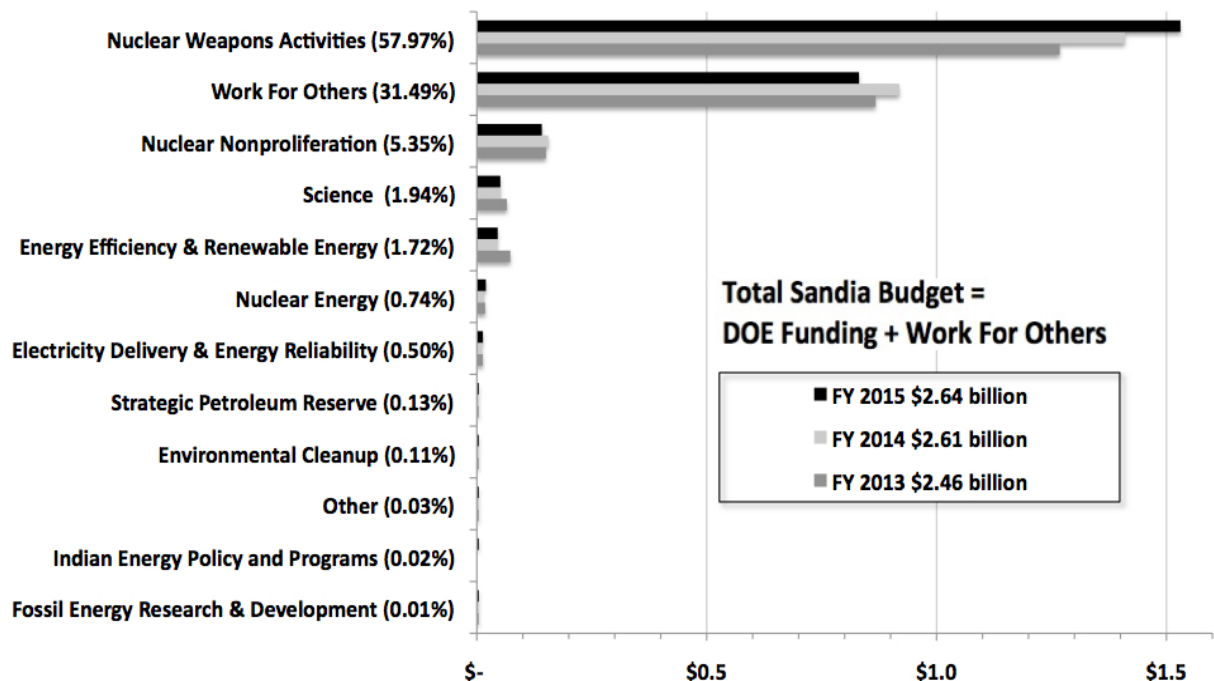


## Sandia National Laboratories 101

There are three major nuclear weapons laboratories in the National Nuclear Security Administration’s (NNSA’s) nuclear weapons complex, Los Alamos (LANL), Lawrence Livermore and Sandia National Laboratories (SNL). LANL was, of course, the birthplace of atomic weapons during the WWII years, while Livermore was founded in 1952 to develop the thermonuclear H-Bomb. Sandia is a direct descendent of the Manhattan Project’s engineering division that turned the devices into deployable weapons that destroyed Hiroshima and Nagasaki. In July 1945, the forerunner of Sandia Laboratory, known as Los Alamos’ ‘Z’ Division, was established at what is now Kirtland Air Force Base on the east edge of Albuquerque to handle nonnuclear components weapons development, testing, and bomb assembly for the Manhattan Project. Sandia became a separate lab in 1949.

Sandia is the most diverse of the three nuclear weapons labs. It is now operated by the for-profit Sandia Corporation, LLC, a wholly owned subsidiary of the Lockheed Martin Corporation. All three directors of the nuclear weapons labs have an inherent conflict-of-interest in that they also act as the presidents of the executive boards of the for-profit limited liability corporations running the labs.

## Sandia National Laboratories FY 2015 Congressional Budget Request



*Here we compare FY 2015 funding request to two prior years. Percents given are of Sandia’s FY 2015 budget. Amounts are in billions of dollars.*

Sandia has an estimated FY 2015 total institutional budget of \$2.64 billion. Of that amount \$1.8 billion is from Department of Energy funding, and \$830 million from “Work for

Others,” such as DoD, CIA, FBI and Homeland Security. Of the DOE funding, Sandia has the largest nuclear weapons program (\$1.53 billion), thanks to the huge Life Extension Program for B61 nuclear bomb (LANL FY 2015 nuclear weapons budget is \$1.4 billion and Livermore \$1 billion). Sandia employs a total of 10,597 people (some part-time), 9,474 in New Mexico, and roughly 4,000 overall in NNSA nuclear weapons programs. Total DOE spending in New Mexico is \$4.56 billion, while the entire State’s operating budget is \$5.88 billion.

**Weapons Complex Engineer:** Sandia tends to fly a bit under the radar, not receiving the attention it deserves. This is probably due to Sandia not being “nuclear” - - instead it takes the nuclear designs of the two other labs and turns them into deliverable weapons of mass destruction. Of the seven types of nuclear weapons in the current U.S. stockpile LANL has designed five and Livermore two. But, Sandia is co-designer for all seven.

Sandia has design and engineering responsibility for more than 90% of the 3,000 to 6,500 nonnuclear components in a nuclear weapon. These components include arming, fuzing, and firing systems; neutron generators that initiate the nuclear chain reaction; tritium gas transfer systems; and “surety” systems that prevent unauthorized use. As the “foreman” of the NNSA’s nuclear weapons complex, Sandia acts as its liaison to the Pentagon, and overseeing the mating of nuclear warheads to Defense Department missiles and bombers.

Sandia examines complete nuclear weapon assemblies in “environmental testing” to make sure they will be able to withstand the extreme environments of vibration, temperature, and radiation. Sandia also studies nuclear weapons “effects,” which concerns the effects of nuclear weapons on other nuclear weapons, to make sure that they are radiation hardened and will operate in the severe environments of a nuclear war.

**Major Facilities at Sandia-New Mexico:** Facilities at Tech Area-I (TA-I) include the recently constructed \$462 million Microsystems and Engineering Sciences Applications (MESA) Complex, which Sandia calls the “cornerstone of 21st century weapons development.” MESA consists of facilities that design, develop and manufacture microsystems for nuclear weapons, using integrated circuit fabrication techniques to make devices such as on-board processors, micro actuators, gears, and action arms fabricated from silicon compounds.

TA-II hosts the Explosive Component Facility, sitting on 22 acres of TA-II, includes over 100,000 square feet of laboratories for R&D work on explosives. The largest of the technical areas, TA-III is the site of large-scale tests and engineering activities such as sled tracks, centrifuges and the Thermal Test Complex, which require safety or security buffers. Other facilities in TA-III include the Mixed Waste Landfill.

TA-IV houses facilities used to conduct R&D activities in inertial confinement fusion, pulsed power, and nuclear particle acceleration, including the Z Accelerator, the Advanced Pulsed Power Development Lab, and a Superconducting Linear Accelerator. TA-V houses facilities that are primarily used for testing electronics, materials, and fissile components for radiation hardness.



*B-61 Nuclear Weapon*