

Ion Beam Laboratory

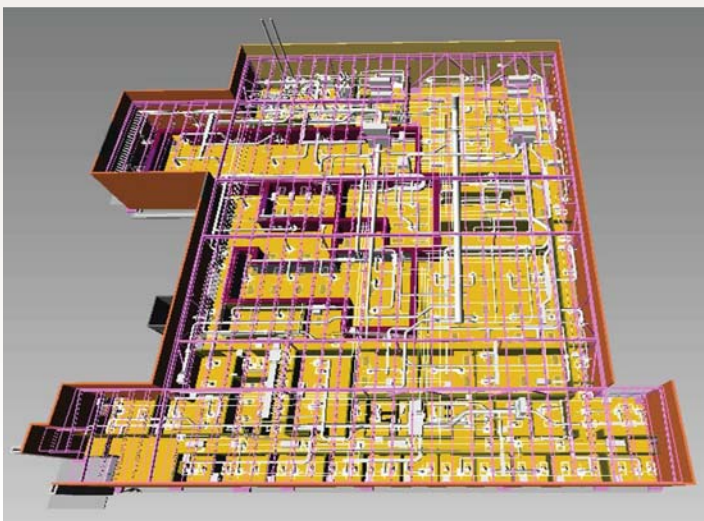
The new Ion Beam Laboratory (IBL) at Sandia National Laboratories (SNL) has unique standalone capabilities within the Department of Energy (DOE) and the National Nuclear Security Administration (NNSA). It uses accelerated ions for a breadth of scientific activities for the nuclear weapons (NW) mission of the NNSA. The IBL is a state-of-the-art facility for irradiating samples with ion beams. Scientists use these ions in experiments to analyze material composition, modify materials, and apply highly localized and quantifiable amounts of virtually all types of radiation to samples.



The Ion Beam Laboratory at the intersection of K and 18th Streets.

Currently, the IBL performs scientific measurements critical to nuclear-weapons development. These measurements include microscopic diagnostics of the radiation sensitivity of integrated circuits (ICs), calibrations of lead probes, and War Reserve certification of tritium content in neutron-tube targets not performed anywhere else in the NW complex. Further, IBL work supports scientific studies of materials properties under both science and engineering campaigns.

The IBL (designated Building 720) contains approximately 27,000 gross square feet of light high-bay laboratory and office space, as well as a new accelerator and implanter.



A Building Information Model (BIM) of IBL.

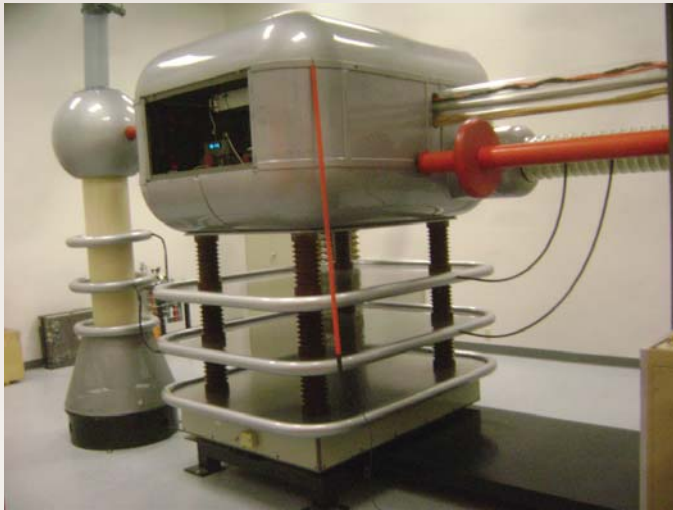
The project to build and equip the IBL is 94% complete as of February 28, 2011 and is currently seven months ahead of schedule. Operations in the former Ion Beam Laboratory (Building 884) ceased on May 7, 2010, after moves of critical equipment. The critical-decision-4 (CD-4) milestone, Approve Start of Operations, is scheduled for September 1, 2011. All activities remain ahead of schedule, and the IBL project will be completed under budget and ahead of the CD-4 baseline schedule by seven months.

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An accelerator weighing more than 100,000 pounds is moved into the IBL Tandem Vault from Building 884.



HVEE Implanter.



Accelerator vault room.

The project also achieved Gold certification in the Leadership in Energy and Environmental Design (LEED®) green building certification program of the U.S. Green Building Council®, and is the first SNL LEED-Gold-certified laboratory in New Mexico.

Two SNL construction partners, Summit Construction (which handled building design and construction) and the J.B. Henderson Construction Company, Inc. (which handled equipment moves), have an excellent safety record on the project. Thousands of man-hours have been logged to date on the project without incurring any Occupational Safety and Health Administration (OSHA) lost time or recordable accidents. In addition the project has had no DOE or NNSA occurrences, audit findings, or monetary SNL construction-safety deficiency notices.

For more information about the IBL, please call or send an email message to either of the following project representatives:

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