

Contract Details

Contract Type:

Energy Efficiency; Energy Savings
Performance Contract; Guaranteed
Energy Savings; Natural Gas

Facility Size:

Nearly 800 buildings;
Over 9.3 million sq. feet

Energy Project Size:

\$48.8 million

Energy Savings:

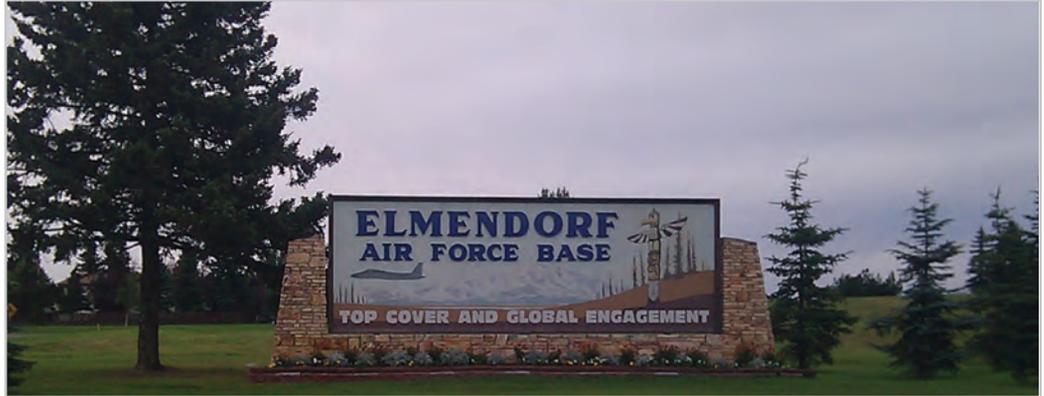
Over 1 million MMBtu

Capacity:

5.6 MW

Summary

Thorough consideration to provide the customer with the best project resulted in impressive savings for Elmendorf. The measures Ameresco implemented aid in keeping the Base on-track with its sustainability goals, maintain flexibility for future expansion and secure a reliable energy supply.



Elmendorf Air Force Base, located in Anchorage, Alaska, comprises nearly 800 facilities and spans 9.3 million square feet of multi-use space. Ameresco implemented an ESPC, which included supplying the base with natural gas and decentralizing the heating system.

Customer Benefits

The Elmendorf Air Force Base entered a partnership with Ameresco to design and implement an energy savings performance contract (ESPC). The project utilized locally available natural gas as an energy component. Ameresco took into consideration the setting and brief construction time frame for on-time project completion. Elmendorf achieved its sustainability goals and reduced energy use without compromising its mission. This project alone made Elmendorf's energy reduction goals and has had a major impact on the Air Force's goals with annual energy savings of over 1 million MMBtu.

Environmental Benefits

Through Elmendorf's partnership with Ameresco, the Base will reduce its carbon footprint. The annual green benefits from this carbon reduction equal:

- ▶ the reduction of 222,765 tons of CO₂
- ▶ the removal of 39,625 cars from the road
- ▶ the planting 43,089 acres of pine forests
- ▶ the powering of 17,527 average-size homes

The project helps reduce the need for energy from traditional power plants fueled by fossil fuels.

Services Provided

Implemented through an ESPC, Ameresco worked with Elmendorf AFB from project conception to completion. The initial concept was to upgrade the outdated and inefficient central heat and power plant

(CHPP) with a modern and high-efficiency system. Ameresco's insightful and thorough review of the project concept indicated the infrastructure to support the CHPP was failing and too expensive to repair. After additional discussions concerning security and Elmendorf's future growth projections, converting the CHPP to a decentralized heating system with the capability to receive their full electricity requirements redundantly from the local utility became the project's new direction.

Ameresco developed the new project scope, managed a competitive subcontracting bid plan and proposed a firm-fixed design-build price. In order to meet the desired two-year design and construction window, Ameresco managed multiple architectural and engineering firms and staged the designs of over 120 facilities to coincide with the construction.

Our proven experience indicated the only way to make the desired construction schedule was to phase the



Ameresco decentralized the boilers at Elmendorf and installed two smaller steam boilers in locations throughout the site, which are sized with the intention to prevent boiler failure in freezing conditions.

About Elmendorf AFB

Elmendorf AFB is home to the 3rd Wing, providing the U.S. Pacific Command with highly trained and equipped tactical air superiority forces, all-weather strike assets, command and control platforms, and tactical airlift resources for contingency operations. Elmendorf is also headquarters of the 11th Air Force, the Alaskan Command, the Alaska NORAD Region, and 94 associate organizations. Elmendorf AFB has 797 facilities totaling 9.3 million square feet of residential, commercial, industrial and administrative space.

Learn more at www.jber.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 ameresco.com and ameresco.com/alaska.



Services Provided (cont.)

project in this manner. Ameresco also managed the variable local labor force and had as many as 100 craftsmen working simultaneously in over 30 facilities. This work was also closely coordinated with Air Force operations personnel and facilities managers since normal duty work in the facilities could not be disrupted.

Ameresco decommissioned and demolished an inefficient 50 year-old CHPP, installed over 300 natural gas boilers in over 120 facilities throughout the base, and built four new facilities to provide decentralized boiler systems. Ameresco installed over eight miles of natural gas supply lines on the Base and coordinated with the local natural gas transporter. We modified substations to accept new capacities for electric service, integrated the base supervisory control and data acquisition (SCADA) system into the local utility's SCADA system for monitoring and control, and developed and implemented steam trap system replacements throughout the Base. Additionally, Ameresco upgraded two electrical substations so Elmendorf could receive full electrical service from the local utility. The CHPP provided steam for approximately 1.5 million square feet of the Base.

Ameresco maintains the service guarantee on all the installed equipment (300+ boilers) for the remainder of the performance period, which is approximately \$21 million over 21-years. Working with the Elmendorf AFB, Pacific Air Forces and Air Force Civil Engineer Support Agency, we framed a comprehensive M&V plan to achieve the projected savings..

Each boiler plant was sized to serve the building in which it is located. In order to provide freeze protection against boiler failure, each building has at least two steam boilers, each sized for 60% of the peak building load.

This challenging project scope was completed in two short Alaska construction seasons. The decentralized boilers were commissioned and running and the CHPP was shut-down on schedule for the start of the critical heating season.

Ameresco performed an environmental baseline study and prepared documents for Elmendorf's air permits. Asbestos abatement was also performed in the demolition of the CHPP. This project was completed on-budget and an extremely aggressive schedule was met.



By removing this 50-year old CHPP, Elmendorf's annual energy savings exceeded 1 million MMBtu, which has a significant impact on the energy reduction goals set by the Air Force.