

A Brief History of Los Alamos National Laboratory



UNCLASSIFIED

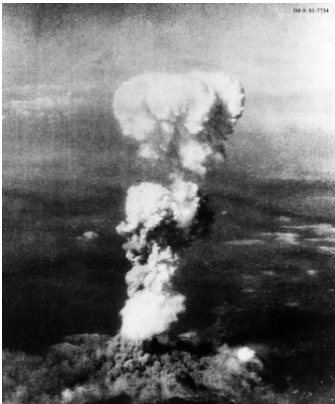
In the Beginning

- Fission was discovered in Germany in 1938
- Einstein warned FDR in August 1939
- On September 1, 1939 Germany invaded Poland
- Japan attacked Pearl Harbor on December 7, 1941
- Los Alamos began operations in April 1943
- Two types of nuclear bombs were completed in 28 months
- The world's first nuclear test was conducted on July 16, 1945
- It achieved a yield equivalent to 21,000 tons of TNT

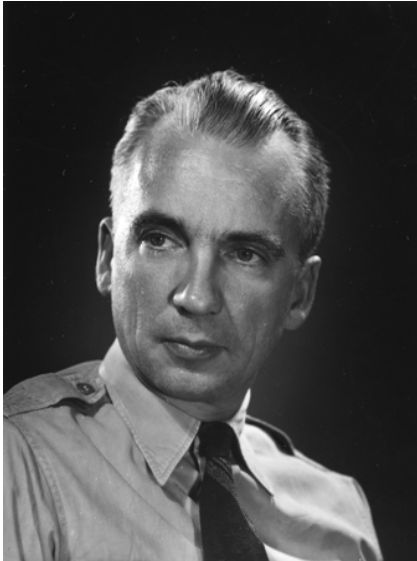


The End of World War II

- On August 6, 1945 Hiroshima was attacked
- 80,000 were killed immediately by the 15 kiloton blast
- On August 8th the Soviet Union declared war on Japan
- On August 9th Nagasaki was bombed
- 45,000 are killed immediately by the 21 kiloton blast
- An armistice was declared on August 14
- Los Alamos received the Army-Navy “E” Award on October 16th



Bradbury's Laboratory



- Norris Bradbury was named Oppenheimer's successor
- His strategy included:
 - 1.) Streamlining business practices and research projects for the postwar interim period
 - 2.) Developing new weapons for the nation's stockpile
 - 3.) Reducing the size of the project as it transitioned to a peacetime footing
- Bradbury served as Director from 1945 to 1970

The “Golden Age” of Nuclear R&D

- The nation’s stockpile grew from two to 31,255 between 1945 and 1967
- During that same time, the United States conducted more than 500 nuclear tests
- The first tactical nuclear weapon was tested in May 1953
- CASTLE-Bravo, the nation’s largest test, achieved a yield equal to 15,000,000 tons of TNT: approximately 1,000 Little Boys



An Expanding Mission

- In the late 1950s, the Laboratory began to diversify its mission
- Research initiatives came to include:

The development of nuclear powered rockets for space exploration (Project ROVER)

Alternative energy projects (hydrogen fuel cells, geothermal and solar energy, etc.)

The development of nuclear verification technologies (Vela, CORTEX, etc.)

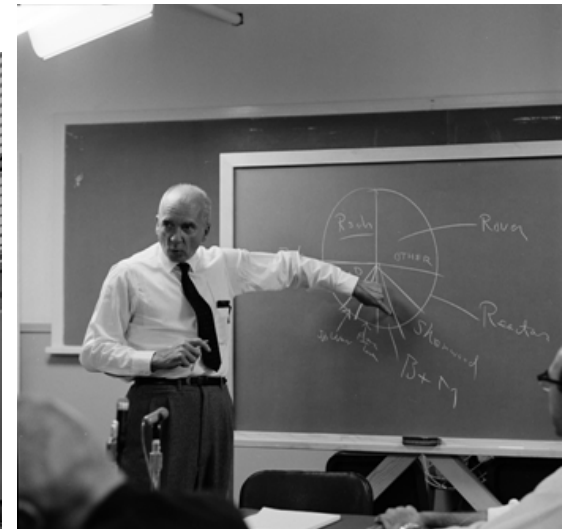
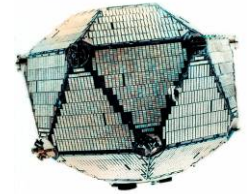
Industrial applications for nuclear explosions (Operation PLOWSHARE)

Controlled thermonuclear fusion research (Project SHERWOOD)

The development of conventional weapons

Health Physics research

Subatomic exploration



Life After the Cold War



- The last US nuclear test was conducted in September 1992



- Science-based stockpile stewardship is now used to ensure weapons reliability
- Supercomputers are used to simulate nuclear explosions and other complex phenomena
- Nuclear proliferation is leading to new threat reduction initiatives
- In June 2006, Los Alamos National Security, LLC (LANL) began operating the Laboratory

Today's Laboratory

- LANL develops and applies science and technology to:

Ensure the safety, security, and reliability of the U.S. nuclear deterrent

Reduce global threats

Solve other emerging national security challenges



2000's
Los Alamos—Coming to Terms with the 1980's

Birthplace of the Bomb now doubles in energy research and is under pressure to change its management habits