

Guelph Water e.RIS Electricity Reports/Hydro Reports

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Abstract

When operating a water utility, there are a wide range of factors that contribute to the cost of delivering water to the customers. One of these is the cost of electricity. However, estimating electricity costs – even when one has digital power meters installed – has been historically very difficult to do. This is due to how electricity is billed by most power companies, which use a combination of real-time pricing, peak usages, time of day, historical averages, and other factors. Instead most water utilities are left with only being able to find out at the end of each month, when they receive the monthly power bill, how much electricity each of their facilities have used.

This presentation provides an overview of how a set of Daily Electricity Usage/Cost reports were developed using the e.RIS reporting system. The talk will start by outlining the goals of the project, and then discussing the major milestones/challenges encountered along the way. These include:

- installing and configuring the right type of customer-facing digital power meters at each facility
- verifying the configuration of the digital power meters
- setting up a SCADA historian to log raw power usage from the meters
- finding out from the power company how they calculate the power bills for each site
- creating variables to hold rate numbers, knowing that power company rates occasionally change
- bringing in a live IESO (Independent Electrical System operator) pricing feed from the internet
- developing a process control narrative for the required calculations
- writing the daily calculation engine
- creating a set of tags to store calculated values,
- creating a set of summary graphs/tables for use by operations.

The talk will conclude with a discussion of how the daily e.RIS Electricity Usage/Cost reports are now used as a tool by the operations team for optimizing the use of various pumps throughout the utility.

About the Speakers



Graham Nasby, P.Eng, PMP, CAP holds the position of Water SCADA & Security Specialist at City of Guelph Water Services, a publicly-owned water utility located in Guelph, Ontario, Canada. Prior to joining Guelph Water, he spent 10 years in the engineering consulting community after completing his B.Sc.(Eng) at the University of Guelph. He is senior member of the International Society of Automation (ISA) and co-chair of the ISA112 SCADA System Standards Committee, and a voting member of the ISA101 HMI Design standards committee. He is a member of both OWWA and WEAO, and currently sits on the OWWA Automation Committee. Contact:

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Richard Lester, C.Tech. holds the position of Water SCADA Specialist at City of Guelph Water Services. Prior to joining Guelph Water in 2019, he has held positions at Eramosa Engineering, Waterloo North Hydro and Rockwell Automation. Richard has a diploma from the Electrical Engineering Technology program at Conestoga College. Richard has been an active user of the e.RIS platform for over four years. Contact: richard.lester@guelph.ca