Viking Yacht Company

Founded in 1964, the Viking Yacht Company has grown from a small wooden fishing boat builder into an industry-leading manufacturer of luxury fiberglass sport fishing and cruising yachts. The family-owned yacht company has established a reputation in the marine manufacturing industry for producing virtually every component of their yachts in-house. Viking has also received numerous awards for their contribution to the boating world.

After years of expanding the company product line and facility infrastructure, the Viking Yacht Company decided it was time to be more progressive by combating rising utility expenses with a clean and innovative power generation solution. The Viking team took a deep dive to analyze their energy needs and concluded that their best option was to implement a combined cooling, heat and power (CCHP) system powered by Capstone microturbines.

Empowering the End User

The Viking Yacht Company's manufacturing facility is situated on the Bass River in New Gretna, New Jersey and was without access to natural gas or any other efficient fuel sources until 2012.

Working closely with the region's natural gas provider, Viking had the natural gas pipeline extended three miles to its remote riverfront facility. Once the natural gas was flowing, Viking worked with E-Finity Distributed Generation, the exclusive Capstone distributor in the area, to help design and integrate the tri-generation system using six Capstone C65 microturbines with integrated heat recovery modules.

At a glance

Location

New Gretna, New Jersey, USA

Commissioned

December 2012

Fuel

Low Pressure Natural Gas

Technologies

- Six Capstone C65 ICHP Grid Connect microturbines.
- Three 30-ton hot water-fired absorption chillers.
- mTIM control system.

Customer

- Viking Yacht Company, a manufacturer of luxury sport fishing and cruising yachts.
- Building: An 810,000-square-foot (75,251-square-meter) manufacturing space.

Results

- 390kW of capacity.
- Produces 90 tons of chilled water and covers 100 percent of the air conditioning needs.
- Provides 100 percent of the heating needs for Building 1. Excess thermal heat is sent to the rest of the facility.
- Handles 40 percent of the facility's electric load.
- Reduces energy cost by 25 percent.
- Thermal load following.
- 15 year factory protection plan with remote monitoring.

After receiving incentive funding from New Jersey's Clean Energy Program, the tri-generation power plant was approved and constructed in-house by Viking technicians and employees.

Growing the Customer's Energy Production Capabilities

Today, the Viking Yacht Company produces 40 percent of its electrical energy on-site, providing power and 100 percent of its space heating and chilled water direct to the facility. The efficiency of Viking's tri-generation power plant slashed annual costs by 25 percent, providing a payback in less than five years. In addition to expanding the size and efficiency of its facility, Viking has expanded its production efforts as well, creating 200 new jobs, with more jobs expected in the near future.

The power plant is controlled by E-Finity's PLC-based control system (mTIM) with remote monitoring that pushes and pulls key energy production data between the power plant and Viking's building automation system to maximize thermal priority performance. The remote connectivity allows for 24/7 monitoring, diagnosing, and troubleshooting by E-Finity's customer service department. This also means that E-Finity has the ability to fix the units remotely, minimizing downtime and maximizing uptime for the end user. Energy and performance data is made available to the customer in real-time.

Since the CCHP plant was commissioned in December 2012, the Viking Yacht Company's tri-generation power plant has become a showpiece for its customers. Viking can now focus their efforts on building luxury yachts and not worry about the reliability of their power generation system. ■

Natural gas fuels six Capstone C65 Integrated CHP microturbines that produce 390kW of clean and reliable power as well as thermal energy for the Viking Yacht Company.

"When it came time to upgrade our power infrastructure, we evaluated Capstone's product from both a ROI and technology standpoint. With help from E-Finity Distributed Generation, we were able to easily integrate the microturbines, improving our energy efficiency year over year. Today we are generating more electricity than what was originally projected and the cost savings is substantial."

— Jeff Staub, Special Projects Manager
Viking Yacht Company

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