

Demand Response Spawns New Ontario Conservation Service Industry

Demand Response is one of the strategies the Ontario Power Authority is using to reduce peak demand on the province's electricity system. The concept allows businesses to reduce their electricity use during periods of peak demand and to be compensated for doing so, in addition to the costs saved by using less electricity.

Demand Response 3, or DR3, is the latest of the OPA's demand response programs. In order to support the ongoing development and maturity of Ontario's demand response market, the OPA has designed this program to encourage the use of so-called "aggregators."

Aggregators are companies that assemble the electricity demands of their clients into large blocks of 25 megawatts. These blocks of electricity demand can then be lowered when the power supply reaches its limit and electricity prices are high.

Rodan Energy and Metering Solutions Inc. of Mississauga, an OPA-approved aggregator, has a demand response capacity of 15.5 megawatts for York Region. This capacity includes contracts from some of the region's largest businesses, like Magna International, York District School Board and Royal Group Technologies.

EnerNOC, Inc. of Boston recently signed a contract with the OPA to provide demand response capacity in Toronto, Mississauga

and Ottawa. Atlas Cold Storage in Ontario is a client of EnerNOC, and calls their demand response participation a win-win. The company has the opportunity to demonstrate social responsibility by protecting the environment and the provincial electricity system, and they receive recurring payments for their participation.

Aggregators gather together blocks of electrical demand from a range of business users - including schools, municipal and office buildings - which they guarantee can be withdrawn at peak demand periods. In return for this guarantee, the aggregators receive payment from the OPA. A portion of the payment is, in turn, paid to the individual user organization.

Under the DR3 program, businesses are paid to withhold their demand during peak periods, when the price of electricity can quadruple. "By reducing their electricity demand when the costs are highest, businesses can significantly cut their operating costs," says Sean Brady, Director of the OPA's Demand Response and Industrial programs. Electricity costs may be reduced by an average of 15 to 30 per cent, depending on the business or industry.

The biggest increase in electricity price generally occurs in the summer when demand for air conditioning pushes the limits of day-to-day generation capacity, requiring electricity purchases from higher

priced resources.

The DR3 program is aimed at businesses drawing 50 kilowatts or more of electricity an hour. This would include operations such as dry-cleaning plants, hardware stores, large grocery stores, office complexes and large industrial operations such as mines. Annual electricity costs would range from \$100,000 to \$500,000, and potential cost reductions under DR3 could range from 15 to 30 percent annually.

The OPA is using encouraging aggregators as part of the program because they have the capacity to reach a more diverse range of Ontario commercial and industrial consumers. Aggregators can arrange contracts based on their own, and their customers', specific electricity demand requirements, explains Brady.

The Authority also supports aggregators who take different approaches in assembling their portfolios as a way of promoting a wider range of demand response choices for Ontario businesses. Other jurisdictions, like New York State, are also taking this approach, encouraging multiple aggregators to provide a range of demand response options.

"Demand Response is a new high-value service industry that we're very excited about introducing in Ontario," Brady says. "DR will have a very important role in the long-term electricity supply mix in the coming years."

Features of the OPA's DR3 Program

- Contractual peak load shedding
- Availability for 1,400 to 1,500 hours per year (noon to 9 p.m. in the summer and 4 p.m. to 9 p.m. in other months)
- Payments may be made for availability that exceeds the contract terms
- Utilization payment is higher for delivery of consecutive hours of curtailment in the 5 p.m. to 9 p.m. time period as dispatched by the Independent Electricity System Operator (IESO)
- Participant may be eligible for availability premium and discounts

OPA-Approved Aggregators

Ag Energy Co-operative
Constellation NewEnergy
ConsumerPowerline
Direct Energy Business Services Limited
ELUTIONS
Energy Curtailment Specialists
EnerNOC Ltd
EnerShift Solutions Inc.
NRGen Inc.
Toronto Hydro Energy Services Inc.

www.everykilowattcounts.com/demandresponse