THERMO SYSTEMS
INDUSTRIAL AUTOMATION & INFORMATION

SUCCESS STORY

Powering Hudson Yards

Uninterrupted power in a city that never sleeps.

CLIENT PROFILE

Hudson Yards, a 28-acre development in Manhattan, New York, is home to over 1-million square-feet of retail, 18-million square feet of commercial and residential space, 14 acres of public space, a luxury hotel with over 200 rooms, and even a public school. Based in the city that never sleeps, Hudson Yards wanted to utilize intelligent control schemes to provide thermo and electrical power to the real estate development, maximizing efficiency and cost savings.

PROJECT HIGHLIGHTS

Thermo Systems was selected as the Control Systems Integration firm to help design and implement a cogeneration plant Balance of Plant (BOP) and microgrid control system solution based on Rockwell Automation technology. Two (2) separate Rockwell Automation programmable logic-controller based systems (PLCs/PACs) were installed. The power management system (PMS) was used for electrical distribution, while the other, the balance of plant system (BOP), was used for thermal energy distribution. These PLCs/PACs could function as stand-alone systems, but were closely coordinated to provide simultaneous thermal/electrical decision-making. The automation system controls and monitors the entire plant, providing 13.2 MW of electricity and heating & cooling water to buildings within the site.

TECHNOLOGY HIGHLIGHTS

- Allen-Bradley ControlLogix PLC
- Allen-Bradley ControlLogix Remote I/O
- Rockwell Automation FactoryTalk View SE HMI SCADA Software

RESULTS

Thermo Systems leveraged a team of experienced automation engineers from our local New York City office to increase resilience, reduce emissions, and improve control of the 18-million-square-foot urban complex. The cogeneration plant's ability to deliver three forms of energy (electricity, hot and chilled water) without being connected to the grid provides deeper resilience. As the world pivots to more electrification, Hudson Yards now provides tenants a shield from grid uncertainty. In addition, these systems save about 24,000 metric tons of CO2 equivalent (MTCO2e), helping save the annual emissions of up to 5,100 cars. Finally, control was improved by providing lower-cost energy, control over power quality, and increased overall uptime. Overall, Thermo Systems' innovative solutions transformed Hudson Yards into a beacon of sustainability, fortifying the development as a model of self-sufficiency in an increasingly electrified world.

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sales@thermosystems.com • 609.371.3300 • www.thermosystems.com

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