

# Fact Sheet: Increasing Plutonium Storage and Usage at Livermore Lab Endangers the Bay Area and Central Valley

The Department of Energy (DOE) plans to double the administrative limit for plutonium to 3,080 pounds, which is the amount that can be housed in Livermore Lab's plutonium building. DOE also plans to double the amount that can be used in a process or room from 44 to 88 pounds. These plans, announced in the final Site Wide Environmental Impact Statement (SWEIS) on Livermore Lab operations, would enable DOE to transport 1,540 pounds of additional plutonium to the Lab. Workers will use this plutonium to develop new manufacturing techniques for bomb cores (called pits), to prototype new plutonium pits, to evaluate pits currently in the arsenal and to support new plans to use plutonium in the National Ignition Facility megalaser, a nuclear weapon design facility under construction at the Lab. Pits are the generally softball-sized plutonium (fission) spheres that sit inside modern nuclear weapons to trigger thermonuclear explosions. The increase in plutonium activity at Livermore Lab will support DOE's proposed factory, called the Modern Pit Facility, being designed to produce hundreds of bomb cores per year. Livermore Lab's plutonium use, storage, transportation and waste disposal pose severe health and safety risks for workers and the surrounding Livermore, San Francisco Bay Area and Central Valley communities. *Here are a few of the dangers we face:*

**HEALTH AND SAFETY:** One microscopic particle of plutonium, if inhaled, can cause lung cancer and numerous other diseases. Weapons' grade plutonium has a radioactive half-life of 24,000 years. Scientists often calculate a radioactive material's hazardous life at ten half-lives. For plutonium, that is 240,000 years -- longer than human history. Much of the Lab's plutonium is stored as oxides - fine shavings - that are easily dispersed in the environment. Plutonium can enter the body through inhalation, ingestion or an open wound. Growing children are most at risk; plutonium is a "bone seeker," emitting radiation from inside the body for years to come.

**STORAGE:** In certain forms and configurations, plutonium is "pyrophoric," spontaneously igniting upon contact with oxygen. If plutonium in larger amounts is packed too closely together, or comes into contact accidentally, a "criticality" can result in explosion and sudden release of radiation. An examination of the Lab's recent history reveals systemic safety deficiencies. In January 2005, the plutonium facility was placed in "stand down" mode due to faulty gloveboxes, taped ventilation ducts and other safety hazards. In March 2005, a federal safety board cited the Lab for storing plutonium in paint cans and food tins. In 1997, the plutonium facility was shut down due to 25 criticality safety violations. Storage problems are severe and chronic.

**EARTHQUAKES:** Livermore Lab sits near numerous faults, including the Greenville and Los Positas faults. The Las Positas fault zone is less than 200 feet from the site boundary. A 1980 quake on the Greenville fault cost the Lab millions in damages, caused a radioactive tritium leak on site, and resulted in a ground fissure opening up near the radioactive and toxic waste storage areas. Storing plutonium in an aging facility near fault zones is probably not a good idea. The final SWEIS for Livermore Lab operations identified 108 buildings that need seismic upgrades.

**TERRORISM / SABOTAGE:** Experts have stated that the plutonium within the Lab's crowded, 1.3 square mile site is not secure and probably cannot be made secure from terrorist attack or internal sabotage. A September 2005 DOE report said that the complex suffered from a "low regard for security-set in

a deeply rooted culture of ingrained behavior, attitudes and values." The Project on Government Oversight reviewed DOE sites with special nuclear material and determined that the plutonium at Livermore could not be adequately defended and should be removed immediately. In light of these and other reports, we are shocked by plans to double plutonium at the Lab.

**SURROUNDING POPULATIONS:** While Livermore was once mainly ranching, it is now a highly dense residential city. Seven million people live within a fifty-mile radius of Livermore Lab, and homes and apartment buildings are near the gates. The plutonium facility is a mere 800 yards from the nearest neighborhood. During a May 2004 hearing, a U.S. Congressman said: "Considering the proximity of Livermore to surrounding residential populations, shouldn't we remove and consolidate these excess [plutonium] materials as soon as possible?"

**HUMAN ERROR:** Incidents like Bhopal and Three Mile Island remind us of the inevitability of human error. Although the Lab has systems in place, when air monitors, alarms, radiation sensors, worker training, packaging, or administrative controls fail, releases can and do occur. In October 2003, twelve workers were potentially exposed to airborne plutonium when (1) a routine power outage occurred causing (2) fine particles of plutonium to leak through a missing glovebox seal, and (3) an alarm failed. The plutonium contamination was not discovered for five days while workers continued to enter and exit the room. In 1996, it was announced that the Lab could not account for nearly 12 pounds of plutonium. Moreover, plutonium has been found in Big Trees Park near the Lab at up to 1000 times the amount that can be attributed to global fallout.

**OTHER PLANS:** Plutonium is not the only health threat from radiation at Livermore Lab. Large amounts of tritium (radioactive hydrogen) have been released. In addition to the plutonium, the Lab is planning to ramp up its activities with tritium and acknowledges that the airborne releases will increase.

**We CAN STOP THESE PLANS: Contact Tri-Valley CAREs, 2582 Old First St., Livermore, CA 94551, [www.trivalleycares.org](http://www.trivalleycares.org), for details**