current form. Protect the community!

Comment 66:

No I don't live near Livermore, though I go there from time to time. I've no children of my own whose future I'd be worrying about, nor do I anticipate a Fukushima in my back yard. But my father's people came from within radiating distance of Chernobyl, and those that didn't die fighting the Nazis, or end up in the ovens could well be suffering from its legacy.

And I don't have a horse in that race to know in my bones what is terribly, terribly wrong and a gross insult to the ecosystem that sustains us all. I don't expect the Lab to go away, or to be converted to peaceful, constructive use in the near future, though I can hope, but I can urge you to do the right thing here, for your neighbors and their children and their children's children