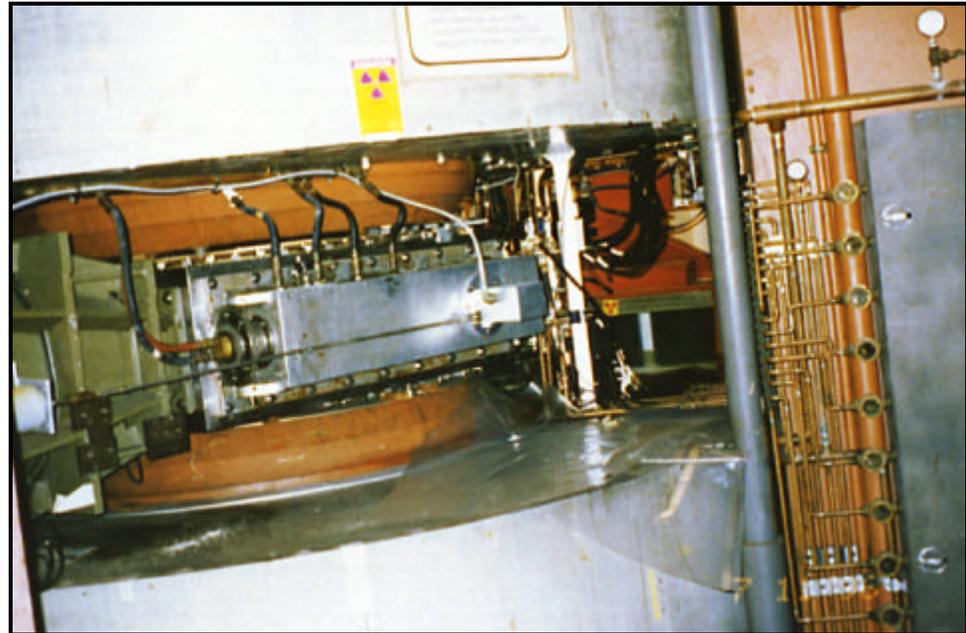

Future D&D Projects

60" Cyclotron D&D Project

Argonne's 60" Cyclotron in Building 211 was a fixed frequency machine built in 1952 to conduct basic research. It has had a rich history, meeting widely diversified operational requirements, and producing deflected beams of deuterons, helium ions, singly charged hydrogen molecules and neutrons of a broad energy spectrum. Early work encompassed fields of heavy element chemistry, nuclear activation studies, nuclear scattering, solid state physics, radiation chemistry, isotope production and biological studies. Argonne's Nuclear Medicine Group was a significant later user of the facility; other users were the Argonne Physics Division and Oak Ridge National Laboratory. Operations ended in 1992.

The purpose of this project is to decommission the 60" Cyclotron and permit the release of the facility for unrestricted use. To accomplish this, the cyclotron will be disassembled, size-reduced and segregated. All radioactive materials associated with the facility will be disposed of at an approved facility.



Building 301 Hot Cells D&D Project

The hot-cell facility in Building 301 was placed into use in the early 1950s to perform a variety of radiological research experiments for the U.S. Department of Energy. Limited documentation is available which describes the work conducted in the facility. It is known that research and development of nuclear reactor fuel components and materials was conducted. The eight caves contained within the hot cell facility were phased out in 1971 because they were obsolete and deteriorating. The interior of the caves received a preliminary cleanup, but significant levels of fixed contamination within the painted floor, walls, cells and equipment remains spread throughout the facility. From 1971 until it was taken out of active use in 1992, the hot-cell facility was used for non-radiological experimentation.

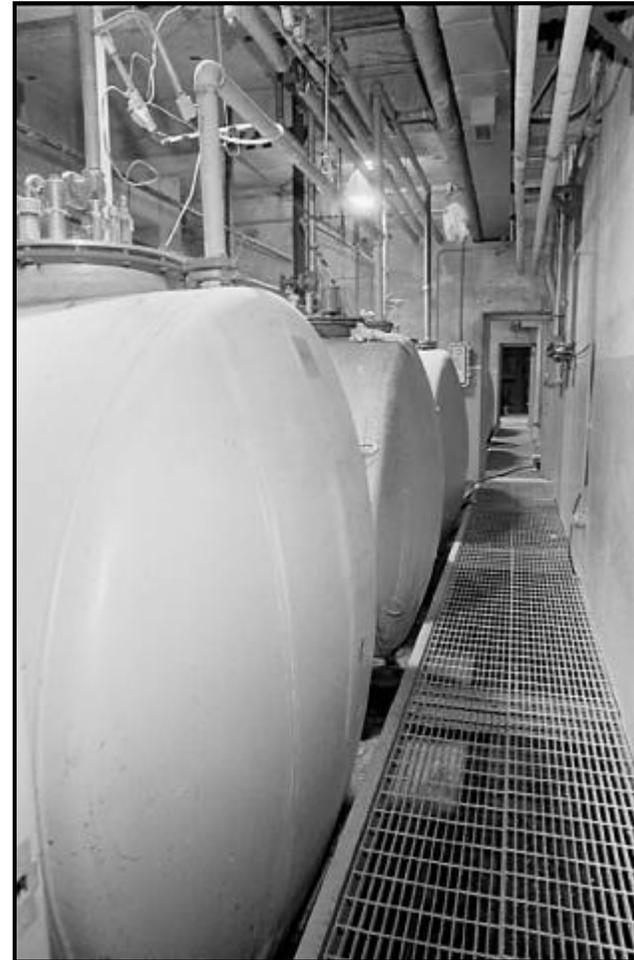
The scope of this project includes cleaning or dismantling radioactively contaminated equipment and disposing of it. The hot-cell area and other contaminated areas will be decontaminated and removed to permit the area to be released for unrestricted use, and the cave structures, retention tanks, and ventilation systems will be demolished.



Building 310 Retention Tanks D&D Project

The ANL-E Building 310 service floor retention tank facility was originally installed more than 30 years ago. Even though the Building 310 tanks were installed for excess storage capacity for the adjacent Building 306 tanks, they were infrequently used for this purpose. The facility consists of three rooms containing three tanks each, and a larger room containing one tank, for a total of ten tanks. The tanks have not been used since 1975, when it was decided that the excess capacity was no longer required.

During project planning, which was completed in FY 1997, the option of recycling the tanks was chosen over size reducing, segregating, packaging and shipping them to a disposal site. D&D field activities will consist of decontaminating and removing the piping associated with the retention tanks. After excavating the access and pipe tunnels, and an area to enable removal, the tanks will be pulled out of the building and shipped to a decontamination/recycle center.



ZPR D&D Project

The Zero Power Reactors (ZPR) 6 and 9 in Building 315 were low-power, experimental reactors utilized for reactor physics studies from the early 1960s until 1982. Uranium and plutonium fuels were used to study the neutronic properties of reactor assemblies. Each reactor is in an individual, blast-resistant, concrete cell. Shield walls separate the cells from their control rooms; between the cells is a separate work room used to load fuel drawers. The facility is no longer in use; it is contaminated with low-level radioactivity.

The purpose of this project is to decommission ZPR-6 and ZPR-9 and permit the area's release for unrestricted use. To accomplish this, the reactors, process systems and associated equipment will be cleaned or dismantled and disposed of properly.



ATSR D&D Project

The Argonne Thermal Source Reactor (ATSR) in Building 316 operated from 1953 to 1988. ATSR is a highly enriched, light-water moderated thermal reactor dating back to Argonne's first zero-power reactor (ZPR-1). It was used as the source of a broad range of neutron energies and intensities for irradiating materials and testing nuclear instrumentation. The facility was defueled in 1992 and remains contaminated with low-level radioactivity.

The purpose of this project is to decommission the ATSR facility and permit its release for unrestricted use. To accomplish this, the reactor, process systems and associated equipment will be cleaned or dismantled and disposed of properly.



Juggernaut Reactor D&D Project

The Juggernaut Reactor in Building 335 was a light-water moderated and cooled, graphite-reflected research reactor with a rated thermal power of 250 kW. It operated from 1962 through 1970. The purpose of the facility was to provide neutron flux levels of medium intensity for research and development experiments for the fast reactor development program. At the time of reactor shutdown, the reactor fuel was removed and all systems were drained.

Only the high bay area of Building 335 housing the Juggernaut Reactor, the pump room, and the pit are covered by this project. The scope of this project includes the disassembly, size-reduction, segregation, packaging and disposal of all radioactive materials associated with the facility. After the removal of all radioactive materials, the facility will be decontaminated to levels that allow its release for unrestricted use.



Building 579 Waste Ion-Exchange Facility D&D Project

The Waste Ion-Exchange Facility was used to process slightly contaminated waste fluids from a collecting lagoon. Constructed in the 1950s, it is no longer in use today, but remains contaminated with low-level radioactive material. The unit consists of a cation exchange column, mixed bed column, and associated regeneration and operating equipment. The ion-exchange equipment was connected to the collecting lagoon, equalization tanks and Building 575 distribution pit by underground piping.

The scope of this project includes the decommissioning of the equipment and drainage systems in the Waste Ion-Exchange Facility to permit the demolition of the building.

