

TRI-VALLEY CAREs' COMMENT ON DOE/EA-2076

December 22, 2017

To: The US Department of Energy (DOE) National Nuclear Security Administration (NNSA) Livermore Field Office via email at LFOPublicComment@doe.gov

For convenience, a copy of the comment letter with attached reference materials will be mailed to the DOE NNSA LFO, PO Box 808, L-293, Livermore, CA 94551-0808

From: Tri-Valley CAREs, 4049 First Street, Suite 139A, Livermore, CA 94551 (925) 443-7148, www.trivalleycares.org

Subject: Comment on DOE/EA-2076 "Draft Environmental Assessment for the Proposed Increase in the Weight of Explosives Detonated at Lawrence Livermore National Laboratory Experimental Test Site, Site 300"

To whom it may concern:

The US Department of Energy is proposing to increase open-air detonations at the Lawrence Livermore National Laboratory (LLNL, Livermore Lab) Site 300, located near Tracy, CA, from the present maximum limit of 100 pounds per day of high explosives to 1,000 pounds per day. The annual maximum would increase from the present limit of 1,000 pounds per year to 7,500 pounds per year.

According to DOE/EA-2076 the blasts would occur at the Site 300 Building 851 Firing Table, an outdoor firing table lacking air pollution control technology.

Tri-Valley CAREs has monitored activities at the Laboratory and involved the public in decision-making under the National Environmental Policy Act (NEPA) and other laws and regulations since its founding in 1983.

Tri-Valley CAREs submits this public comment on behalf of its more than 5,600 members. Our staff, board of directors, Tracy environmental advisory committee participants, and the majority of our members live, work or recreate near and/or are affected by operations at the Livermore Lab Main Site and Site 300.

The Proposed Action to increase the weight of high explosive blasts at Site 300 involves potential adverse impacts with regard to air toxics and overall air quality, resuspension of radioactive particles in soils, noise, risk, endangered species, waste management and the Superfund cleanup beyond what is analyzed in the EA.

Additionally, DOE/EA-2076 includes Environmental Justice deficiencies, out-of-date NEPA coverage and improper segmentation, an inadequate alternatives analysis and a public comment process that takes neither the complexity of the document nor the holiday timeframe into account.

Public Comment Process

On November 7, 2017, the government published an availability notice for DOE/EA-2076. On November 15, 2017 Tri-Valley CAREs sent a letter to the DOE Livermore Field Office requesting a 60-day extension of the public comment period (to February 5, 2018). The letter also requested that DOE hold a public hearing in Tracy, CA during the comment period. Further, our letter noted a substantive error in the public availability posting on the DOE website that could suppress and adversely impact public response.

On November 30, 2017, Tri-Valley CAREs was informed via email that the DOE Livermore Field Office had fixed the error and would grant an extension of the public comment period from December 7, 2017 until December 22, 2017 (15 days). There was no mention of DOE conducting a public hearing or meeting, and none has occurred.

On November 30, 2017 and subsequently, Tri-Valley CAREs, other organizations, the City of Tracy, Rutan & Tucker, LLP (on behalf of the Tracy Hills developers), and at least 800 members of the public have submitted letters requesting a 60-day extension of the original public comment period (i.e., until February 5, 2018). Most commenters also requested a DOE public hearing or public meeting on the Proposed Action during the extended public comment period.

Here, Tri-Valley CAREs reiterates its request. DOE/EA-2076 runs 117 technically-complex pages and its public comment period is impacted by Thanksgiving, Hanukkah, Mawlid, Christmas, Kwanza and other holy days, social obligations and extended family time set aside by faith traditions and popular culture.

We have heard from our members and the public at large that the timing of the public comment period creates a barrier to their input. People have told us they want the opportunity to learn more about the Proposed Action and to offer comment informed by that knowledge – but they have been thwarted by the holiday period as well as the lack of a public meeting or hearing. Tri-Valley CAREs has transmitted this information to the DOE Livermore Field Office along with our requests for extension.

Improper Segmentation & Outdated Analysis

By issuing a stand-alone Environmental Assessment for the “*Proposed Increase in the Weight of Explosives Detonated at Lawrence Livermore National Laboratory Experimental Test Site, Site 300,*” the DOE/NNSA and Livermore Field Office have improperly segmented one small piece of a much larger program, thereby violating the National Environmental Policy Act.

Proposals or parts of proposals that are so closely related that they are, in effect, a single course of action must be treated in the same NEPA document. 40 C.F.R. 1502.4(a). Federal agencies may not segment a proposed action into small pieces to

avoid the application of NEPA, or to avoid a more detailed assessment of the environmental effects of the overall action. 40 C.F.R. 1508.25(a).

Increasing the weight of explosives detonated at Site 300 is not a stand-alone project, but rather is one piece of a connected programmatic expansion of nuclear weapons activities at Livermore Lab Site 300 and other DOE/NNSA facilities, called “Life Extension Programs” (LEPs) by the agencies. These new LEPs for various nuclear weapon systems have added billions of dollars to NNSA site budgets, involve major new facilities, site expansions and employee hiring, however there have not been any programmatic NEPA reviews of present day LEPs that analyze the environmental impact of across the nuclear weapons complex that is involved, including at the Lab’s Main Site and Site 300.

Additionally, the Proposed Action directly supports high explosives research at Livermore Lab Main Site and Site 300 (which in turn supports the LEPs). The LEPs are a central and integral part of the Stockpile Stewardship program, which is described in Section 1.2 on page 3 of DOE/EA-2076 as a purpose and need for the Proposed Action.

Moreover, Livermore Lab has not undergone a Site-Wide Environmental Impact Statement (SWEIS) since 2005 (with a supplement in 2011). The 2005 SWEIS (and its supplement) rely substantially on information gathered in 2002. Further, the 2005 SWEIS did not consider current day requirements, which the EA acknowledges in Section 3.13 on page 32 - for example noting that the 2005 SWEIS did not discuss the potential environmental impacts of intentionally destructive acts. A new SWEIS in compliance with today’s NEPA and DOE policies and requirements would contain the missing analyses. Likewise, Section 3.13 notes that the 2005 SWEIS also fails to include climate change analyses.

The CEQ suggests agency review programmatic EIS’s every five years to determine if a supplement or new review is necessary.

It is clear given the large increase in nuclear weapons activities on LEPs at Livermore Lab, the outdated information in the 2005 SWEIS, and the lack of present day requirements – including an analysis of intentionally destructive acts - that a new SWEIS is merited and this current project should first be analyzed in that document.

Alternatives Analysis is Misleading and Does Not Comply with NEPA

NEPA requires an examination of reasonable alternatives in EA’s, and DOE/EA-2076 fails to fully consider and analyze reasonable alternatives including the option of conducting the proposed experiments at the Big Explosives Experimental Facility (BEEF) at the DOE/ NNSA Nevada National Security Site, formerly called the Nevada Test Site.

According to the Livermore Lab publication, “Energy & Technology Review,” January/February 1995 edition, BEEF was established by Livermore Lab to “allow the

Laboratory to conduct large hydrodynamic experiments using charges far larger than those allowed at Site 300...” While the BEEF was located at the test site, it’s managed by Livermore Lab for hydrodynamic testing (the explosions involved in the Proposed Action are hydrodynamic tests).

An October 1998 Livermore Lab report, “Testing and Diagnostic Capabilities at LLNL,” includes the following description: “The Big Explosives Experimental Facility is a new LLNL hydrodynamic facility for large scale above ground evaluation of non-nuclear devices... BEEF was activated for full manned operation in March 1997. NTS [now the Nevada Nuclear Security Site] is an ideal location for a facility qualified for large-charge high-explosive experiments...”

In February 2000, another Livermore Lab report, “Nevada Experiments and Operations Program (N Program) Management Plan” makes clear that LLNL runs the BEEF facility to conduct large high-explosive tests. See the report’s description, for example, at Section 5.6.1 Major LLNL Facilities at NTS, page 20. In addition to noting that BEEF is an LLNL facility, it also states: “BEEF is a hydrodynamic test facility similar to those located at the LLNL Site 300. Tests involving thousands of pounds of high explosives may be executed.”

In a 2005 LLNL special insert, “Up Close,” published in the Lab “Newline,” BEEF is cited as one of LLNL’s “principal laboratories for shock physics experiments.”

The current Livermore Lab website (<https://wci.llnl.gov/facilities/beef>) has a description that reads in part: “The need for the BEEF site originated when, due to community encroachment near the Lawrence Livermore National Laboratory (LLNL) facility in Livermore, California, DOE was no longer allowed to perform high explosives experiments at the facilities Site 300 Shaped Charge Scaling Project. Therefore looking at the Nevada Test Site as a location to continue to perform these large, high scale experiments, two earth covered, two foot steel reinforced concrete bunkers, built to monitor atmospheric tests at Yucca Flat in the 1950s were located and found to be ideally configured. The facility consists of a control bunker, a camera bunker, a gravel firing table, and associated control and diagnostic systems.

“The facility has conducted safely conventional high-explosives experiments using a test bed that provides sophisticated diagnostics such as high-speed optics and x-ray radiography on the firing table, while operating personnel are present in the bunker...”

In contrast, the EA summarily dismisses BEEF as an alternative, which turns NEPA on its head. As we show in the above-listed reports, BEEF is an LLNL facility, built expressly to meet Livermore Lab’s “needs”. Livermore Lab personnel have long-managed it. Since 1997, Livermore Lab has routinely and successfully executed a variety of hydrodynamic explosive tests at BEEF.

Yet, Alternative 2.3.3, Perform Operation at an Offsite Facility, BEEF (and/or other facilities in the DOE complex) was summarily dismissed in a few paragraphs on page 9 and “removed from further consideration in this document.”

A cursory, two-word notation on page 9 asserts “increased costs” as a disqualifying factor for offsite facilities but does not say anything about the costs or quantify their amount. The EA at page 9 also asserts that any offsite location would be “inefficient” with no evidence - and standing in contrast to the descriptions of BEEF in other Livermore Lab publications. The EA at page 9 also says offsite facilities are disqualified because “LLNL experiments would compete with ongoing activities at other DOE/NNSA testing facilities, thereby complicating scheduling.”

Nowhere does the EA disclose that BEEF is an LLNL facility or that LLNL has routinely conducted high explosive experiments there. Indeed, the EA language suggests a misleading and faulty premise that LLNL has no control over BEEF, including its scheduling, etc. The Alternatives Analysis in DOE EA-2076 is inadequate.

In addition to inappropriately ruling out the BEEF, there may be other facilities that should be analyzed in detail and are not. There are contained firing facilities that can contain blasts larger than the capacity of the contained firing facility presently at Site 300. These containment structures are used by governments and industries in the US and Europe, and perhaps elsewhere. Some may be constructed on the site. Others may be purchased and delivered (with little construction needed). A more complete analysis in the EA is warranted.

While we address encroaching populations in other sections of this comment, we underscore the following sentence on the LLNL website: “The need for the BEEF site originated when, due to community encroachment near the Lawrence Livermore National Laboratory (LLNL) facility in Livermore, California, DOE was no longer allowed to perform high explosives experiments at the facilities Site 300 Shaped Charge Scaling Project...” We note that the population density and the pressures it represents have mounted (rather than abated) since BEEF established in 1995.

Resuspension of Radioactive Materials is Not Properly Analyzed

DOE/EA-2076 does not adequately address the disturbance of radioactively contaminated soil surrounding the detonation table. There are significant amounts of uranium-238 in soils around the firing table, and some of this radioactive material is in the form of finely-divided particles (of varying sizes, including microscopic sizes most easily re-suspended) and some is in the form of larger pieces. The re-suspension of radioactive contamination from past open-air tests requires careful and detailed analysis that is missing in the EA.

The EA mentions applying shotcrete to the berm, but does not substantiate why that would be a sufficient barrier. There is no analysis of disturbance of soils when the maximum 1,000 pounds of high explosives is detonated in a single test.

(Note: the EA is also deficient in that it does not fully disclose to the public or analyze the fact that operational realities mean that 1,000 pounds of high explosives per day at the Building 851 open air firing table means that there would be 1,000 pounds in one shot, not smaller amounts spread out into multiple shots over the course of that day.)

In June 2016, Tri-Valley CAREs obtained documents revealing that hunks of uranium-238 (also called depleted uranium or DU) were unexpectedly found strewn around the ground at the Building 851 Firing Table. Employees were routinely sampling groundwater in the summer of 2014 when they spotted the uranium-238 littering the surface soil. The Lab found 27 pieces of uranium-238 measuring 3-inches in diameter or greater. The chunks weighed 80 pounds.

Following that discovery, Livermore Lab undertook a gamma radiation survey of uranium-238 in surface soils at the Building 851 Firing Table. The survey disclosed highly elevated gamma radiation levels radiating outward from the table. Further, there were high levels of gamma radiation found in the area of an ephemeral stream that is present at Building 851 but not included in the maps or the text of the EA.

Additional characterization by LLNL of soils in a 700-foot radius around the firing table also took place during 2016. Those results were reported to state and federal agencies pursuant to the Superfund (CERCLA) cleanup underway at the Building 851 Firing Table.

According to the LLNL minutes of a meeting on September 22, 2017 with the state and federal regulatory agencies:

Surface soils samples were collected from 40 locations within the 700-foot radius of the detonation pad and analyzed for uranium isotopes. The maximum uranium-238 activity was 44.3 picocuries/gram. Twenty sample locations (out of 40) contained uranium isotopes exceeding the current 3.1 picocuries/gram background calculation for Site 300. Thirty-three of the sample locations exceeded the 1.4 picocuries/gram US EPA composite worker Preliminary Remediation Goal, or PRG. Samples from all 40 locations exceeded the MCL-based Soil Screening Level (SSL) for uranium-238 of .006 picocuries/gram.

Further, the soil sampling revealed uranium-235 (the nuclear weapons grade isotope) concentrations of .63 picocuries/gram in at least one sample location. Twenty-one (out of 40) sample locations contained uranium-235 in exceedance of the .0737 picocuries/gram that is the current background number for Site 300. Two sample locations exceeded the EPA PRG. Thirty-eight sample locations exceeded the MCL-based SSL of .039 picocuries/gram. The surface soil samples also revealed uranium-234 and uranium-236 isotopes.

None of this information – and none of the attendant potential risks of resuspension – was included in the EA.

We note that the higher radiation levels found by LLNL were generally in the soil survey locations nearest the detonations that caused the contamination, which is suggestive of greatest re-suspension potential.

Moreover, as noted above, one of the highest areas of radioactive contamination found by Livermore Lab in its initial soil gamma survey at the Building 851 Firing Table was in the area of an ephemeral stream that is missing from the EA. The very generalized notation in the EA regarding surface streams at Site 300 (Section 3.7.2, pages 25 and 26) does not analyze this ephemeral stream at the Building 851 Firing Table area. Similarly, the Water Resources Section 4.1.4 on page 43 does not include this ephemeral stream in its analysis and thus potentially incorrectly states that “the closest surface [water] body to Building 851 firing table is not within range to receive metal fragments” from the larger blasts. This missing information has implications for – and beyond – the resuspension of particles.

Finally, there are apparent discrepancies within the EA with gravels sometimes noted as the medium intended to absorb shock on the firing table and concrete mentioned for that purpose in other sections. In no case is there any supporting analysis. However, the shock absorbencies of different materials may differ.

More information on the discovery of 80 pounds of uranium-238 in surface soils at the Building 851 Firing Table can be found at <http://www.trivalleycares.org/new/Summer16CW.pdf>

Impacts of the Proposal on the Superfund Cleanup is Not Properly Characterized

Tri-Valley CAREs holds a Technical Assistance Grant from the US EPA to analyze documents, interface with regulators, and inform the community regarding Site 300 cleanup under the Superfund law (CERCLA) including at the Building 851 open-air Firing Table, the location of the Proposed Action.

DOE/EA-2076 asserts on page 43 that “Activities associated with the Proposed Action would not stop or otherwise conflict with the ongoing remedy for OU8 [which contains the Building 851 Firing Table] under CERCLA.”

This statement is asserted rather than being the result of proper analysis - and it runs counter to direct evidence from LLNL documents pursuant to the Superfund (CERCLA) cleanup ongoing at Building 851.

For example, the September 2017 “Draft Five-Year Review Report for the Operable Units 3 and 8 at LLNL Site 300,” states on page 130, “...any cleanup of contaminants in surface soil [at Building 851] that are found at concentrations/activities in excess of screening levels or are found to be a threat to groundwater and thus require remediation to protect human health and the environment in the long term would not occur until the firing table is no longer active at some time in the future.”

Further, the November 9, 2017 Livermore Lab minutes of the regulatory authorities meeting on the Superfund cleanup – which included LLNL, DOE/NNSA LFO, EPA Region IX, California Department of Toxic Substances Control, and the California Regional Water Quality Control Board – states on page 4: “It was acknowledged that the Building 851 Firing Table is currently in use, although depleted uranium has not been used in explosive experiments [there] since 2008 or earlier. Continued use of the firing table complicates the CERCLA remediation pathway...”

Clearly, in other DOE/NNSA LFO and LLNL documents there is evidence that the Proposed Action will delay or complicate the Superfund cleanup.

It is notable in this context that following the withdrawal by Livermore Lab of a permit application for a similar Proposed Action in 2007, three open-air firing tables were closed and made available for remediation under CERCLA.

There is no discussion or analysis of the Proposed Action’s impact on the future status of the Building 851 Firing Table – and there should be.

The Proposed Action has the potential to stymie a lesser usage – or closure – of the firing table compared to the No Action alternative.

Nor is there appropriate analysis of ways in which the Proposed Action and No Action Alternative may have differing impacts on CERCLA activities. (Here it is worth noting also that the No Action Alternative contains numerous deficiencies and must be re-done.)

In sum, it is not sufficient under NEPA for the EA to shrug off the multiple ways in which the Proposed Action may directly and indirectly impact or complicate the Superfund cleanup in progress. The Superfund cleanup is both a matter of law (CERCLA) and a priority of our members and the public at large in communities near Site 300. A full analysis of impacts must be undertaken, made available for public comment, and reflected in decision-making.

Air Toxics, Air Quality and Risk Analyses are Inadequate and Incomplete

According to the EA, the Proposed Action will result in airborne emissions involving 121 hazardous constituents (pages 14-18, Appendix A). Many of the listed pollutants are known to damage organs, cause cancer and other diseases and may lead to prompt or premature death, including beryllium, vinyl chloride, phosphine, hydrogen cyanide and dioxin.

Some of these materials could be present in the blast’s high explosive compound and also in the test device that the HE surrounds. For example, beryllium could be present in both. There is no clear description of the actual amounts of these contaminants per test/day or per year, only a table of expected emissions based on calculations. Without

knowing the missing information, the reader cannot make a crosswalk from amounts in the test to the expected emissions. Therefore, the validity of emission rates in the table presented in Appendix A cannot be fully ascertained.

Inconsistencies are present in the EA that are relevant to the adequacy of air toxics and emissions analyses. For instance, page ii says “cratering emissions would consist of concrete.” Section 2.1.2 contemplates, “... application of a commercially available shotcrete... or gravel.” Emissions would not be the same.

On page ii, the EA notes using an Open Burn Open Detonation model. However, the model may understate emissions. The June 20, 2017 report on “Characterization of Air Emissions from Open Burning at the Radford Army Ammunition Plant,” suggests, based on drone collection of air data at the site, that the actual emissions at the Army Plant may be understated. This may hold true at other locations as well. This 2017 report and its data must be included in the analysis of airborne emissions from the Proposed Action at the Building 851 Firing Table.

The EA admits that the Proposed Action would involve toxic air emissions greater than the No Action Alternative (page ii). However, it summarily dismisses the increase as “insignificant.” As justification, the EA depends on gross characterizations, such as “the estimated annual emissions are low compared to the general conformity thresholds,” at page ii. However, “implementation of the Proposed Action would result in air emissions that could include criteria air pollutants, toxic and hazardous air pollutants, and greenhouse gases.” (page 39).

Site 300 is located in an extreme non-attainment zone for some air pollutants, such as ozone, and a nonattainment zone for others, such as PM_{2.5} (particulate matter with a diameter less than 2.5 micrometers). These hazards appear to be used in the EA as justification or are emphasized as a way of minimizing the impact of the airborne pollutants associated with the Proposed Action. Nonattainment zones should not be used as justification for more pollutants. Moreover, the discussion of the area’s nonattainment zones and extreme nonattainment zones appears to be de-emphasized when considering cumulative impacts of the Proposed Action.

The overall modelling and the “release fractions” modelling done by LLNL staff may be optimistic and should be re-visited.

Further, the EA substantively relies on HARP2 ADMRT input and output files contained on a compact disk that are said to be attached to the EA (page 29, Appendix A). The compact disk and the data it contains are not attached or otherwise available to the public reviewing the EA. This means that Tri-Valley CAREs and other members of the public cannot see - or consider in comments - the full analysis. This omission thwarts any detailed public analysis of air toxics and quality as well as risk.

The EA posits that the Proposed Action will result in an Acute Hazard Index of .7 at the Carnegie State Vehicular Recreation Area (SVRA) ranger residence. The threshold of

1.0 would disqualify the Proposed Action in its permit application process. The methodology to determine the .7 rating is crucial to understanding the magnitude of risk. The EA also notes that the Proposed Action carries a cumulative cancer risk of 15.4 in a million and that 20 in a million would be disqualifying.

By the EA's admissions, the Proposed Action is not insignificant and appears to be nearing the San Joaquin Valley Air Pollution Control District "no go" boundary for issuing an air permit. To have any credibility – and to comply with NEPA – the public must be able to analyze and trace the inputs into the modelling that resulted in these outputs. The EA process cannot go forward without that information – and a subsequent public comment period.

We also note that in regard to air toxics, air quality, and risk (as well as noise and other factors) the EA geographically misplaces some of its "receptors" and minimizes them improperly. And, other receptors are missing from the analysis altogether.

The City of Tracy comes to within about 7,000 feet of Site 300 while the EA improperly places it about 6 miles away from Site 300. The property line of the Tracy Hills development is closer to Site 300 than indicated in the EA. And, at the Carnegie State Vehicular Recreation Area and Campground, the park rangers and the users can be substantially closer to Site 300 than the residence of the ranger noted in the EA.

Further, at the Carnegie SVRA and Campground, rangers often work near the park boundary directly across Corral Hollow Road from Site 300 and very near the Building 851 Firing Table. Rangers have told us that have become overwhelmed by smoke when working in the open during the period that the Building 851 area is "control burned." They also have noted seeing airborne debris "clouds" they believe are associated with blast tests. Moreover, the dirt bike activity at the SVRA involves kicking up substantial dust and resuspension of particles. This is not noted in the air and risk analyses. Nor are campers noted.

The EA at page 29 says that "Tesla Road and Corral Hollow Road receive increased usage during commute periods because of congestion on Interstate-580 through the Altamont Pass." Indeed, with the expansion of population in Tracy and communities to its east and south, the build out at Mountain House, and other population increases, Corral Hollow Road is sometimes choked with vehicles ranging from dirt bikes to tractors and minivans and trucks. Corral Hollow Road is likely to become more congested as the Tracy Hills development of 5,500 homes approaches build out. For air toxics and risk (as well as noise) drivers/commuters are not considered in the EA and should be.

In general, the EA seeks to assert that there will be little or no impact from the larger open-air blasts that are the Proposed Action. This stands in contrast to the March 1997 LLNL publication, "Science & Technology Review" that suggests the impetus for building the Contained Firing Facility at Site 300 was to reduce emissions as well as other impacts to nearby populations from open-air tests.

The publication notes that “Sometime in 2000, far fewer loud ‘BOOMS’ will resonate from Site 300, the Laboratory’s explosives test complex. LLNL’s new Contained Firing Facility (CFF) will begin operation that year to provide indoor testing of high explosives and most open-air experiments at Site 300 will be discontinued...” [Note that this is relevant also to noise impacts and to whether the Proposed Action could result in the Building 851 open-air Firing Table remaining open for a longer timeframe than under the No Action Alternative.]

It continues: “CFF will drastically reduce emissions to the environment and minimize the generation of hazardous waste, noise, and blast pressures... Future residential development in an area less than a mile away will also benefit from the facility’s environmental precautions...” And, “The elimination of most open-air testing at Site 300 will significantly reduce the amount of contaminated firing table gravel waste.”

Impacts of More Explosives and Waste Management Require Analysis

The EA states at Section 4.1 on page 35 that the Proposed Action would not require additional explosive shipment. The Proposed Action involves increasing the weight of high explosives per day/blast 10-fold and increases the annual limit more than 7-fold. The EA does not explain how that can be accomplished with no additional shipment of high explosives.

Section 4.1.6 says, “Implementation of the Proposed Action would result in a minimal increase in explosive wastes.” But, it fails to define what the increase would be. This data is necessary for a proper assessment.

Moreover, logically, if the Proposed Action blast contains 1,000-pounds of high explosives - 10 times the weight of high explosives in the No Action alternative – and contains 121 hazardous constituents, how could there not be a substantial increase in hazardous wastes?

Either the thousand pounds of high explosives material with the 121 hazardous constituents is blowing in the wind and causing air impacts, or it is falling out on soils and causing impacts there, or it is resulting in waste – and/or all of the above. There do not appear to be other options for the material once detonated on the open-air firing table. Yet, the EA does not adequately account for it in any category.

Noise Impacts are Inadequately Analyzed

The EA states at page 45 that peak sound pressures above 130 decibels (dB) are “generally objectionable and are often described as very loud and startling.” It further states that peak pressure levels above 120 dB may “rattle loose windows or pictures on walls... but it would not cause structural damage.” The EA then discusses peak sound pressure levels of 126 dB that would not be exceeded in populated areas.

We note that 126 dB is greater than 120 dB. How did Livermore Lab determine that a dB level above that which rattles windows and walls is acceptable to the public, or is adequate for protecting the public? What of the World Health Organization suggesting a lower level (120 dB)? The EA is silent on how Livermore Lab and the DOE/NNSA LFO made these determinations.

On page 47, the EA states that the “sound pressure level of 126 dB would not be exceeded in populated areas or at receptors of concern for 85% of all detonations. A plain language reading suggests that the sound pressure level of 126 dB may be exceeded 15% of the time in populated areas. The maximum dB of the 15% and associated impacts are not clearly described.

On page 48, the EA discloses that the Proposed Action would result in peak sound levels at the southern portion of the Carnegie SVRA of 130 dB. The EA then designates the rangers and park users as “not populated.” The EA doesn’t say how workers and the public would be kept out of a portion of the state park during blasts. Here, and in general, the EA inappropriately minimizes impacts on the Carnegie SVRA rangers, workers, users and guests. The impacts they may face appear to be greater than what is analyzed in the EA.

Weather and atmospheric conditions affect noise transport and levels. The modelling underlying the EA conclusion that the impulse noise would be “higher” but not “significant” may have used optimistic assumptions about weather patterns (and other conditions) to reach that conclusion.

Given the paucity of analysis of the scope of impacts on the Carnegie SVRA, the similar lack of analysis of the scope of impacts on the planned Tracy Hills community of 5,500 new homes and a boundary extending very close to Site 300, and the fact that atmospheric conditions can affect noise levels, the conclusion in Section 4.1.5 that while the “Proposed Action would have a higher impulse noise impact than the No Action Alternative, it is not anticipated to be significant” is incorrect. Certainly, it is not demonstrated by the evidence.

Additionally, Section 4.1.10 only considers impulse noise frequency and duration and does not consider its loudness. That Section too is inadequate.

In sum, the noise impacts are not well-analyzed and are presented in a confusing manner. Further, the conclusions appear unduly optimistic and unsupported by the evidence. The maximum levels (i.e., unmodulated by optimistic assumptions) do not appear to have been used.

Worker Health and Safety are Not Adequately Considered

Section 4.1.7 asserts that the Proposed Action would not result in impacts on worker health. In place of the required analysis, the EA says that “LLNL would continue to implement the DOE standards.” Air impacts on workers are not analyzed in any detail.

Noise impacts to workers are asserted to be controlled by all workers being kept inside during detonations. There is no detailed discussion of how to safeguard the Site 300 workers. There is no detailed discussion of what the impact could be if, for example, a worker was not housed inside a building during the detonation. Or, if the windows blow out in a particular building (likely at some locations within Site 300).

In sum, the EA relies on mere statements about worker health and safety in the absence of actual analysis in order to conclude that there are either no impacts or that the impact will be insignificant. The reasoning is neither adequate nor warranted.

Endangered Species Impacts May be Greater than Considered

The EA states at page 37 that “the potential for noise to harm wildlife is an ongoing natural resources management issue.” Given that bigger, louder blasts constitute the Proposed Action, it is unclear how the conclusion on page 38 was reached that “Implementation of the Proposed Action would not result in significant impacts on wildlife.”

Additionally, Section 4.1.2 on page 38 relies on statements such as tests “are more likely to occur in the mid-afternoons” minimizing disruption of endangered species’ twilight or nocturnal habits. Yet the EA contains no hour limits beyond the notice that the blasts associated with the Proposed Action will take place between 10 AM and 8:50 PM, which is often after twilight.

Blast fragments are stated not to be a problem, but it is not clear that the methods listed to control them would be sufficient in real life application. For example, the EA states that staff can direct the blast, but for some experiments that would likely conflict with the shot parameters and its diagnostic necessities (and, so, directing the blast would not occur).

In sum, this Section contains little analysis beyond mere assertions and is inadequate.

Environmental Justice Analysis Perpetuates Disenfranchisement

First, the EA explicitly depends on the 2005 SWEIS, based largely on 2002 data, to decide there are no EJ impacts or issues that need to be examined.

Second, the EA states that no minority or low-income populations reside within a “5-mile radius of concern” for Site 300. As noted elsewhere, the EA located the City of Tracy miles from the City boundary instead of approximately 7000 feet. According to the City of Tracy website, the population there is approaching 40% Latino/Hispanic. Many are monolingual or more comfortable in Spanish. Moreover, Southside Tracy, a region close to Site 300, has a high concentration of minority residents. Finally, the EA does not discuss how the 5-mile radius of concern was chosen or why it is appropriate in this instance.

The EA is 117 pages – all of them in English. None of the notices of availability that Tri-Valley CAREs has seen are in Spanish. A notice in the Tracy Press was in English only. Spanish translation could have been provided but was not. This EA and the process of noticing it for the public perpetuate the historical disenfranchisement of Tracy’s Latino/Hispanic/Spanish speaking populations.

Section 3.3.2 does not contain a conclusion – because it contains no issues of concern either, one is left to reason that there may be an implicit conclusion of no impact, therefore no action needed. Certainly, no action is discussed.

Conclusion

The Proposed Action takes Site 300 “back to the future” by re-introducing large, open-air explosive tests that were abandoned years ago due to encroaching population growth (which has become more pressing and much closer geographically) and environmental and regulatory considerations (which have become more stringent or remain unchanged).

Further, the Proposed Action complicates the Superfund cleanup and may complicate future waste management activities. Impacts to Site 300 workers and endangered species are too little considered, and may be substantial. Air toxics, air quality and risk issues are potentially severe, inadequately analyzed and key data are missing altogether. Re-suspension of radioactive particles in soils is not properly considered. Noise impacts are substantial and are not adequately considered. These issues should be disqualifying, but are instead minimized in the EA.

The EA does not meet the standards of the National Environmental Policy Act. A Site-Wide Environmental Impact Statement is long overdue, and the EA improperly segments the Proposed Action from integral and closely-related actions. The EA ignores reasonable alternatives. Its Environmental Justice analysis is improperly done and the EA’s notice of availability and text are only in English although a large segment of the affected public speaks Spanish. The public comment period was held over the year’s major holiday season and the pleas of hundreds of individuals, groups, the City of Tracy, the Tracy Hills developers and others for an extension of the comment period until February 5, 2018 were ignored.

The government must go back to the drawing board and reconsider the Proposed Action in light of Tri-Valley CAREs’ and other public comments.

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Note: All Cited Documents Should be Treated as Part of This Comment.