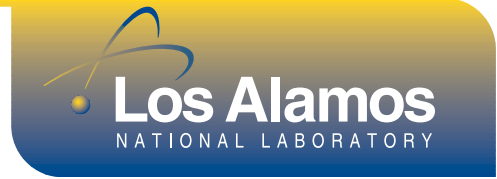


Chemistry and Metallurgy Research Building



The CMR building was completed in 1952 as one of the world's first research and experimental facilities for analytical actinide chemistry, metallurgy and materials. This facility today houses research and experimental activities for analytical chemistry, plutonium and uranium chemistry and metallurgy, and support functions.

At about 550,000 square feet, the three-story CMR building is by far the largest building at the laboratory, although not all of it is currently in use. Initially, CMR consisted of six laboratory wings and one administration wing. In 1959, a seventh laboratory wing was added with heavily shielded hot cells with remote handling capabilities.

CMR is the only facility with full capability for analytical chemistry and metallurgical studies on small samples of plutonium and other special nuclear materials in support of Department of Energy nuclear programs. Processing and other operations involving larger amounts of plutonium take place at Technical Area-55 in the Plutonium Processing Facility. Analysis performed at CMR on plutonium samples is critical to DOE defense programs in assuring that plutonium specifications are met for pit production and testing.

CMR analysis also plays an important role in surveillance of stockpile pits. In addition, CMR houses key capabilities in analytical chemistry, uranium processing, destructive/non-destructive analysis of nuclear materials, actinide research/processing and metallography.

These capabilities support DOE programs in non-proliferation and nuclear safeguards, counter-proliferation, stockpile surveillance, nuclear materials technologies, basic chemistry, environmental stewardship, medical radioisotopes and technology development for waste treatment and minimization. At the time it was built, the building represented the highest standards in instrumentation and engineered safety controls.

Over the years, regulatory standards have required extensive upgrades to CMR. Beginning in the mid-1990s, the CMR Upgrade Project brought electrical, ventilation, fire safety and other key systems up to current safety standards, maintaining regulatory compliance for key stockpile stewardship work during planning for a smaller replacement facility. Upgrades were completed ahead of schedule in the spring of 2002 for \$15 million below the final budget estimate of \$106 million (original estimate \$174 million; final estimate \$106 million;

actual cost \$91 million, allowed return of \$15 million to DOE.) The upgrade project required 150,000 labor hours, which were performed with no illnesses or injuries, and earned six awards for preventing more than \$8 million in potential waste, along with a DOE award for Excellence in Acquisition.

The laboratory recently has developed plans and defined the mission requirements for a new building to replace the CMR Facility. In July 2002, Los Alamos received approval to begin conceptual design and prepare an Environmental Impact Statement for a replacement facility capable of conducting today's mission with improved safety and security. In early planning, the lab is examining the feasibility of locating the new building at Technical Area-55 to facilitate security consolidation.

Plans are focusing on roughly 45,000 net square feet of nuclear laboratory space, resulting in a gross area of 200,000 square feet. The new laboratories would include capabilities for actinide analytical chemistry, actinide materials characterization and actinide research and development. Preliminary plans also include a separate support building that includes 20,000 net square feet of radiological laboratory, utilities and office space.





Los Alamos National Laboratory is operated by the University of California for the U.S. Department of Energy's National Nuclear Security Administration