



CenTrio Energy Maximizing Participation Through Innovative Solutions

The Customer: CenTrio Energy

CenTrio is a leader in providing innovative energy solutions, offering sustainable, reliable, and cost-efficient energy services to cities, campuses, and communities across the United States. In Chicago, CenTrio is a district energy provider that offers cooling to hundreds of buildings in the downtown area through a network of cold water running in the streets from a central location. Their focus is to bring their three core offerings to their customers as a “trio” of benefits – reliability, sustainability, and cost-effectiveness.

The Opportunity: Demand Response

CenTrio runs six plants in Chicago, and because of their size and industry, they are one of the largest energy users in the Chicago land area. Their services are crucial and cannot risk any down time – but much of the technology they use, such as thermal storage, allows them to provide cooling without electricity during times of peak city-wide energy use. CenTrio has implemented the largest ice-battery in North America to provide these cooling services. They create ice at night while energy demand and prices are lowest then use the ice to cool the water during the day. This innovative solution as well as their energy profile makes them a perfect candidate for demand response.

CASE STUDY



Industry
Energy (Cooling)



Location
Chicago



Solution
Demand response



Program
PJM Emergency Load Reduction Program (ELRP)



DR Strategy
Shut down chiller equipment and shift to using ice storage during an event



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The Benefits of Demand Response

With help from Enel, CenTrio has enrolled 4 of their sites in a demand response program, the Emergency Load Reduction Program. Demand response (DR) programs provide incentives to large energy consumers that agree to reduce their energy demand during times of electricity grid stress. And the experience has been an excellent one, according to Geoff Bares, the Director of Engineering at CenTrio.

“The depth of Enel’s expertise has been impressive,” he said. “The capabilities they bring and the solutions that they offer, we just have not been able to get out of other demand response providers. And that’s one of the reasons we paired with them and one of the reasons we’re happy, really happy.”

Building Resiliency Through Demand Response

The Emergency Load Reduction Program (ELRP) is a capacity demand response program crucial to energy reliability in the Chicago and PJM service area, and as such it offers incentives for customers’ important energy reductions. Since their enrollment in 2020, CenTrio has been able to leverage value from their infrastructure while helping to build a more resilient grid.

The Perfect Pairing: Demand Response and Renewables

CenTrio’s services are crucial, and the company needs to provide them even and especially at times of peak energy use and high heat, which often happens at the same time. CenTrio reduces load by shutting down chiller equipment for the

duration of the event and shifting to greater ice storage usage when necessary to meet the call of demand response.

By working with Enel experts, they found creative opportunities to put in place a plan where any energy reduction has minimal impact on their services – one that Geoff thinks other partners may not have found.

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One such way that Enel provided a creative solution was to pair renewables and demand response into the yearly capacity market offering. In order to maintain a balanced offering, all while integrating renewables into the grid, Enel matched wind assets with CenTrio’s demand response offering to offset their winter nomination. This is due to CenTrio’s high summer and low winter nomination due to their operational demand, and wind farms’ inverse relation of producing more energy during the winter. Enel provided the perfect answer to benefit both parties. This innovative solution of pairing wind and demand response seamlessly integrated renewables into the grid while allowing CenTrio to remain a vital demand response participant in the market year-round.

Helping the Community

Just as CenTrio’s services are important in keeping citizens cool and safe, reliable energy is crucial to a community’s safety. By joining demand response, CenTrio is making an important contribution to keeping the city of Chicago running smoothly.

[Find out more about demand response.](#)