

Contract Details

Contract Type:

Renewable Energy; Fuel Cell;
Design/Build; Own, Operate and
Maintain

Capacity:

1.2 MW

Energy Project Size:

\$20.8 million

Summary

As a part of the Connecticut Department of Children and Families (DCF), the Connecticut Juvenile Training School (CJTS) is the State's only maximum security juvenile detention facility for boys ages 12-15. While their crimes are serious, the school's primary mission is one of rehabilitation rather than imprisonment. CJTS partnered with Ameresco to design, build, own, operate and maintain a free-standing central utility plant outside the secure area at their facility in Middletown, Connecticut.



Customer Benefits

Facing the deterioration of a very old facility as the previous location for the training school, the State of Connecticut needed to build a new secure juvenile detention facility. Given a relatively short time table to build this project, the State chose to utilize a design previously used for a facility in Ohio. As a cost saving measure, the State decided to outsource the new central plant and reinvest those funds in the new secure facility. Additionally, the State took the opportunity to stimulate the local renewable energy economy by specifying that the plant utilize fuel cell technology as the primary generation.

After a failed attempt to come to terms with another developer, the State partnered with Ameresco to design, build, own, operate and maintain this facility. Built in a relatively, rural area with a coal-fired electric utility plant nearby, it was very important for this project to be environmentally friendly and positive for the community. This onsite, distributed generation project doesn't have any air emissions, nor does it touch the local aquifer or surface water that feeds the local communities.

Accolades

"It was a pleasure working on the CJTS project with [Ameresco] personnel. We were able to come to contract terms expeditiously and they more than fulfilled their promises and surpassed my expectations relative to schedule, budget, and more. I would welcome the opportunity to work with them on any projects in the future and, without reservation, state that I recommend them very strongly."

*— Judge Nicholas Cioffi (Retired),
Former CJTS Project Director*

Services Provided

Faced with community security issues and a deteriorating facility the State decided to build a new secure Juvenile Facility based in Middletown Connecticut. The new facility design was based on a similar facility in Ohio and was designed to house over 100 students with a focus of rehabilitation and education. It was important that the new facilities central plant, a 1.2 MW facility, not add to the present air quality issues from a utility-sized, coal-fired plant located near by or impact the local aquifer and surface water from which the local semi-rural area got their water.



About CJTS

The State wanted to introduce “green power” sources and was faced with a potential total facility cost that far exceeded available funding. By working with Ameresco, they were able to fulfill their energy requirements within budget for their project by outsourcing design, construction, financing, and ongoing maintenance. In addition, they achieved their goal of using green power through installation of what was the largest fuel cell assembly in the world at the time.

Learn more at

www.the40yearplan.com/CJTS.php

About Ameresco

Ameresco, Inc. is one of the leading global energy services providers. We deliver long-term customer value, environmental stewardship, and sustainability through energy efficiency services, alternative energy solutions, supply management, and innovative facility renewal strategies. The company has over 650 employees in regional offices throughout North America. Ameresco, Inc. has constructed billions in energy projects throughout the world.

Learn more at

www.ameresco.com



Services Provided (cont.)

In order to save on construction costs and increase inside the fence security, the State competitively bid the design, build, ownership, operation and maintenance of a new fuel cell plant that would be the largest of its kind in the world. This 1.2MW plant was designed to not produce emissions and support the growing renewable energy industry within Connecticut. Under an Engineer, Procure and Construct contract Ameresco designed and built the plant and currently owns and operates it under an operations and maintenance agreement. The fuel cells were purchased from a local company. Now operational, the facility provides electricity, hot water, and chilled water to the maximum security Connecticut Juvenile Training School (CJTS) campus.

Under a 20 year O&M contract, Ameresco manages, operates, and maintains the facility, which includes six 200 kW UTC Fuel Cells (1.2 MW) operating in a combined heat and power (CHP) mode with two supplemental boilers, one 100 ton absorption chiller, two 400 ton high efficiency electric centrifugal chillers, and two 1 MW emergency back-up natural gas reciprocating engine generators. The facility is staffed from 7:00 a.m. to 3:30 p.m. five days per week, and is monitored continually via the plant's SCADA system. Ameresco staff personnel respond to all equipment alarms during the un-manned hours.

Electricity is delivered at 13,200 volts to the switch-gear room on the CJTS campus. Hot and chilled water is delivered to one mechanical equipment room in each building and connected to the CJTS campus distribution system. Operation of this facility commenced in 2001 and the State has the option to extend the initial O&M term 10 years.

Ameresco has an asset manager assigned to the project. The asset manager provides overall operations management, purchases fuel, and manages the business and financial arrangements with the customer. Under the leadership of the asset manager are four persons who operate and maintain the plant. Three are full-time plant operators that share responsibility for this and another CHP plant, and one is a plant supervisor.

