Los Alamos Neutron Science Center (LANSCE) Accelerator News:
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The LANSCE accelerator (originally called LAMPF) is currently +40 years old. Full beam power was achieved in 1978. Like FERMI and SLAC, RF equipment, vacuum systems, computer control, injection technology, initial acceleration, water cooling etc. is quite out of date compared to modern technology. The net result is that beam delivery time suffers from system failures.

Los Alamos National Laboratory has decided that LANSCE is quite important to its' future and the groundwork has been laid to begin a LANSCE refurbishment called LANSCE-R. The LANSCE-R project will focus in three primary areas:

1) Modernizing the drift tube and side coupled linac RF power systems (mainly klystrons),
2) Update the accelerator instrumentation and control systems based on late 60s/early 70s technology,
3) Renovating certain mechanical systems such as water cooling, drift tube spares, etc..

"Area A" at LANSCE used to be the primary nuclear physics experimental area. The Area A beamlines and experimental equipment are being completely removed during the next 6-8 months to make way for a radiation damage experiment facility called the Materials Test Station (MTS). This facility will provide the high intensity radiation dose rates needed to study the next generation of fision and fusion reactor materials.

LANSCE has designed and is in the process of building a new "Mark III" target for the Lujan Neutron Scattering Center. Based upon the lessons learned from past target experience, the tungsten target will be clad thus eliminating much of the water borne radioactivity. In addition, the lower section of the target will provide a higher neutron flux to the liquid hydrogen moderator.