North Las Vegas Facility Set for Energy Upgrades

With the recently dedicated B3 building already in full operation, the National Nuclear Security Administration Nevada Site Office (NNSA/NSO) and National Security Technologies (NSTec) are once again gearing up to prove their commitment to energy conservation.

The energy-efficient technologies used in converting B3 to green status will be incorporated in a series of upgrades beginning later this year at several North Las Vegas facility buildings. Air unit and Energy Management Systems (EMS) upgrades will be performed at Building C1. Similar changes are proposed for other buildings to conserve energy across the facilities, says Raymond Nichols, Zone 3 manager.

Aging air conditioning units will be replaced and automation systems are being upgraded to a more modern EMS configuration of computer software. Eventually all facilities will be connected through one monitoring and management system.

"We began upgrading our EMS between 1990 and 1995, but this will bring us up to 21st century standards," Nichols says. Like B3, buildings such as C1, A1 and A2 eventually will be upgraded with EMS that can be controlled remotely. Temperatures would be adjusted automatically throughout the day.

The extensive renovations to B3 were designed to Leadership and Energy in Environmental Design (LEED) standards, and the building is expected to qualify for the prestigious LEED Silver designation. Other green features that control heating, cooling and lighting are expected to optimize energy efficiency at B3 by more than 17 percent.

The C1 project should begin during the first quarter of FY09. Workers will replace some 117 air conditioning/heat pump units – most that are more than 18 years old, says Roberto Reece, NSTec facility specialist.

"Due to the age of the units, the C1 project is a preventive approach," says Reece. Energy savings there could top 15 percent. "In addition we gain energy management control of the units. We can shut them off when we want."

Zone 3 maintenance personnel already have started installing electric meters on buildings. The installation of gas, water and electricity meters will help monitor and trend consumption data. Completion of the new system at other facilities will take some time, but

maintenance and upkeep will be significantly easier with the new technology, says George Price, NSTec general lead mechanic.

"It will enable remote detection of system failures, pinpoint specific problems and allow for prompt repair," Price says. Adds Tom Bixby, maintenance superintendent: "The new system also will provide savings and cost avoidance, especially in the area of trouble shooting."

The technology will be so specific that temperatures can even be set to be raised and lowered, lights shut off and other systems shutdown during weekends or low-use, Nichols says. The North Las Vegas upgrades will serve as the model for other upgrades currently projected for facilities at the Nevada Test Site (NTS).

"The new renovations at other buildings will provide an opportunity to tie all of our energy needs together across the facility. Further, it allows the Department of Energy and NNSA/NSO to take the lead in energy conservation," Nichols says. "All of these efforts will lead to significant across-the-board savings."