



### **A Small LDC Goes Big on Grid Modernization**

InnPower serves over 17,600 customers in Simcoe County and currently has the fastest growing customer base of any Ontario Local Distribution Company (LDC). To meet the growing needs of their customers, they have continually sought out technology, partnerships and strategies to keep their costs low while they develop a modern, technologically advanced electrical distribution network.

InnPower has a small staff and has explored options to make the best use of its resources. That exploration included a gradual and careful program of grid modernization that would bring the efficiencies of new technologies to their existing customers as well as easily extend them to the customers that are arriving to the new developments.

InnPower has operated a Supervisory Control and Data Acquisition (SCADA) system for over ten years and five years ago they replaced the existing system with a more secure and robust system that gave them visibility of their entire distribution network including statuses on fans, breakers and transformer oil temperature.

The SCADA system allows InnPower to know the health and operating status of the distribution system in real-time. It saves the team time by allowing them to identify problems without having to go on site.

The update of the SCADA system was followed by the implementation of an Outage Management System (OMS) that compiles information from the SCADA system, incoming customer calls, and smart meter data to determine the location of an outage. The data helps line crews arrive at the outage location faster and populates an outage map that can be viewed on line by customers.

InnPower strives to continually implement technology to help improve the customer experience through a reduced number of outages, reduced time for power to return in the event of an outage, and improved access to outage information and updates.



*One of three communication towers in InnPower's service territory shown above.*

The next step in the development was the implementation of a radio network that would provide consistent and reliable data communications between the SCADA system and the central control room. As part of a community partnership, the Town of Innisfil currently uses the radio network for its water

and wastewater system. Having the Town use the same communications network was a great way to share the community's resources.

The installation of fault indicators with radio capability helps to narrow down where a fault has occurred, so that crews can be dispatched faster in the event of an outage and the amount of patrol time to locate the fault is reduced.

Operations staff is also in the process of implementing a Distribution Automation Plan that will automatically isolate an outage affected area and re-route power so that a minimum number of people and businesses are impacted. Enhancements to their GIS system allow it to interconnect with customer information, SCADA and financial systems to provide a more comprehensive view of operations for the entire organization. Crew members have started travelling with computer tablets so they can update information and provide onsite details and photos to staff making decisions back in the control room. Information from the GIS system is shared with the Town's system to leverage the data available from the two systems.

The cost of maintaining the new radio communication system has been reduced through strategic partnerships with cell phone service providers who rent space on the towers for their equipment.

Employees at small utilities generally need to be a Jack or Jill of all trades as evidenced by the number of diverse projects implemented at InnPower in the last few years. Staying on top of the multiple projects and technologies has required InnPower to prioritize their training opportunities and determine the role each person has to play.

With InnPower's customer base expected to double in the next 15 years, it's unlikely that the pace of change will slow down any time soon.

"In the last five years we have seen a huge amount of change," said Wally Malcolm, CEO of InnPower. "And our staff have done an exceptional job of leveraging technology and resources to make sure our customers have an electricity network that they can rely on now and in the future."