

Health and Environmental Impacts of the Lawrence Livermore National Laboratory

Located about 45 miles east of San Francisco, the Lawrence Livermore National Laboratory was established in 1952 to develop nuclear weapons. Livermore Lab and the Los Alamos Lab in New Mexico are managed by the University of California, and together they have designed and tested all nuclear warheads in the US arsenal.

The US Department of Energy (DOE) has declared the fifty mile radius around Livermore Lab as the population directly affected by toxic and radioactive pollution coming from the Lab. This includes more than seven million people. Over fifty years of weapons research and poor environmental practices have caused severe contamination of our air, water and soil.

Soil and Groundwater Pollution Threaten Communities

GROUNDWATER: There is severe soil and groundwater contamination at the Livermore Lab main site in Livermore, as well as its Site 300 testing range in nearby Tracy. Both locations are on the Environmental Protection Agency's "Superfund" list of the most contaminated sites in the country due to a toxic stew of pollutants ranging from chemical solvents to high explosives to radioactive debris. If the groundwater is not cleaned up, the EPA estimates cancer risks in Livermore as high as one in every thousand residents. The EPA's estimated cancer risk for one of the off-site contaminated areas at site 300 tops one in one hundred. Clearly, the utmost effort must be made to clean up polluted soil and groundwater at Livermore Lab. Yet, a new DOE initiative proposes that Livermore Lab reduce cleanup standards and seek variances from our nation's environmental laws. Tri-Valley CAREs is working to force DOE to adhere to legally binding cleanup agreements and standards that will protect our health and communities.

PLUTONIUM SOIL CONTAMINATION: Livermore Lab released weapons grade plutonium to the city sewage plant for decades -- from about 1958 to 1974. Reports indicate that plutonium soil contamination may be widespread among Livermore households due to the distribution of plutonium-laden sludge. Residents were encouraged to come and pick up the free sludge for lawns and gardens. In November 2002, the California Department of Health Services issued a study concluding that the sludge posed an unknown level of health risk. The agency recommended further sampling and research.

Weapons grade plutonium has a radioactive half-life of 24,000 years. Plutonium is extremely poisonous. Death

can result if a minute quantity enters the body; one ten-thousandth of a gram inhaled can cause cancer. Other negative health affects such as suppressed immune systems, are associated with plutonium exposure.

Airborne Radioactivity Threatens Us All

TRITIUM RELEASES: Since the 1960s the Livermore Lab has released approximately one million (1,000,000) curies of radiation into the environment, roughly equivalent to the amount of radiation deposited by the US atomic bombing of Hiroshima. Much of the airborne contamination has been tritium, which is a radioactive form of hydrogen. Tritium has a radioactive half-life of 12.4 years and has been associated with a wide range of health problems, from cancer to birth defects to reduced sperm count in males. Lab documents disclose that **Livermore Valley wines have contained up to four times the tritium of other California wines.** Rainfall at the Lab has been found to contain tritium at concentrations seven times higher than the state and federal maximum contaminant limit for drinking water. Basically, that is radioactive waste falling out of the sky.



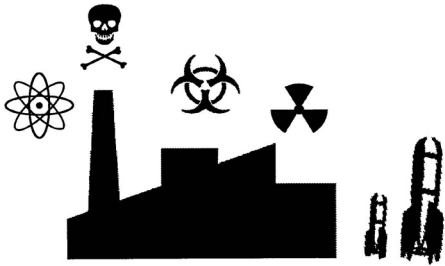
Worker and Community Health

CHILDHOOD CANCER STUDY: A 1995 California Department of Health Services' investigation of childhood cancer incidence among Livermore children and young adults, as compared to children and young adults in the rest of Alameda County, found six times the incidence of malignant melanoma in children and young adults born in Livermore, and elevated levels of brain cancer among children born in Livermore in the 1960s.

WORKER EXPOSURES: Over 1,500 claims have been filed by Livermore lab employees, former employees and employee family members, for compensation due to illnesses or death caused by on-the-job exposure to radiation, beryllium and a myriad of other poisonous substances. In spite of these dire health and environmental problems, the federal compensation program is saddled by bureaucratic roadblocks that mean many people die before receiving any medical and wage compensation benefits. Further, workers tell us that exposures continue up to the present day.

Health Impacts Span Past, Present and Future

Due to continuous nuclear weapons development at Livermore Lab, new releases of plutonium, tritium and other toxic substances add to the burden of past releases into the community. New and modified nuclear weapons design, testing and deployment is part of current US nuclear policy, which is deceptively named "Stockpile Stewardship." This program cost taxpayers \$6.3 billion in 2004 alone. This is more than was spent per year during the Cold War. What we get is -- more weapons, more nuclear waste and more pollution.



Stockpile Stewardship means new nuclear weapons: Weaponeers at Livermore and Los Alamos Labs are busy upgrading every nuclear warhead in the US arsenal. Scientists at Livermore are developing new nuclear weapons like the Robust Nuclear Earth Penetrator (RNEP), a high yield, bunker-busting bomb that would burrow into the earth, detonate and then spew out clouds of radioactive dust. Weaponeers are also researching mini-nuclear weapons concepts, which will lower the threshold for nuclear weapons and make their use in war more likely.

Plans to increase weapons programs: In 2005 DOE released a "ten year plan" for Livermore Lab called a final Site Wide Environmental Impact Statement (SWEIS). The SWEIS proposes a major expansion in nuclear weapons activities including:

More storage of nuclear materials: The plan will double the storage limit for plutonium at Livermore Lab from 1,540 pounds to 3,080 pounds, thereby storing enough plutonium on site to create about 300 modern nuclear bombs. Studies by the General Accounting Office and others indicate that Livermore Lab's existing stock of plutonium is vulnerable to a "terror attack," a disgruntled employee scenario and theft. Plutonium activities should be terminated, not increased.

New risks at the National Ignition Facility: The plan will add plutonium, highly enriched uranium and lithium hydride to experiments in the National Ignition Facility (NIF) mega-laser sometime after it is completed in 2008. Using these materials in the NIF will increase its usefulness for nuclear weapons development and make the NIF more hazardous to workers and the environment.

Tritium target manufacture: This plan will allow the manufacture and packing of tritium targets for the NIF at Livermore Lab. To accomplish this, DOE would increase the amount of tritium allowable in a single room by nearly a factor of ten, from the current limit of 3.5 grams to 30 grams, nearly ten times more.

Mixing bugs and bombs: This plan mixes bugs and bombs at Livermore Lab. It calls for collocating an advanced bio-warfare agent research facility with nuclear weapons activities in a classified area at Livermore Lab. The DOE proposes genetic modification and aerosolization (spraying) tests with live anthrax, botulism, plague and other deadly pathogens on site at Livermore. Tri-Valley CAREs has filed an appeal in federal court to prevent DOE from operating this new facility without a thorough environmental review and public hearings.

Tri-Valley CAREs is committed to preventing new threats to our health and communities as well as ensuring a complete cleanup of existing contamination. Working together we can create positive change in our community and world.

GET INVOLVED!

1. Attend Tri-Valley CAREs **monthly meetings**. We meet the third Thursday of every month at 7:30 PM at the Livermore Library, 1188 S. Livermore Ave.
2. Advocate for workers' compensation. Participate in the **Sick Worker's Support Group**.
3. Volunteer for Tri-Valley CAREs. We have mailing parties, tabling opportunities and more. For more info contact Mary (925) 443-7148.
4. Donate to Tri-Valley CAREs. You can donate on line at www.trivalleycares.org, or send checks to the address below. Your donation is tax-deductable.

Tri-Valley CAREs (925) 443-7148
www.trivalleycares.org
2582 Old First St. Livermore, CA 94551