



## NEW YORK INDUSTRIAL R & D CENTER SUPPLEMENTS GRID WITH CHP

Acquiring enough power from the local electrical grid is a key utility consideration for many businesses and organizations. Such was the case for a corporate industrial research and development center in New York State.

Based in a rural area, this facility was the largest power user for the local energy company. During the course of adding a new research and development process to the 300,000-square-foot building, the company conducted a thorough analysis of the power and infrastructure required. It was determined the facility would need to triple its electrical use during peak power times.

However, the utility company could only double the facility's electrical supply, leaving a gap between the power available and what the facility needed to implement its new process. What's more, the increased capacity from the utility would take several months and over a million dollars to install and the facility would still be short of its ultimate goal.



GEM Energy installed the Capstone 1000 kW Combined Heat and Power (CHP) packaged system for the facility's electrical and hot water heating needs.

### ENERGY GAP BRIDGED WITH COMBINED HEAT & POWER

Faced with this shortage, the company's electrical infrastructure group began to search for a low maintenance, modular on-site power generation option. The facility's new process would be implemented in stages, and to meet the increased electrical needs of the new process, it was preferred that the accompanying power solution could also be brought on line in phases.

To meet these needs, GEM Energy installed the Capstone 1000 kW Combined Heat and Power (CHP) packaged system for the facility's electrical and hot water heating needs. In addition to the electric power output, this system provides 4.1 million BTUs of hot water every hour, more than enough to satisfy the resource needs of the new R&D process.

Though many building owners look at CHP systems as a way to save on their utility costs and serve as back-up power, in this case the CHP system also served as the true add-on power source for the facility's new processes. The modular equipment and installation approach available on this particular system appealed to the company's leadership, giving them the option to add more units to handle increased load when they were needed.

### ALL ASPECTS OF CHP PROJECT HANDLED BY GEM ENERGY, FROM FUNDING TO OPERATION

Ultimately, the facility group selected the GEM Energy proposal of the Capstone microturbine CHP system because of the short design and installation timeframe of six months. Other competitive CHP systems could not be delivered and installed in a similar timeframe, but GEM Energy's experienced turnkey development proved to be the difference.



In addition to coordinating the design and specifications for the CHP system used at the facility, GEM Energy handled the process of obtaining incentives for the client. Conducting every step of the application and program process, GEM Energy secured a \$1,425,000 state incentive to support the installation of energy-efficient, grid-connected CHP systems up to three megawatts that are capable of powering critical facility loads during a utility outage.

The modular 1,000 kW microturbine CHP system is now in place at the New York facility, with the infrastructure to expand to up to 3,000 kW as the R&D process and other facility needs grow. The modular design of the installed Capstone CHP package enables the CHP to efficiently support the process as it expands, even at low load levels of 20 to 40%.

With the first phase of the facility's new research and development process now up and running, the electrical supply from the CHP system is currently exceeding the expectations of the company's leadership and providing reliable power.



### GEM ENERGY IS A ONE-STOP SHOP FOR ON-SITE POWER

GEM Energy is the chosen energy partner for multiple commercial and industrial facilities, due in large part to the fact that every aspect of an on-site power installation is handled by GEM Energy. From assessing and evaluating the facility's energy use, to configuring the right system, to structuring the right funding options, to installing and maintaining your system, GEM Energy brings year of experience, and the right resources to implement an on-site power system that meets your goals.