

Biotechnology company achieves energy resiliency and sustainability goals with an advanced microgrid

Centrica Business Solutions was contracted to design and build a microgrid with a battery energy storage system and photovoltaic solar array to provide uninterruptible power supply to a multi-million-dollar drug manufacturing facility in the Northwest region of the U.S.

12
MONTHS

return on
investment

1.6 MW

photovoltaic
system

5 MW /
10 MWh

ultra fast-response battery
energy storage system



The challenge:

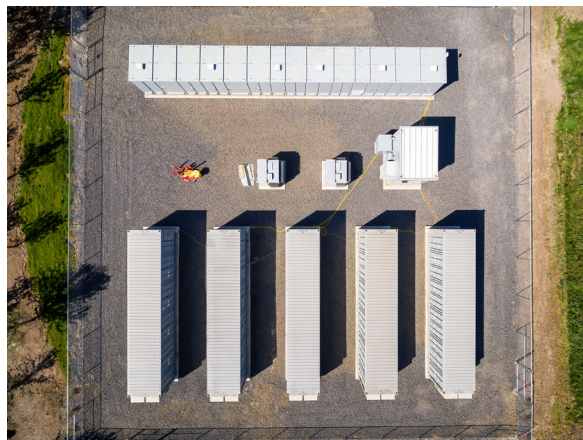
As a drug manufacturing company, our customer relies on consistent power supply to operate its critical processes and requires many variable-frequency drive motors. Despite having two separate utility feeds, the facility experienced multiple damaging power outages lasting 1 to 3 seconds. These outages have led to the spoilage of entire production batches, resulting in significant product and financial losses for the company. To ensure no noticeable loss of power going forward, Centrica Business Solutions was contracted to design and implement a reliable energy resiliency solution. The team faced several obstacles during development, including the use of new technology to comply with the biotechnology company's strict code of conduct and sustainability goals, securing permitting to build a solar array near wetlands in the customer's preferred location, and implementing rapid power switching to maintain continuity of operations during an outage event.

The solution:

The final energy resiliency system included a microgrid with a 1.6 MW solar array and a 5MW/10MWh battery storage system using a Lithium Iron Phosphate battery, which is cobalt-free and aligns with the customer's sustainability practices. The battery storage system meets 100% of the facility's peak power needs for two hours and can operate up to several hours more depending on the load of the facility. The advanced microgrid has a seamless rapid mode dynamic switching system between on-off grid operation and can be integrated with other generation assets. The team developed a solution that delivers transfer of power from grid to battery in 24 milliseconds, five times faster than utility system control standards, resulting in consistent voltage to maintain operations.

The result:

The energy resiliency system designed and built by Centrica Business Solutions was delivered on budget, providing the company with a cost-effective and reliable solution to its power outage challenges and future avoidance of costly product loss. With this system in place, our customer can now operate the facility uninterrupted, allowing the company to focus on its core business operations and increase productivity while maintaining commitments to sustainability.



**1.6 MW Solar
Photovoltaic Array**



**5 MW Fast-response Battery
Energy Storage System**



**Advanced Microgrid with an Ultra
Rapid 24ms Transfer Rate**