

## Contract Details

### Contract Type:

Budget-Neutral; Energy Savings  
Performance Contract

### Technology Type:

Energy Efficiency; Geothermal;  
Renewable Energy

### Facility Size:

7 buildings

### Energy Project Size:

\$5.3 million

### Energy Savings:

\$395,000

## Summary

In August 2006, Ameresco was selected by Big Spring School District after a competitive bid process to complete the development of an energy savings performance contract project for their seven building campuses. The District serves approximately 3,200 students and is composed of five elementary schools, a middle school and high school.



*The District needed a proposal in a matter of months in order to obtain funding. Ameresco met their needs with a timely proposal.*



*Among many services rendered, the Big Spring School District's updated and modern energy management systems (EMS) allow for time-of-day control and the heat pumps and geothermal wells cover the heating and cooling for a number of the schools.*

## Customer Benefits

In August of 2006, Ameresco was selected by the Big Spring School District to complete the development of an energy savings performance contract project for their campus. This project is noteworthy since it demonstrates Ameresco's commitment and ability to move a contract from selection to construction in less than three months. This quick response time was essential for the District to obtain its state provided capital funding.

While helping the district obtain funding, Ameresco also assisted the district in completing construction of a new school for which the funds had run low. Ameresco worked closely with McKissick Associates and the district to examine the cost-effective energy conservation measures and then select the measures that best met the district's long-term needs. This project was coordinated with the district's PlanCon project for Mt. Rock Elementary School to maximize the total project size and benefit to the district.

Energy-savings measures, such as the light retrofits, motion sensors, vending machine controllers and energy management systems, will help the district manage resources in a green-friendly way.

## Environmental Benefits

Through Big Spring's partnership with Ameresco, the District is expected to reduce its carbon footprint. The green benefit from this carbon reduction is roughly equal to:

- ▶ 568 cars taken off the road for one year
- ▶ 360 households powered for one year
- ▶ 28 acres of trees saved from deforestation

## Services Provided

Measures for this project included the design, build, training, and measurement and verification of several components. Lighting retrofits for new energy efficient lamps, bulbs and electronic ballasts were completed. Lighting replacements will receive new efficient fixtures with energy efficient lamps, bulbs, ballasts and/or LEDs. A few new fixtures were provided to the plancon contractor for installation at Mount Rock Elementary School as part of the PlanCon project. Ceiling and wall mounted occupancy sensors utilizing infra-red, photocell and/or ultrasonic detection methods were recommended and installed.

The energy management system (EMS) replaced the existing pneumatic control systems to provide time-of-day control of the heating and central cooling systems in the Newville and Mt. Rock Elementary Schools. The EMS is compatible with the Trace Tracer Summit systems present in the other district schools. In the buildings that already have the Trace Tracer Summit system, Ameresco modified the control programs to add control strategies to operate the buildings more efficiently and save energy. The new EMS network will provide reduced energy consumption, increased system reliability, reduced maintenance costs and improved occupant comfort.

Ameresco installed one hundred and twelve 415-foot wells in a geothermal well field and connected it to Mt. Rock Elementary School and the Middle School to serve the heat pumps in each building. The geothermal well field is a hybrid system that will utilize the existing boilers and cooling tower located



## About Big Spring School District

Located in Newville, Pennsylvania, the Big Spring School District consists of four elementary schools, one middle school and one high school. With over 220 teachers and over 3,000 students, the district strives to provide to create the best possible learning environment for students to better engage with their academics and reach for opportunities to grow.

Learn more at  
[www.bigspringsd.org](http://www.bigspringsd.org).

## 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](http://ameresco.com).



*With the partnership, the District made adjustments such as installing vending machine controls and completing construction on a new building.*

## Services Provided (cont.)

at the Middle School to supplement the well field in peak heating and cooling conditions.

District-wide vending machine controllers were installed on the refrigerated vending machines and snack machines.

The bare condensate tank in the basement mechanical room of the Middle School was insulated with fiberglass insulation with an all-purpose jacket to reduce heat loss and reduce overheating of the mechanical room.

Three large heat recovery units were provided for Mt. Rock Elementary School, similar to the units recently installed in the High School and Middle School buildings, to condition the outdoor air to the heat pumps. Installation was completed by Big Spring School District at Mt. Rock Elementary School as part of the project to renovate the school.

At Mt. Rock Elementary, a heat pump and air handling unit (AHU) replaced the existing units. Ameresco provided and the district installed 38 heat pumps, 8 water-to-water heat pumps, one unit vent with condensing unit, one rooftop AHU, and two AHUs.

Heat pumps and a geothermal well field were installed at Newville Elementary School to replace the existing oil fired hot water boiler and the associated uni-vent heaters. A 30-HP oil fired boiler was installed for domestic hot water and heating booster for cases of extreme heat or cold.



*Big Spring School District serves over 3,000 students in Newville, PA.*