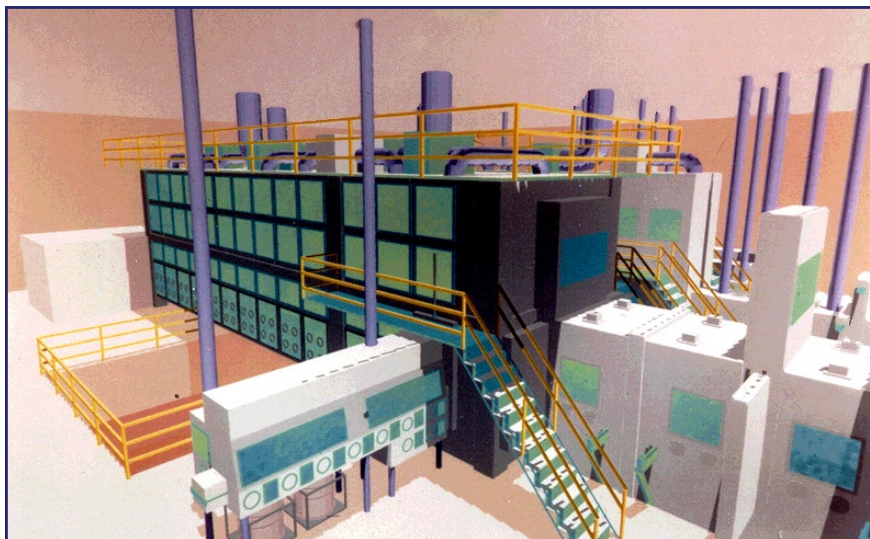


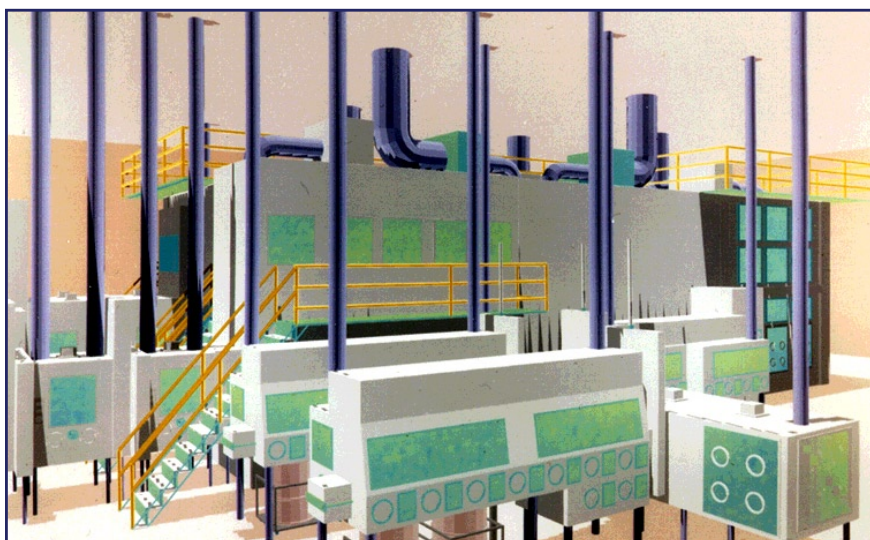
■ ENGINEERING ■ ARCHITECTURE ■ DESIGN-BUILD ■ GEOSPATIAL SOLUTIONS ■ SURVEYING



Merrick & Company performed the conceptual, Title I/II design of a new \$50 million waste characterization facility at the INEL Radioactive Waste Management Complex (RWMC). This RCRA-permitted facility was designed to provide opening, sampling, characterization, and repackaging of waste drums and boxes while providing the capability to support RWMC operations. The Waste Characterization Facility (WCF) project design complied with all applicable DOE orders including DOE 6430.1A, as well as NEPA requirements. The WCF was a Major Systems Acquisition (MSA) project, performed under an ANSI NQA-1 quality assurance program.



Mixed transuranic (TRU) and solid low-level waste (LLW) was stored above ground in air-supported buildings and on asphalt pads at the RWMC. The focus of the RWMC operations was to retrieve these wastes and process them as necessary for certification, shipment, and disposal at the Waste Isolation Pilot Plant (WIPP). The WCF was designed to accept Contact Handled (CH) TRU waste for sampling, characterization, and repackaging to meet the WIPP acceptance criteria.



Merrick designed the custom remote equipment for handling, opening, and size-reducing waste containers including numerous box and drum configurations, as well as bagout systems and double-door seal designs for repackaging and removing waste from the cells. Waste characterization/sampling equipment and instrumentation systems for remotely analyzing and documenting container contents were included in the design.

In addition to the characterization cells and alpha confinement enclosures, the 35,000 sf facility included a full analytical chemistry laboratory, an experimental pilot scale treatment process and equipment mockup area, a shipping and receiving area, and a utility building. The facility employs a passive safe shutdown system and incorporates two levels of confinement structures and three differential pressure HVAC zones.