

1.1 Facility Description

The Laboratory is located in Los Alamos County, in north central New Mexico, approximately 60 miles north of Albuquerque and 25 miles northwest of Santa Fe. The Laboratory is located on 43 square miles of land and is divided into Technical Areas (TAs), which are used for building sites, experimental areas, radioactive waste disposal locations, roads, and utility rights-of-way. These uses account for only a small fraction of total land area, because most land provides buffer areas for safety and security reasons. The community of Los Alamos borders the Laboratory to the north and the community of White Rock borders the Laboratory to the southeast. The surrounding land is largely undeveloped, with large tracts of land being held by Santa Fe National Forest, Bureau of Land Management, Bandelier National Monument, and San Ildefonso Pueblo. Site maps and descriptions of TAs are in Appendix B.

The Laboratory is an R&D institution owned by DOE/NNSA and operated by the University of California. It falls under the Standard Industrial Classification (SIC) 9711 - National Security. The primary mission of the Laboratory is to ensure the integrity and safety of the current United States' stockpile of nuclear weapons and nuclear materials. Supporting this mission is maintenance of the technical expertise and capabilities for any renewed production of nuclear weapons and for the management of nuclear materials to ensure the availability and safe disposition of plutonium, highly enriched uranium, and tritium. Laboratory scientists and engineers accomplish this mission through acquisition of annual funding from various federal departments to support R&D activities and small-scale production activities. These activities include, but are not limited to, the following:

- Inertial confinement fusion R&D, including fusion target physics, laser-target interaction experiments, target design and fabrication, and high-energy laser development;
- Nuclear materials R&D directly related to the nuclear weapons program, including research in materials science and materials development, process and fabrication development, and transfer of technology to the DOE production complex;

- Science-based certification of the nuclear weapons stockpile, including support for integral hydrotests and subcritical experiments, and high performance computing;
- Non-nuclear materials R&D activities, including neutral particle beam, free-electron laser, sensors, communication technologies, high-velocity projectiles, advanced lasers, acquisition and tracking of targets, optics, beam propagation, and high-power microwaves;
- Environmental R&D, including storing and managing radioactive waste, handling hazardous waste, investigating new technologies to address problems associated with waste characterization and cleanup, environmental control technologies, global climate change, ozone depletion, atmospheric science, and basic environmental science;
- Non-nuclear energy R&D activities, including renewable energy, and fossil energy, and energy conservation;
- Basic research in defense- and energy-related disciplines, including atomic and molecular physics, bioscience, chemistry, computational science and applied mathematics, geoscience, space science, astrophysics, material science, nuclear and particle physics, plasma physics, fluids, particle beams, and applied science and engineering; and
- Reestablishing the nation's capability for the manufacture and certification of pits, the central component in nuclear weapons, including reestablishing the manufacturing processes for pits, detonators, beryllium components, neutron-tube target loading, and joint test assemblies; producing, in limited numbers, pits for the W88 warhead; developing and implementing the scientific methodology, based on both experiment and simulation, to certify the pits that are manufactured.

In order to support these activities, the Laboratory operates an infrastructure of industrial-type operations that provide electricity, building and process heating and cooling, general construction and maintenance, and road repair. These activities include, but are not limited to, the following:

- External combustion sources including steam generation for general building heat, process heat, or for electricity generation for local consumption;
- Internal combustion engines such as standby generators to provide emergency power to buildings and operations; and
- Asphalt production for road repair.

Industrial-type activities are responsible for the majority of the Laboratory's emissions of regulated air pollutants. These activities, not R&D nor small-scale production activities, trigger the Laboratory's status as a major source under Part 70.