

## **Modernization of a Municipal Waterworks with SCADA Standardization: Past, Present, and Planning for the Future**

Graham Nasby<sup>1\*</sup> and Matthew Phillips<sup>2</sup>

<sup>1</sup>Eramosa Engineering Inc., 90 Woodlawn Road West, Guelph, Ontario, CANADA, N1H 1B2  
(\*correspondence: nasby@eramosa.on.ca)

<sup>2</sup>Water Services, City of Guelph, 29 Waterworks Place, Guelph, Ontario, CANADA, N1E 6P7

The need for standardization of its SCADA infrastructure led the City of Guelph, Ontario, Canada (population: 120,000) to develop a set of comprehensive SCADA standards to guide the continuing expansion and upgrading of its water facilities.

This presentation will focus on the steps the City of Guelph Water Services Department took during the last five years to develop a set of comprehensive SCADA standards, the successes/challenges from implementing them, and how the standards were adopted as part of the workflow for all new capital projects. Comments will be made on which standards documents (tagging, hardware selection, programming standards, etc.) were most useful in practice and what aspects of the system may be left up to the discretion of the system integrator. Four short case studies will illustrate how the City applied the new standards to existing facilities in order to upgrade them in an organized manner while controlling cost and risk. A fifth case study will outline how the new standards were applied to one of the City's brand new waterworks facilities.

### **About the Speakers:**

**Graham Nasby, P.Eng., PMP** is a licensed professional engineer who has worked in various industries ranging from IT and software development to pharmaceuticals and semiconductor manufacturing. He currently designs automated control and monitoring systems for the municipal water/wastewater sector at Eramosa Engineering Inc.

**Matt Phillips, P.Eng.** is a licensed professional engineer who has worked in the field of SCADA and software systems for over 10 years. As the City of Guelph's Water Security Coordinator (SCADA) he manages the planning, construction, operation, and maintenance of the SCADA infrastructure for the city's Water Services department.