EGLIN AIR FORCE BASE

VALPARAISO, FL

PROJECT SIZE

5,000,000+ sq. ft.

200 buildings

$59.5M

CONTRACT METHOD

ESPC

Eglin Air Force Base (AFB) was seeking to increase resiliency and enhance mission capability through energy assurance while reducing energy consumption and improving energy efficiency. Eglin AFB partnered with ESG to install a wide array of energy conservation measures to assist them in reaching their goals.

SOLUTION

Phase I

- Energy Management Controls System (EMCS) Improvements
  - Provided front-end building controls optimization via the implementation of revised schedules and setbacks on the existing EMCS in 22 buildings
- Lighting Upgrades
  - Replaced existing interior and exterior lighting with light-emitting diode (LED) technology and upgraded existing lighting controls to maximize efficiency, replaced existing lighting fixtures with over 100,000 LED lighting retrofits or replacements, 6,000 occupancy sensors, fixtures, and Unified Facilities Criteria (UFC)-compliant luminaire conversions in over 200 buildings and the airfield apron
- Building Envelope Improvements
  - Resealed 30 buildings to limit infiltration of outside air
- Piping Insulation Improvements
  - Added new insulation in 14 buildings for steam, hot water, and chilled water piping
- Step-Down Transformer Replacements
  - Replaced 149 inefficient step-down transformers that were near or past their expected life with new, high-efficiency models for 50 buildings

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PROJECT SCHEDULE

9/28/2018-12/30/2021

SAVINGS INFORMATION

Reduced CO2 emissions by 13,886 tons annually

58,588,731 kWh/Yr Electric Energy Savings

Over $1.1M in energy and operational savings annually

SOLUTION (CONT.)

Phase II

- Solar PV Installation
  - Installed a total of 4.47 MWdc ground-mounted solar PV arrays at two sites at Eglin AFB as well as added new metering devices
- Combined Heat and Power (CHP) Installation
  - Installed an 800-kW CHP system to provide power and chilled water during normal operation. Upon loss of utility power, the CHP operates to provide emergency power via three microgrids for additional resilience to one of Eglin AFB's most mission-critical buildings
- Distributed Generation Installation
  - Installed one reciprocating internal combustion engine to serve eight buildings and a second engine to serve another building. The engines operate continuously during normal operation to provide prime power. Upon loss of utility power, both engines provide emergency power
- Continuous Commissioning
  - Performed a Niagara software upgrade at the server as well as replacing or upgrading 196 enterprise network controllers (ENC). Performance period services include on-site support staff who utilize EMCS Niagara, Sensus, and Engine SCADA software applications to monitor energy consumption and operational data at buildings included in the ESPC scope of work

RESULTS

As a result of the partnership with ESG, Eglin AFB now has reduced their electric consumption, CO2 emissions, and energy and operational costs. The base has met their goals of increasing resiliency, enhancing mission capability through energy assurance, reducing energy consumption, and improving energy efficiency.

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