



LANL Nuclear Material Safeguards and Security Upgrades Project

When faced with the seemingly insurmountable task of upgrading the physical security system serving its entire 40 square-mile site without any interruption to operations or increased vulnerabilities during construction and cutover, Los Alamos National Laboratory called on Pro2Serve for assistance. Pro2Serve prepared a feasibility study and conceptual design for a multi-phase line-item construction project, NMSSUP, which fully addressed the extensive scope, complexity and logistics of this project to replace the Laboratory's physical security system. The project requires a full range of engineering, design, construction services, and skills mix to ensure that the existing system remains operational while the new system is installed, tested, and cutover. Pro2Serve subsequently provided programming support, detailed design, and construction management oversight support to Phase I of the project.

NMSSUP Phase I, completed in January 2005 with a total estimated cost of \$61 million, included installation of a new, centralized security control system and associated facility and communications infrastructure. Pro2Serve performed a site-wide investigation of the active Security Subsystem to assess the functions and operations of the system, performed vulnerability assessments, and documented and verified the existing hardware and infrastructure. Pro2Serve evaluated commercial, industrial, and government control systems for use at LANL. Argus, a system developed and maintained by Lawrence Livermore National Laboratory for the U.S. Department of Energy, met more of the criteria specified than other systems and was selected for deployment at LANL.

The Facilities Subsystem addressed the requirements for the central control center, secondary control center, and support facilities. Pro2Serve provided design services for high end computational and communications facilities, assessed the existing control centers, and provided threat mitigation, vault-type room design, configuration of the new facilities, specification of hardware requirements, and conversion of the existing facilities to meet the functional and operational requirements.

The Communications Subsystem included the backbone infrastructure for the security system communications. Pro2Serve designed fiber-optic communications links between field processors, the host computers, and Closed Circuit Television systems, as well as redundant communications and threat mitigation.

The second phase of the project, NMSSUP II, is a \$160M upgrade of the perimeter intrusion detection and assessment system (PIDAS), interior intrusion detection, assessment, and access control system infrastructure currently in use at LANL. Pro2Serve was selected through a full and open competition to provide detailed design and construction management oversight support to this security upgrade at one of the nation's key nuclear facilities.

