

Contract Details

Contract Type:

Energy Efficiency; Energy Savings
Performance Contract; Guaranteed
Energy Savings; LFGTE; Renewable
Energy; Photovoltaic System; Water
Conservation

Facility Size:

16 million sq. feet

Energy Project Size:

\$17.7 million

Energy Savings:

Over \$2 million from LFGTE plant

Summary

Hill Air Force Base, Utah, was the first Federal agency to award a project delivery order under the Department of Energy's BAMF Super Energy Savings Performance Contract (ESPC). The multi-phase, multi-million-dollar energy conservation and landfill gas project garnered widespread recognition for both parties.



The mission of the U.S. Air Force is to fly, fight and win... in air, space and cyberspace.



A member of the U.S. Air Force Thunderbirds Aerial Demonstration Team departs Hill Air Force Base for its new home at Nellis Air Force Base, Nevada. Hill AFB is a service depot for various aircraft types. (U.S. Air Force Photo by Alex Lloyd)

Customer Benefits

In September 2003, Hill Air Force Base (AFB) awarded Ameresco the delivery order to design, construct, operate and maintain a landfill gas to energy (LFGTE) system along with several other traditional energy conservation measures (ECMs). The LFGTE system has given Hill AFB a source of renewable energy and a significant reduction in annual energy costs. Ameresco is operating and maintaining the facility and providing performance and savings guarantees throughout the 20-year contract term. The plant was commissioned in December 2004 and began commercial operations in January 2005.

As the energy services company (ESCO) and prime contractor, Ameresco has implemented \$17.7 million of comprehensive energy conservation and renewable energy generation projects at Hill AFB. Ameresco has designed and implemented three separate task orders, each with a follow-on performance period of 12 to 20 years. Ameresco's responsibilities to Hill AFB included project identification, development, design, installation, start-up and commissioning, and, in some cases, operations and maintenance. For each task order, Ameresco secured the project financing and provided an annual guarantee of savings. Ameresco staff provided construction management, quality control, and safety management during implementation of all work at Hill AFB.

Hill AFB, the largest single-site employer in the state of Utah, is a 16 million square foot industrial complex that provides aircraft overhaul and depot maintenance. The base was searching for a company that offered more than "lights and motors," one that assisted in meeting the mandate for Federal agencies

to increase their use of renewable energy, and a firm that could provide much-needed upgrades of the steam distribution system and two very large centralized compressed air systems. Additional benefits include utilizing a resource that would have otherwise been wasted, and reducing air emissions at Hill AFB and in the surrounding counties. The renewable energy source will also save on the utilization of more traditional, fossil fuel energy production, significantly reducing air emissions.

The three task orders showcase Ameresco's capabilities to successfully design, construct, commission, finance, operate and maintain energy efficiency and renewable projects through long-term contracts, and the award of multiple orders by the same customer demonstrates Hill AFB's satisfaction with the quality of Ameresco's performance.

Ameresco's partnership with Hill AFB has earned many recognitions and awards for the Air Force and has been very beneficial for both parties. The LFGTE was the first landfill gas generation project in Utah, the Air Force and the Department of Defense, and it has earned both state and Federal energy awards. In the first five years of operation, the LFGTE has reduced the base's electric bill by over \$2 million. The solar photovoltaic (PV) system has also earned recognitions for the base as the largest ground-mount PV system in Utah. The LFGTE, solar PV, and the solar heat recovery system installed by Ameresco have pushed Hill AFB to the forefront of leadership in the use of renewable energy in the Federal government.

About Hill Air Force Base

Hill Air Force Base, the largest single-site employer in the state of Utah, is an Air Force Materiel Command base located in northern Utah. Hill is home to many operational and support missions, with the Ogden Air Logistics Center (OO-ALC) serving as the host organization. The center provides worldwide engineering and logistics management for the F-16 Fighting Falcon, A-10 Thunderbolt II and the Minuteman III intercontinental ballistic missile. The base performs depot maintenance on the F-16, A-10 and C-130 Hercules aircraft.

Learn more at www.hill.af.mil/.

About Ameresco

Ameresco, Inc. (NYSE:AMRC) is one of the leading energy efficiency and renewable energy services providers. Our energy experts deliver long-term customer value, environmental stewardship, and sustainability through energy efficiency services, alternative energy, supply management, and innovative facility renewal all with practical financial solutions. Ameresco and its predecessors have constructed billions in projects throughout North America.

For more information about Ameresco and our full-range of energy efficiency and renewable energy solutions, please visit www.ameresco.com.



The 419th Fighter Wing was the first Reserve unit to fly the F-16 Fighting Falcon and the only Air Force Reserve unit in Utah. (Courtesy Photo)

Environmental Benefits

The annual green benefits from this carbon reduction equal:

- ▶ the removal of 10,500 cars from the road
- ▶ a savings of 116,000 barrels of oil

Services Provided

The most recent task order consisted of five ECMs, including a 210 kW ground-mounted PV array that was commissioned in May 2009. This new PV system was part of a \$7.7 million task order that also included installation of a solar thermal heat recovery system with lighting, steam system, and compressed air system upgrades. The previous two task orders included a 2,250 kW renewable LFGTE plant and energy efficiency improvements to the HVAC, lighting, compressed air, motors, steam distribution and energy management systems on base.

Task Order 1—\$6.5 million Implementation Cost: Included a 1,250 kW LFGTE plant (increased to 2,250 kW by modification) utilizing biogas from a county landfill approximately two miles off base; compressed air system improvements; HVAC system upgrades; installation of premium efficiency motors; new energy management system (EMS) controls; high-efficiency lighting retrofits; and water conservation measures. Ameresco will operate and maintain the facility over the 20-year performance period and

plant production has been guaranteed for that period.

Task Order 2—\$3.5 million Implementation Cost: Primarily a major upgrade to the base's two centralized compressed air loops. The project scope included replacing air compressors, dryers and other system components, upsizing some compressors and repair of the distribution systems following thorough leak detection testing of both loops. A small water conservation ECM was also included in Task Order 2.

Task Order 3—\$7.7 million Implementation Cost: Ameresco designed and installed a 210 kW solar PV system that uses 1,000 BP panels interconnected to the existing Hill AFB electrical system. Other energy measures include a solar heat recovery system, steam distribution system improvements, additional lighting and compressed air system upgrades.

The LFGTE plant uses methane gas from the nearby Davis County Landfill, which will continue to accept waste until 2025, to power three internal combustion engine generators located in the industrial complex on the base's east side. The plant began operations with only two generators, rated at 1.25 MW, but was constructed to accommodate a third generator once sufficient gas supplies became available at the landfill. Once the gas is collected at the landfill it is compressed and delivered to the plant at Hill AFB through an eight-inch pipeline that runs approximately two miles from the compressor to the generators. The plant is located adjacent to and interconnected with an on-base electrical substation that delivers the green power into the base's electric grid. The third generator, providing an additional 1 MW generating capacity, began operating in mid-2008. The three generators have a combined data plate rating of 2.45 MW, but are de-rated for ambient conditions, fuel BTU value, and to maintain low NOx emission rates. The plant has the capacity to provide a net electrical output of 2.25 MW and is designed to operate 98% of the time.