

*"Make energy a consideration in all we do"*

# ENERGY | express

A product of the Air Force Civil Engineer Center

December 2016



## 102nd Intelligence Wing hosts Otis Microgrid Project Leadership Summit

By Timothy Sandland  
*102nd Intelligence Wing Public Affairs*

OTIS AIR NATIONAL GUARD BASE, Cape Cod, Mass. — The 102nd Intelligence Wing hosted a number of high-ranking military and government officials, as well as innovators from several high-tech energy companies, at a leadership summit Oct. 25.

The main focus of the summit was the upcoming Otis Microgrid Project.

Among those in attendance was

Miranda Ballentine, the assistant secretary of the Air Force for installations, environment and energy, Lt. Gen. L. Scott Rice, director of the Air National Guard and Massachusetts Rep. Bill Keating.

"The resilient energy system project at Otis ANGB is an excellent example of innovative airmen driving mission assurance through energy assurance," Ballentine said. "The 102nd Intelligence Wing has critical missions requiring

*continued on pg. 3*

*From left to right: Col. Christopher Faux, 102nd Mission Support Group commander; Brig. Gen. James LeFavor, 102nd Intelligence Wing commander; Lt. Gen. Leon Scott Rice, Air National Guard director; Miranda Ballentine, assistant secretary of the Air Force for installations, environment and energy; and Massachusetts Rep. Bill Keating pose during a leadership summit at Otis Air National Guard Base Oct. 25, 2016. (Air National Guard photo/Timothy Sandland)*

In this issue:

- The switch from LEED to GPC is in effect
- Air Force and Navy face off in SWAPPED
- North Carolina ANG FEMP winners
- ... and more!



uninterrupted access to electricity. By integrating renewable energy, advanced energy storage and innovative controls, this system will provide vital capabilities to our warfighters and intelligence professionals.”

The project team, led by Maj. Shawn Doyle of the 102nd Civil Engineer Squadron, used the summit to brief Ballentine and other leaders on the inspiration for the microgrid, the partnerships and dynamics throughout the initial planning stages, as well as the details of the 35-percent design review that was recently conducted.

“There is an atmosphere, a culture, here at the base, of energy awareness,” Doyle said. “We’ve done almost \$3 million of energy infrastructure upgrades on the base. Largely, they’ve been funded by other organizations, like the National Guard, so they haven’t cost us anything; but they are saving us hundreds of thousands of dollars in energy costs.”

The project was initially conceived at the grass-roots level through discussions between Doyle, and Alf Carroll and Patrick Day of Raytheon. As discussions grew, and people like Dave Altman from Raytheon joined the conversation, the microgrid idea began to take shape. Not long after, an opportunity in the form of a \$6 million grant was received from the Environmental Security Technology Certification Program. ESTCP was established in 1995 to improve environmental performance throughout the DOD, reducing costs, and enhancing and sustaining mission capabilities.

Over time, as the project grew in scope, the team was joined by and will be ultimately successful through the contributions of many military and civilian partners.

From a military perspective, the 102nd civil engineers will be joined by other Otis ANGB units, like the 102nd Communications Flight and the 212th Engineering Installation Squadron, as well as the Rhode Island-based 249th Engineer Battalion Delta Company of the U.S. Army Reserves, who will participate in the construction-phase of the project.

Additionally, expertise and innovation will come from project partners like Raytheon, along with personnel from Massachusetts Institute of Technology Lincoln Laboratory, ISO New England, the National Renewable Energy Laboratory, Eversource, Page International and Ecoult - all represented at the summit.

“The U.S. Air Force, which includes the Guard, Reserves and Active Duty, consumes more natural resources than any other entity in the world.” Rice said. “When you look at that you go, ‘Well, that’s a pretty daunting thing, for us to get some of that under control.’ Because we don’t want to see in our lifetime, our kids’ lifetime, or our grandkids’ lifetime, an end of that resource, this is an imperative for us.”

The microgrid will provide for an energy capability almost exclusively based on renewable energy while also ensuring a high-level of grid security. In addition to providing energy resiliency for the 102nd Intelligence Wing’s mission, the microgrid will increase the base’s value to the Nation Guard Bureau, state and federal government. It will create energy research opportunities and attract investment in the base infrastructure as well as providing a key opportunity to enable joint military training.

On top of all that, the project reduces the reliance on fossil fuels and takes advantage of renewable resources such as wind. In addition to the real benefits seen here on Cape Cod, the microgrid will give the department of defense and department of energy a solid test bed to better understand energy resilience and security, and will serve to educate the agencies through technical and economic studies.

Keating, who sits on the House Homeland Security Committee, said the committee has identified 16 critical sectors, at least one of which clearly deals with the energy sector.

“If we ever get into the stage of the unthinkable, we want to make sure that our national defense infrastructure is in place and is self-sufficient,” he said.



Participants at the leadership summit, hosted by the 102nd Intelligence Wing at Otis Air National Guard Base, Massachusetts, discuss topics including the Otis microgrid project that will increase energy resiliency at the installation. (Air National Guard photo/Timothy Sandland)





By Staff Sgt. Paul J. Porter  
145th Public Affairs

CHARLOTTE, N.C. – The North Carolina Air National Guard, 145th Civil Engineer Squadron was one of only two Air National Guard units to receive a 2016 Federal Energy and Water Management Program award.

NCANG instituted an effective team approach to energy and water conservation that resulted in a sustained annual energy reduction of more than 6 percent per year for the last two years, with an overall 40 percent reduction in energy intensity and an 84 percent reduction in water intensity from respective 2003 and 2007 baselines.

The team is made up of NCANG members and civilian employees including 145th CES commander, Lt. Col. Milton Addison, Capt. James Eaton, Senior Master Sgt. Jason Huffstetler, Christopher Bryant and Caleb Chambers. The award recognizes individuals and organizations for significant contributions to energy and water efficiency within the federal

government.

The energy team received the award for facility-level energy savings initiatives like conventional heating, ventilation and air conditioning system upgrades, smart meter improvements, and lighting upgrades, combined with base-wide educational initiatives, improved maintenance and reporting for a fully-integrated program that enlists leadership support and involves the entire base population.

"In other words, we look at all facets of construction," said Huffstetler, 145th CES facility manager. "Whether building a new facility, making sure we're using the most technologically-advanced features we can afford or we're upgrading our buildings to get them as efficient as possible. It is all part of the responsibilities of our energy management team."

The energy team has utilized several tools to accomplish their energy and water savings, including building automation, smart metering and thermal imaging.

"We can look real-time to see how our buildings are performing and

whether or not they're meeting the criteria that they were designed for," Huffstetler said. "If they're not, then we look at what we need to do to remedy that problem."

The energy team also enlisted the help of the Airmen at the installation to decrease energy demand at the source.

"It's really pretty simple; you get buy-in from the wing leadership down to the lowest Airman. We should all be treating energy at the workplace the same as energy at home - you own the building that you're in because you're a taxpayer. It's no different than if you're paying your power bill at home."

---

*From left to right, Senior Master Sgt. Jason Huffstetler, Lt. Col. Milton Addison, Capt. James Eaton, Caleb Chambers and Christopher Bryant pose for a photo. The five members make up the 145th Civil Engineer Squadron energy team, which was recently awarded a 2016 Federal Energy Management Award. (U.S. Air National Guard photo/Staff Sgt. Paul Porter)*

# Green Spotlight



## THE SWITCH IS ON!

Have you heard? The Air Force has switched from using U.S. Green Building Council's Leadership in Energy and Environmental Design certification to a new, third-party, green-building rating system. Both USGBC and the Green Building Initiative have Guiding Principles Compliance rating systems that validate the federal sustainability requirements, as detailed in UFC 1-200-02, High Performance and Sustainable Building Requirements, have been met.

While LEED has been an important sustainability implementation tool for the Air Force since 2001, the new GPC certification systems will eliminate confusion associated with requiring two conflicting and redundant sets of metrics; and will reduce the compliance tracking and reporting requirement by half.

Effective immediately, GPC certification is required for the following projects:

- All new buildings larger than 5,000 sq. ft. AND with construction costs greater than \$3 million
- All renovations to an existing building greater than 5,000 sq. ft. AND with construction costs greater than \$3 million AND greater than 50 percent estimated replacement cost

To the extent practical for:

- Buildings not on AF installations in the United States and its territories
- Buildings supporting contingency operations
- Non-permanent buildings
- Projects marked as "Austere" on the DD Form 1391

Projects already registered under LEED 2009 are not required to GPC certify, but are required to continue and achieve LEED Silver certification. Need more information? Contact Ms. Paula Shaw at [paula.shaw@us.af.mil](mailto:paula.shaw@us.af.mil) or Ms. Jennifer Alley at [jennifer.alley.2.ctr@us.af.mil](mailto:jennifer.alley.2.ctr@us.af.mil).





# Air Force vs. Navy: the latest Better Buildings swap

By Department of Energy

The U.S. Department of Energy today launched season two of “Better Buildings Challenge SWAP,” featuring the U.S. Naval Academy and U.S. Air Force Academy. Both military operations swap energy teams to improve the energy efficiency of each one’s campus. [Watch the episodes.](#)

“The Better Buildings Challenge SWAP has really helped reach those who can make our nation’s buildings better and their energy bills smaller,” said Kathleen Hogan, U.S. Department of Energy deputy assistant secretary for energy efficiency. “The reality style of the show combined with opportunities to go behind-the-scenes with some of our nation’s most respected organizations and energy leaders brings a fresh new light to energy efficiency efforts in U.S. buildings.”

The [web series](#) covers a two-day swap at each campus. The [teams learn from each other](#) that they can apply simple behavioral changes to help

students and faculty be more mindful about lighting usage and plug loads in classrooms when not in use.

For example, the U.S. Naval Academy demonstrates how it improved the heating and cooling system for their student housing (the world’s largest dorm) and how flat, flexible solar panels can still let the beauty of their historic buildings shine through.

“We operate a wide range of buildings, and many of them are historic – more than one hundred years old,” said Jabe Nekula, Public Works Department, Naval Academy. “It’s a challenge for us to maintain the historic appearance of our buildings while integrating new technologies to provide better energy savings. We came away from the Better Buildings Challenge SWAP with valuable recommendations and energy-saving solutions that work for our older buildings.”

The U.S. Air Force discovers new ideas to make their old, single-pane windows more energy-efficient, and finds energy improvements in the

kitchen such as adjusting refrigerators to be more efficient and turning off fans or closing warmer doors when not needed.

“SWAP offers a fresh set of eyes, and in this case, from a sister service with a shared mission,” said Col. John Christ, U.S. Air Force Academy. “Often, as engineers, we will just install LED lights and move on to the next project. This experience has shown us the powerful energy-saving potential of behavior change among our cadets and our faculty, and we’ll be taking that next step in the future.”

Through the [Better Buildings Challenge SWAP](#), DOE is helping commercial and industrial organizations successfully explore and share new ways to reduce energy use by their organizations.

To view the full Better Building SWAP series and [recommendations from this season](#) or to learn more about the department’s role in advancing energy efficiency in U.S. buildings, visit the Better Buildings Initiative.



**Reach-Back Center**  
(888) 232-3721  
DSN 523-6995  
[AFCEC.RBC@us.af.mil](mailto:AFCEC.RBC@us.af.mil)

**ENERGY** | *express*

*Energy Express is a publication of the Air Force Civil Engineer Center, Detachment 1, Tyndall AFB, Florida.*

*Please send your comments, story ideas and photos to [afcec.pa@us.af.mil](mailto:afcec.pa@us.af.mil).*



**AFCEC Director** Mr. Randy Brown

**AFCEC Deputy Director** Col. Charles Kuhl  
Col. Charles Kelm

**Director of Energy** Mr. Robert Gill

**Public Affairs** Mr. Mark Kinkade

**Editor** Ms. Jess Dupree

**Graphic Designer** Ms. Jess Dupree