Case Study

Substation Monitoring

Manitoba Hydro, Canada

Manitoba Hydro is an electric power and natural gas utility in the province of Manitoba, Canada Crown Corporation, the province's energy utility serves over 567,000 electric customers throughout Manitoba.

Manitoba Hydro piloted the award-winning Aclara platform in a hosted configuration that includes integrated MV Cellular Sensors and Sensor Management System software with Predictive Grid® Analytics.

BUSINESS JUSTIFICATION

The Aclara platform is providing Manitoba Hydro with a cost-effective way to get real-time visibility allowing the utility to monitor the load at critical substations. Manitoba Hydro has confirmed that the Aclara Smart Grid Sensors with integrated cellular communications are easy to install on the line and don't require any ancillary equipment to be installed on the pole.

SOLUTION OVERVIEW

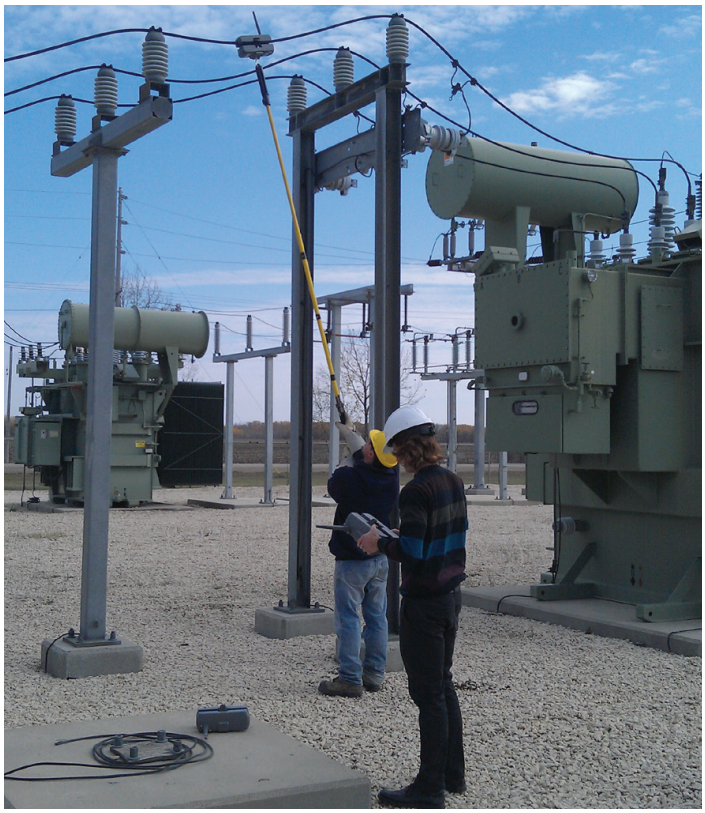
The sensors are quickly providing real-time visibility into the load at the critical substations with this easy, affordable, turnkey solution. As part of its efforts to modernize the grid, Manitoba Hydro is relying on Aclara's platform to meet key initiatives on parts of its distribution network. Aclara became the first company to offer Medium Voltage sensors pre-bundled with a cellular data plan. These sensors lead the industry in cost effectiveness, functionality, scalability and ease of deployment. Since the announcement, the company has shipped sensors to nearly two dozen in the last twelve months and was recognized by as the North American Smart Grid Sensor Market Share Leader by IHS Research.

THE ACLARA PLATFORM CONSISTS OF:

Medium Voltage (MV) Smart Grid Sensors: software-defined, inductively powered sensors with flexible cellular or Wi-Fi communications that operate all the way down to three amps. The sensors are easily installed with a "hot stick" and can be deployed on the line in a matter of minutes. Key sensor measurements include: load current, fault current, electric field strength, power factor, phase angle, sags, surges and harmonics.

SMS software with Predictive Grid Analytics: classifies grid events and provides the visualization and situational awareness needed to quickly respond to load planning, outages, and power quality challenges. Through a DNP3 interface, the software provides easy integration into a utility's critical back-office systems (SCADA, Outage Management Systems, Distribution Management Systems, etc.).

Aclara is the only sensing solution to deliver grid visibility down to three amps through inductively powered sensors that eliminate the maintenance costs required to support battery powered alternatives. Unlike first-generation fault indicators, the Aclara platform combines its highly accurate sensor technology with an analytics software package to classify grid conditions and assess the health of the network. The solution is used by some of the world's largest Investor Owned Utilities (IOUs), Distribution System Operators (DSOs) and municipalities to reduce outage minutes, improve reliability metrics, balance loads and protect important assets like substation transformers.



Aclara Technologies LLC is a world-class supplier of smart infrastructure solutions (SIS) to more than 780 water, gas, and electric utilities globally. Aclara SIS offerings include smart meters and other field devices, advanced metering infrastructure and software and services that enable utilities to predict and respond to conditions, leverage their distribution networks effectively and engage with their customers. Aclara Technologies LLC is owned by an affiliate of Sun Capital Partners.

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