

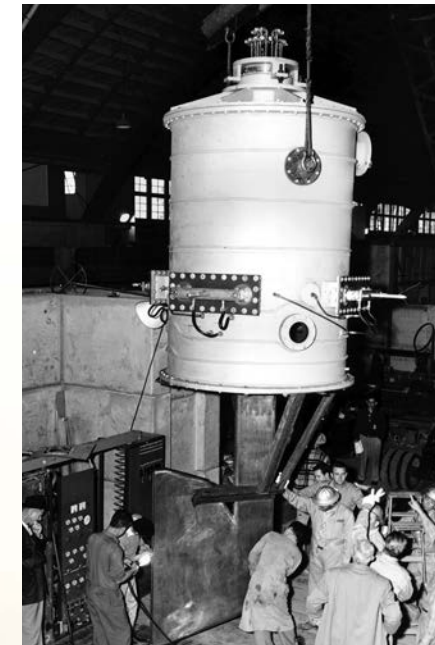
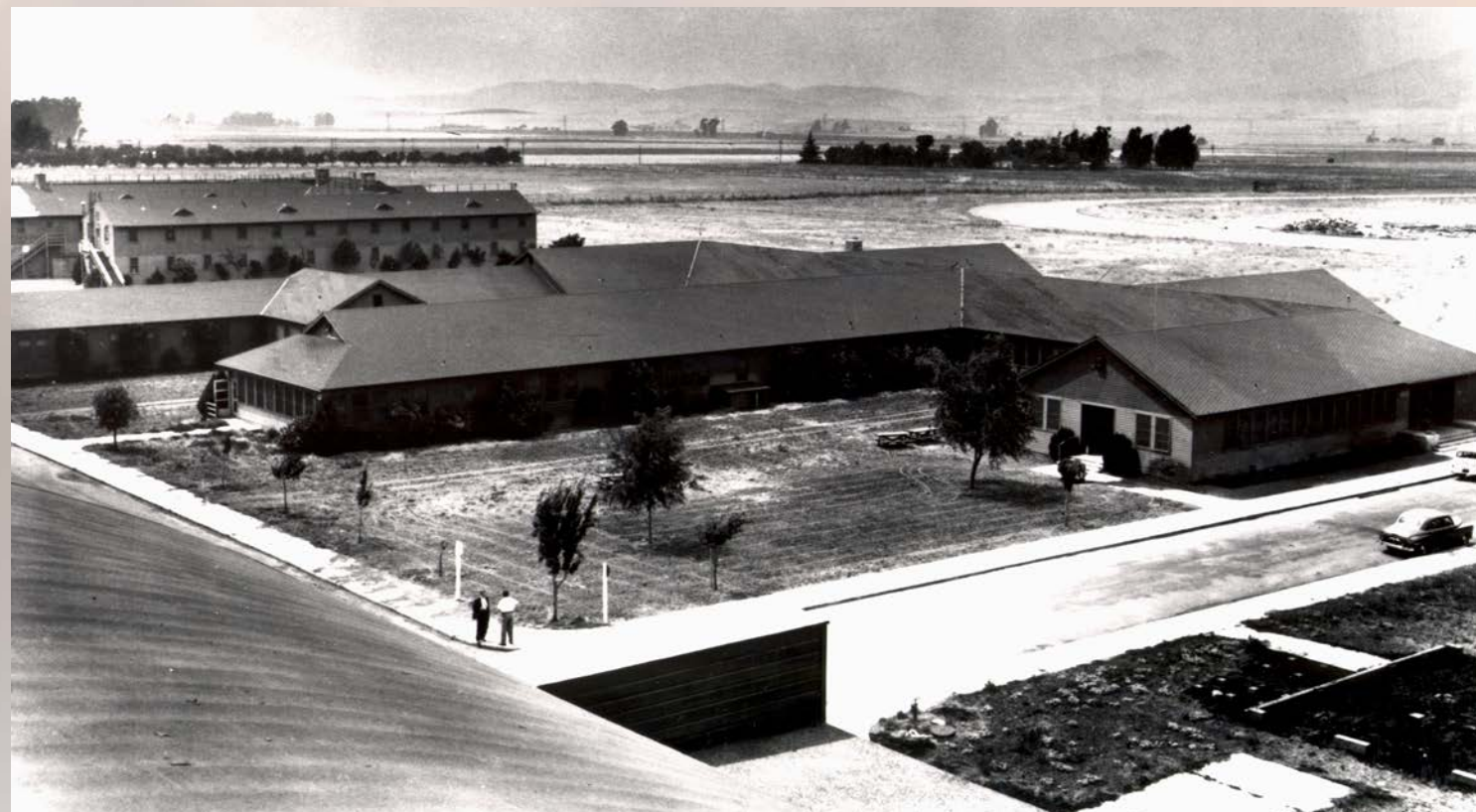
## Team Science in the National Interest

When the Laboratory opened in 1952, the old Navy infirmary served as the administration building, and it housed Livermore's first computer.

The Livermore branch of the University of California Radiation Laboratory (UCRL) at Berkeley opened for operation on September 2, 1952, at a deactivated Naval Air Station. The infirmary at the old air station had been used by a group of UCRL physicists to help Los Alamos with diagnostics for the George thermonuclear test fielded at Enewetak Atoll (Central Pacific) in May 1951. The site also was being used by California Research and Development, a subsidiary of Standard Oil, to build the Materials Testing Accelerator (MTA), a pilot for a larger accelerator to produce tritium and plutonium for weapons. Conceived by Ernest O. Lawrence, founder of UCRL, the MTA project was abandoned in 1954 after the discovery

of large domestic deposits of uranium ore, and the "Rad Lab" took sole possession of the square-mile site.

Working conditions at the Rad Lab were primitive. The staff were housed in old wooden buildings with poor heating and no air conditioning. Initially, they had fewer telephones than promised, no post office box for mail delivery, and, according to the minutes of an early administrative meeting, "The desk lamp situation is very bad." The infirmary building was in the best shape, so Herbert F. York, the first director, and an opening-day staff of 75 located there. York's office was in the x-ray room—it was lead shielded, and he could carry on classified discussions without being overheard.



Two of the Laboratory's first major facilities for nuclear research were the 90-inch cyclotron (far left), which operated from 1954 to 1971, and the Livermore Pool-Type Reactor (left), which was used for experiments from 1957 to 1980.

Establishment of the Laboratory was triggered by the detonation of the first Russian atom bomb in 1949, which alarmed some American scientists who feared a quick Soviet advance to the next step, the hydrogen bomb. Edward Teller and Lawrence, both very concerned, met on October 7, 1949, at Los Alamos to discuss the crisis. The ensuing actions taken by key figures in Washington led to the creation of the Laboratory at Livermore to more rapidly advance nuclear weapons science and technology. Activities began with a sketchy mission statement and a commitment by York and his team to be a "new ideas" laboratory.

York, then 32 years old, was singled out by Lawrence to head the new laboratory. He had co-led the team that worked on diagnostics for the George event. York faced two principal challenges: planning the Laboratory's research program and recruiting the first employees. His plan had four main elements: development of diagnostics for weapons experiments (for both Los Alamos and Livermore), the design of thermonuclear weapons, Project Sherwood (a magnetic fusion energy program), and a basic physics program. Staff recruitment relied heavily



Livermore's first director, Herbert F. York (right), confers with founders Ernest O. Lawrence (left) and Edward Teller (center).

on connections with Berkeley. By the end of 1952, the staff had grown to 300, by the end of the first year of operation to 1,000, and within just five years to 3,100.

Following the lead of his mentor, York established a matrix organization for the Laboratory, a distinguishing feature of Livermore still in use today.

In this approach, experts in various relevant disciplines assemble as a team and work together to understand and solve complex problems. This way of structuring and organizing research and development enables the Laboratory to better reach its mission-directed technological goals. And the rest is history.