XDX helps improve food storage and reduce energy costs at Army base

FORT IRWIN, Calif. ─ In the middle of the Mojave Desert, U.S. Army Soldiers stationed at Fort Irwin battle harsh conditions — temperature swings of 60 degrees in a day's time, highs reaching 125 degrees Fahrenheit, extreme winds and flash floods.

A bright spot for Soldiers are the facilities provided by the U.S. Army Family, Morale, Welfare and Recreation Command (FMWR) — recreation, dining and entertainment venues where military personnel and their Families can relax and have fun together. And like the conditions at Fort Irwin are harsh for the Soldiers, they also pose challenges for the facilities operated by FMWR.

A cutting edge technology installed by XDX Innovative Refrigeration of suburban Chicago is helping combat some of those challenges by improving the performance of refrigeration equipment — helping the FMWR provide patrons a higher quality of food while saving energy at the same time.

"The role of FMWR is to enhance the lives of Soldiers, their Families and others," says Parker Bradley, former Director of Families, Morale, Welfare and Recreation. "This solution helped us meet that goal. We were able to save money on our energy costs, and more importantly, preserve the quality of the refrigerated foods we serve."

Bradley shares just one example of the refrigeration challenges: "We had one storage freezer that is exposed to the outdoor ambient in extreme heat. Every time the door opened, the temperature swings were dramatic, as was the humidity build-up on the ceiling. Ice would form on the coil housing and drain pan, with ice droplets on the ceiling. And we had to do four defrost periods every day."

Problems like these were eliminated after XDX products were installed on numerous walk-in coolers and freezers at each FMWR facility.

An operational analysis conducted over several weeks found a number of significant benefits, including:

- An energy savings of 19.9 percent
- The ability to control temperatures, with a proven reduction of 15 degrees in each unit
- A reduction in defrost cycles, to one per day
- Reduced frost inside the unit for improved product quality
- Consistent and improved humidity
- Improved equipment oil return and temperature, which will extend the life of the equipment and reduce capital expenditures

"The results were impressive," says Bradley. "We reduced energy usage more than 20 percent, and when you take into consideration the energy reduction from fewer defrost cycles, the savings are even greater. And anytime you use less energy, you're preserving precious resources and having less of an impact on the environment."

Bradley estimates the equipment paid for itself in 10 to 12 months. No new capital equipment was required, and the equipment was installed with minimal effort. And the extended equipment life and longer product life add to the energy savings.

“We were able to reinvest that savings into upgrading some of our equipment,” says Bradley. “We were very happy with the return on our investment.”

An added benefit to the XDX installation was the rebate the FMWR received from its energy provider, California Edison. As part of an incentive program for its Standard Performance Contract (SPC) rebate program, FMWR was eligible for rebates based on energy savings. The results of the savings made possible by XDX were verified by California Edison and the base received a substantial credit to its utility bill.

While the initial XDX installation was made several years ago as an energy saving measure, the system is proving its sustainability by delivering results today.

“The U.S. Army strives to be on the forefront of innovative and sustainable technologies like this one, and we’re happy to report it’s still having an impact on our operations today,” says Silvia Berglund, current Director of Family, Morale, Welfare and Recreation at Fort Irwin. “It’s important that we’re able to conserve energy while improving performance. And of course, the end result is that we’re able to continually provide exceptional support for our American Soldiers.”

XDX Innovative Refrigeration is committed to leveraging its industry-leading technology to help customers reduce energy and maintenance costs, increase food safety and meet environmental initiatives. Installing XDX green technologies is one of the energy saving measures (ESMs) in a LEED certified building. Celebrating its 10th anniversary in 2009, the firm is based in suburban Chicago. Our award-winning and scientifically proven technologies have been installed by a multitude of clients in dozens of industries, including HVAC, foodservice, medical, entertainment, food manufacturing, hospitals and healthcare facilities, schools, colleges and universities. For more information, visit www.xdxusa.com.