

feeds the base's absorption chillers for air conditioning in summer, when temperature in the base's Mojave Desert climate can reach 120° F. In winter, when the base experiences temperatures into the low 30s, the hot water augments boilers for heating.

The project included a 7,200-square-foot turbine hall, a 3-mile high-pressure natural gas fuel line, and connections to the electrical substation feeding critical base electricity loads. The work also included new fiber-optic communication cabling to connect the cogeneration plant with monitoring and control equipment at the substation.

Making a Brighter Future

The next phase of the project is a \$51 million ESPC that includes the 1.1 MW photovoltaic system, an 8-acre installation that takes advantage of the base's 360 days of annual sunlight. The work also includes:

- Three central chilled-water plants and distribution systems providing 3,000 tons of initial cooling capacity and ultimately 5,700 tons,

- A Metasys® building automation system for base-wide energy management,
- Skylighting and daylighting in 12 warehouses, and,
- A \$1.6 million annual service contract.

The total ESPC is expected to save the base \$6.9 million per year for 20 years—a total savings of \$138 million.

“What makes this project especially interesting is the large, quantifiable energy savings the installed hardware will generate for us,” says Wayne Hofeldt, energy manager for MAGTFTC.

“In addition to the energy savings, we are capturing the budget dollars saved by the energy measures and reinvesting them into infrastructure improvements. For example, the energy savings are

paying for three new chiller plants to service a chilled-water distribution loop that will replace many aging air-cooled units. Because many buildings will be served by the same modern, efficient system, we will also save on maintenance every year for the foreseeable future.”

Johnson Controls is a Fortune 150 company based in Milwaukee, WI, with full-service offices in San Diego and most major cities around the world. The company offers a wide range of facility-related products and services and has more than 770 active performance contracting projects in North America.

*For more information, call Chuck Strand at 858-614-8500 or visit www.johnsoncontrols.com. **

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Under a comprehensive facility systems project, Johnson Controls upgraded five chiller plants on the base and installed a \$16 million, 7 MW dual-fueled cogeneration system.