

Weathering the Storm & Power Outages: Guelph Water's New SCADA Tool Used by Operations to Manage Power Interruptions at Multiple Sites

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Format: 25 minute presentation, plus written paper

OWWA Program Tracks: Automation, Treatment, Management

Short Abstract for Program (50 words)

It's imperative that during storm events, operators know exactly which facilities have power and which do not. Guelph Water has added real-time SCADA communications to monitor power feeds, generators, transfer switches, and UPS's at 35 facilities. Operators now use a single SCADA screen to decide what order to visit/check sites.

Long Abstract (250 Words)

Contrary to the old saying, water and electricity *do mix!* Without electricity, water facilities cannot operate. Thus, it is imperative that during storm events, operators know exactly which facilities have power and which do not. When operators have timely information about the power status at sites, they can make better decisions about site visits and operational adjustments during power outages.

This presentation outlines how Guelph Water added SCADA (supervisory control and data acquisition) communications in order to provide operators with the real-time the status of power feeds, generators, transfer switches, and uninterruptable power supplies at all of its 35 sites.

Operators now have a single SCADA screen that provides the following real-time data for all sites:

- Does the facility have power?
- What is the status of SCADA communications?
- If the power is out, has the generator automatically started?
- What kind of generator is at the site: auto-starting, manual-start, or generator hook-up only?
- Is the site equipped with a transfer switch to automatically start/stop the generator?
- How much runtime is left on the SCADA system UPS at the site?
- How long has the generator been running?
- Has power been restored to the site after an outage?

The talk will focus on the operational benefits of having real-time power status available for geographically-dispersed water facilities, and the technology used to implement the monitoring. The presentation will also provide best practices for adding SCADA monitoring various type of power system equipment, including generators, automatic transfer switches, UPS units, and power status relays.

Learning Objective 1

Gain Familiarity with the key types of status information from power system equipment.

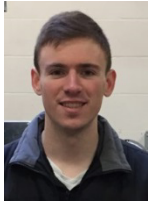
Learning Objective 2

Learn about how power status information can be logically and compactly arranged on a SCADA screen to provide situational awareness.

Learning Objective 3

Learn about best practices when it comes to adding SCADA monitoring for generators, transfer switches, UPS (uninterruptable power supplies), and power status relays.

About the Authors



Kevin Stewart is a third year engineering student at the University of Guelph in Guelph, Ontario, Canada. He recently completed a SCADA developer co-op placement at Guelph Water Services. Kevin, originally from Kingston Ontario, is enrolled in the UofG's B.Sc.(Eng.) Engineering Systems and Computing program. Contact: kstewa11@uoguelph.ca



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