

## LANL Pit Manufacturing Project

A Pro2Serve team assisted Los Alamos National Laboratory (LANL) in start-up and operations activities for pit manufacturing. Pro2Serve provided nuclear weapons engineering, scientific, and project management support for major Stockpile Stewardship Program (SSP) initiatives such as quality assurance for pit manufacturing and certification, and technology review of manufacturing process readiness. Pro2Serve also assisted in selecting and prioritizing facility and manufacturing methodology upgrades, which will ultimately be incorporated into the next generation pit manufacturing facility.

The team executed a number of conceptual design and feasibility studies and reviews to identify applicable legal, contractual, and regulatory requirements related to the project and to ensure that designs are producible and efficient. In the operations support arena, the team implemented management policies in compliance with environmental regulations and permits; developed a technology roadmap and used gap analysis to identify areas to support facility qualification; and mentored personnel to support safeguards and security needs via the implementation of a formal conduct of operations program and movement to a requirements-based culture. They also evaluated and assessed manufacturing equipment, processes, and procedures to determine operational readiness.

A major Pro2Serve activity was assessment of compliance with the product design requirements, execution of Process Qualification Plans (PQP), QC-1 quality criteria, Conduct of Operations, and Product Qualification Requirements (PQR).

The technical approach was structured to establish necessary and sufficient compliance with product design requirements, specifications, and tolerances; process qualification plans; state of performance capabilities, and product quality certification. The team reviewed the Qualification Plan and its supporting documents to ensure that the program met the requirements of QC-1; Development and Production Manual; Technical Business Practices and DOE/AL Quality Assurance Manual.

Pro2serve quality engineers assessed compliance with the product design requirements and reviewed available documentation to determine that all manufactured components consistently met the design agencies design intent. Pro2serve product engineers developed the production travelers and routers to the degree of rigor and formality necessary to comply with the Design Agencies design intent and DOE's orders and requirements.

Pro2Serve provided technical systems analyses and identified contingencies, alternative approaches, and corrective actions necessary to accelerate schedule, minimize cost and ensure project success. Team members independently evaluated and assessed the quality programs supporting pit manufacturing and the implementation of these programs by the respective line organizations.

Pro2Serve's was recognized by LANL management for its contributions to the Laboratory's achievement of delivering the first qualified pit manufactured at the facility, achieving a major stockpile stewardship milestone.

