



PRATT & WHITNEY

Middletown, CT

A partnership between Pratt & Whitney (P&W) and NORESKO has resulted in a powerful cogeneration model that benefits the company, the environment and the community at large.

P&W's Middletown, CT jet engine manufacturing, assembly and test facility faced a number of operational challenges due to an aging steam generation infrastructure and boilers. With rising energy costs and oil prices, the facility needed a more efficient, less expensive and greener way to deliver usable energy.

In 2007, NORESKO designed, constructed and commissioned a 7.5 megawatt cogeneration plant that meets more than two-thirds of all steam and electricity needs of the site. The compressed 12-month project timeline required innovative strategies. For example, fabrication of the enclosure building after turbine installation eliminated three weeks of rigging time and allowed early delivery of the turbine to nearby storage location to speed site installation.

The project saves P&W approximately \$3.1 million per year in energy costs with an overall internal rate of return greater than 20%. This provides a tremendous community benefit by allowing the surplus grid power to be directed to other high priority areas in the state while also creating an energy independence from the electrical grid. It also eliminated the cost associated with maintenance and repair of the previously inefficient boilers.

The cogeneration equipment reduced the site's CO2 emissions by 12,000 metric tons in the first year of operation, representing a 12% overall reduction annually. It also provides renewable energy production subsidies that results in additional revenue for P&W.

Project Cost: \$13 Million

Total Cost Savings: \$3.1 Million

Contract Term: 2 Years

Contract Type: Design/Build

Technical Highlights:

- Cogeneration plant with dual-fuel turbines
- Boiler replacement

Environmental Impact:

- 60% reduction in grid electricity consumption
- 12% reduction in CO2
- Equivalent to 2,353 cars removed from the road in the first year