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ISO 50001 benefits OC-ALC

By Jess Dupree
AFCEC Public Affairs

The Oklahoma City Air Logistics Complex, or OC-ALC, at Tinker Air Force Base, Oklahoma, became the first federal organization to earn the ISO 50001 energy management system certification April 13.

The standards for this voluntary

certification are set by the International Organization for Standardization, a nongovernmental, third-party group.

"It is a very learned process that requires a lot of attention to detail," said Ken McKuen, Air Force Lean Six Sigma black belt at OC-ALC. "Going through this put energy performance through a different lens."

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Jordan Piper and Fernando Jacobo, pneudraulics systems mechanics with the 550th Commodities Maintenance Squadron's Air Accessories Squadron, set up an F-22 air cooling turbine on a test rig in order to meet technical order requirements to make sure it produces cool air in Bldg. 200's Air Test Cells. (Air Force photo/by Kelly White)

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Air Force, Hickam Communities kick off energy program

Ho'okele Staff

JOINT BASE PEARL HARBOR HICKAM, Hawaii – To encourage service members to conserve energy and help the Department of Defense meet its energy reduction goals, the Air Force and Hickam Communities launched the Utility Allowance Program, May 1.

Following a three-month mock billing program that helped Hickam Communities' nearly 2,500 residents familiarize themselves with their household energy use, residents will receive their first real utilities statement next month.

"The Air Force is rolling out its resident utility program in privatized military communities on bases across the country, so we're excited to be

part of this important DOD initiative to conserve energy," said Col. Richard Smith, commander, 647th Air Base Group, 15th Wing, and deputy commander, JBPHH.

"Our base leadership has worked closely with Hickam Communities to ensure our families are well-informed about the program and its incentives, and what resources are available to help them manage their household energy use."

Hickam Communities is responsible for managing the program and has enlisted Minol USA to assist with meter billing and maintenance.

The Air Force program provides an incentive to residents who conserve by awarding them rebates. Since mock billing began in February, one third of Hickam Communities families

would have been eligible for a rebate if the program were live. Residents also benefit from Hickam Communities vast photovoltaic array atop homes. Solar production helps offset kilowatt hour costs. In March, it resulted in a reduction from \$0.24 kWh to \$0.22 kWh.

JBPHH and Hickam Communities will continue to provide information and resources to residents and help ensure successful program rollout and outcomes.

Rooftop photovoltaic panels are installed on homes at Joint Base Pearl Harbor-Hickham, Hawaii. These PV panels have the capacity to produce up to four megawatts of power for the homes. (Courtesy photo)



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OC-ALC energy team members said they pursued the certification because they found a lot of value in it. To offset the costs for the initial certification and recertification inspections every three years, the team decided to include the ISO in an energy saving performance contract, or ESPC, which was awarded to Honeywell Dec. 13, 2016.

"The ESPC was able to provide needed energy upgrades and energy conservation measures to the installation while providing us the means to pursue ISO," said Joseph Cecrle, OC-ALC energy manager.

Since beginning the process towards ISO certification, the OC-ALC has seen a significant improvement in employee participation in the organization's energy program. ISO requires an organization to identify areas of significant energy use, so the OC-ALC energy group built teams for each area consisting of people who work there.

"Employees need to understand that they're a part of a significant energy use team," Cecrle said. "It should give them a sense of pride that what they do on a daily basis affects the organization's energy use and, in turn, the organization's mission."

Thanks to the commitment of the significant energy use teams, the OC-ALC energy team has identified inefficient energy usage and found solutions to decrease energy usage without significant cost to the Air Force. For example, one team identified that cooling towers were being run 24 hours a day, seven days a week, even though the towers could work just as effectively by only running on weekends.

"We've had multiple audits over the years and no one has caught that inefficiency because (auditors) don't work there," Cecrle said. "We were only able to identify this because there was a team in that area with that level of understanding about the equipment and what is needed to complete the mission."

ISO has also required the team sends more reports to senior leadership at the OC-ALC, keeping them more informed and more engaged.

"Without the most senior leadership on board, you've got nothing," Cecrle said. "Our general has been instrumental in reallocating resources and instituting policies that will make our energy program successful."

OC-ALC started its ISO journey by hiring Lawrence Berkeley National Laboratory and the Georgia Institute of Technology to conduct a gap analysis of its energy program. The gap analysis highlighted that energy management was using one-on-one communication and personal relationships to make progress. It did not have a framework to bring stakeholders together in order to create a structured and systematic approach to energy management focused on common goals.

**“This drives us
to continuously
improve
our energy
performance.”**

-Joseph Cecrle

The OC-ALC then asked its ESPC contractor, Honeywell, to bring on board a consulting contractor to help implement ISO 50001. Honeywell chose Global Strategic Energy of Seattle as that contractor.

"Global Strategic Energy has certified personnel who not only understand the ISO requirements, but, more importantly, understand options to meet those requirements, and were able to bring those options to us," Cecrle said.

Honeywell also came to see value for them in the ISO 50001 energy management system. Having a formal energy focus within the organization, and a culture of continuous energy improvement, assured Honeywell that

their energy improvement projects will maintain their high performance over the life of the ESPC.

Continuous improvement is emphasized by ISO standards. OC-ALC already had a culture of continuous process improvement and was ready to adopt a standard that would apply the culture to energy management, Cecrle said. In order to effectively measure improvements in energy performance, the OC-ALC energy team developed an energy model to predict energy usage based on outside temperatures.

"ISO showed us how to use that model to compare our actual energy usage with anticipated usage," Cecrle said. "It lets us identify any significant deviations."

Over the past 11 months, the OC-ALC energy team has been tracking its energy consumption as projects were brought on line. Energy use has consistently been lower than the current model is predicting due to energy conservation measures completed by Honeywell and employee engagement. There has been such a significant decrease that the energy team has decided to develop a new model to adjust for improved efficiency.

"We need to always refine our understanding of how we use energy," Cecrle said. "This drives us to continuously improve our energy performance."

The OC-ALC energy team consists of two full-time members, Cecrle and McKuen, and 10 part-time members, who dedicate the majority of their time to other tasks and requirements at the OC-ALC. Cecrle and McKuen believe that while the standards in ISO 50001 are stringent, any Air Force installation can meet them.

"You can most definitely do something like this part time," Cecrle said. "We already do energy performance verification to verify third-party contracts like ESPCs. Why not do it for ourselves?"

McKuen is slated to speak about the benefits of ISO 50001 and offer advice on attaining it at Air Force Day following the Energy Exchange in Tampa, Florida, Aug. 17.

AFCEC teams expand Air Force energy programs together

By AFCEC Public Affairs

TYNDALL AIR FORCE BASE, Fla. – Many would agree that collaboration toward a shared vision strengthens and increases the successes of an organization. The energy professionals within the Air Force Civil Engineer Center and the Air Force Office of Energy Assurance, or OEA, are doing just that -- working together to accomplish the Air Force energy vision of enhancing mission assurance through energy assurance.

To increase collaboration, the AFCEC and OEA staffs meet regularly. In February, AFCEC's Energy Directorate staff met at OEA headquarters to focus on integrating OEA with the AFCEC enterprise and leveraging AFCEC's vast experience. At this meeting, roles and responsibilities were identified to direct coordinated and collaborative efforts. OEA has taken on

the "storefront" responsibilities for Air Force energy resiliency projects, while AFCEC continues to provide specific implementation guidance.

Since then, more groundwork has been laid for providing mission-driven assurance projects to Air Force installations.

"AFCEC's successes with previous energy projects and knowledge of installations are immeasurable resources as we collaborate on installation energy needs," said Robert Hughes, OEA executive director. "With AFCEC's assistance, we are refining our processes to avoid common pitfalls and complications of a typical start-up."

OEA is proactive in its approach to resiliency projects by initiating project development at installations. AFCEC representatives are an important part of this process, joining OEA on installation visits, reviewing

project concepts at installations and completing evaluations. OEA and AFCEC are also working together to provide practical tools and support to installations. This includes helping installations optimize third-party funding and scoping projects that require appropriated funding.

OEA interacts closely with several AFCEC directorates including Installations, Operations, Environmental, Planning and Integration, and, most often, Energy. For enhanced communication between AFCEC's Energy Directorate and OEA, Rick Weston is the liaison who facilitates continued interaction and information flow between the two offices.

"At the end of the day, OEA and AFCEC share the same victories and defeats," Weston said. "We are all Air Force getting the job done to support the missions at our installations."

Members from the Air Force Civil Engineer Center's Energy Directorate and the Air Force Office of Energy Assurance are featured in the Spring 2017 edition of Air Force Civil Engineer and the May/June edition of The Military Engineer.

Read them using the links below!

AF Civil Engineer: <http://www.afcec.af.mil/News/CE-Online/>

The Military Engineer: <http://online.fliphtml5.com/fedq/pzuz/#p=46>



Georgia Power announces new 139-MW solar project at Robins

ATLANTA – Georgia Power announced plans to build a new 139-megawatt solar facility adjacent to Robins Air Force Base, Georgia. The project was approved recently by the Georgia Public Service Commission.

The new solar facility will be located on approximately 870 acres of land

reserved to prevent encroachment near the base, and is expected to include more than 500,000 solar panels. The solar project at Robins AFB is estimated to represent a more than \$200-million investment and will help to enable the base to meet critical energy security and energy

resiliency goals.

“This project is targeting the connection of all of Robins' existing substations, something the base has needed for a long time,” said Dan Gerdes, AFCEC Energy Directorate rates and renewables division chief. “It will also integrate the new solar array with two existing natural gas turbines. The substation upgrades, and addition of solar power, will allow Robins to be fully powered in the event of a commercial grid outage.”

Georgia Power expects to conduct planning, engineering and design for the project, as well as a competitive bid process to select a construction contractor, throughout 2017 and 2018. Construction of the facility is expected to begin no earlier than 2018 and the project is expected to enter commercial operation before the end of 2019.

“This energy assurance project is the culmination of innovative collaboration between Robins AFB, the AFCEC Energy Directorate, local leaders, the Georgia PSC and the utility provider, Georgia Power. AFCEC hopes that base energy managers across the Air Force can work with local officials, utility providers and neighboring communities to work similar arrangements that can be mutually beneficial for all parties.”



Georgia Power's vice president of renewable development, Norrie McKenzie, announces the plan to build a new 139-megawatt solar facility adjacent to Robins Air Force Base, Georgia. The new solar project is expected to increase the installation's energy assurance and energy resiliency. (Courtesy photo)



Reach-Back Center
(888) 232-3721
DSN 523-6995
AFCEC.RBC@us.af.mil

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Air Force Civil Engineer Center,
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Please send your comments,
story ideas and photos
to afcec.pa@us.af.mil.



AFCEC Director Mr. Randy Brown

AFCEC Deputy Directors Col. Charles Kuhl
Col. Charles Kelm

Director of Energy Mr. Robert Gill

Public Affairs Mr. Mark Kinkade

Editor Ms. Jess Dupree