

INSIDE THE IMPLEMENTATION OF THE HILL AIR FORCE BASE ESPC

BY JOSHUA BURNETT

Energy Systems Group (ESG) is an accredited Energy Service Company (ESCO) that provided energy savings performance contracting (ESPC) services to three federal agency projects that were recognized by the Department of Energy (DOE) Federal Management Program (FEMP) in 2019. Two of these occurred on Air Force bases (AFB): Hill AFB in Utah and Eglin AFB in Florida.

Robert Phillips is the lead ESG operations manager for the Hill AFB ESPC. Phillips and his team, led by project manager Pat Roemer, strategized, scheduled, and executed the implementation of the seven Energy Conservation Measures (ECM) that make up the 91.1 million-dollar project.

The planning phase involved strategically drafting both a short and long-term schedule that governed both

overall installation efforts as well as timelines for each piece of the project. Roemer recognized that, although the entire ESPC effort was a single venture, it consisted of seven mini-projects, each with its own schedule, points of contact, specifications, and budget. He treated each ECM as a standalone project, approaching the overall undertaking as if it was a puzzle. Roemer and his team utilized the critical path method to determine how all of the pieces would fit together most efficiently.

Throughout the planning process, one of the crucial factors the team had to incorporate into their plans was how the ECM implementations impacted the normal operations tempo of the Air Force base. Many areas of the installation involved restricted access for either the building itself or the

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general area in which the building was located, requiring a tremendous coordination effort. Scheduling could involve a unique point of contact for every step, and timelines were occasionally very strict. Phillips describes the challenges in this way: “The availability of the work area can prove to be a real challenge. Your daily schedule is impacted by the priority and operation of the base because you can’t stop their process—you have to find ways to work inside of it. Sometimes you can only work at night or on weekends, and occasionally you could only get access during a holiday.”

The ECM priorities were determined by starting with projects that would provide the most immediate savings with the least amount of effort. In this case, the first ECM slated for completion was LED lighting retrofits, which encompassed 300 buildings across the base. Once the LED lighting retrofit ECM was underway, the team began the second phase of planning.

The second phase involved a tremendous amount of time and detail for several reasons. First, one of the factors the

team had to take into account was the design aspect of each ECM, which in some cases, could take up to a year to complete. Secondly, a handful of ECM’s involved changing a process; this required incredible attention to detail because a government process was being changed. There was no room for error.

The third phase focused on buyouts. Roemer looked at all of the ECMs and evaluated them based on how long their lead times were, the engineering duration for each one, and how all of the factors impacted pricing. He created an overall priority matrix that determined his team’s buyout approach, and the effort proved to be tremendously successful.

Although the project was both long and complicated, Phillips’ guidance ensured success. His “can-do” attitude that treated each obstacle as an opportunity was often the difference between consistently completing project stages on-time and getting bogged down in the details. “You always end up getting a mix of easy and hard, and you work your way through it,” he said. ✨

In addition to the Hill Air Force Base, ESG was also a part of the award-winning efforts at the National Aeronautics and Space Administration (NASA) Glenn Research Center and Eglin Air Force Base. Both received award recognition at the 2019 Federal Energy and Water Management Awards.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

**GLENN RESEARCH CENTER
CLEVELAND, OHIO**

NASA Glenn Research Center implemented a \$14.8 million energy savings performance contract that includes nine energy and water conservation measures at Lewis Field and Plum Brook Station. This project is exceptional for its scale, site-wide perspective, and broad scope that spans diverse facilities separated by 50 miles, and includes measures to improve heating, ventilation, and air conditioning, lighting, and potable water systems. The project is saving 61.8 billion Btu and 7.2 million gallons of water per year. In the first year, the estimated energy, water, and maintenance cost savings totaled \$1.2 million.

EGLIN AIR FORCE BASE EGLIN AIR FORCE BASE, FLORIDA

Eglin AFB awarded a \$57.8 million ESPC that includes energy conservation and resilience measures, a microgrid, and solar arrays and combined heat and power systems capable of producing 121 billion Btu annually. As part of the ESPC, Eglin also entered into a unique agreement with Okaloosa Gas District, allowing resilience assets to be supported under the terms of the ESPC contract vehicle. Together the projects are estimated to reduce total electrical consumption by approximately 35%, or 50 billion Btu, and will save nearly \$4.4 million annually.