

ISA Toronto Section – Annual General Meeting

Thursday, May 30, 2019 – 6:00pm

Sandman Signature Mississauga Hotel – 5400 Dixie Rd, Mississauga, ON L4W 1E6

**Water Treatment Plant 101:
Where *your* Drinking Water Comes From
(and how we use Automation/Instrumentation to do it!)**

Graham Nasby, P.Eng, PMP, CAP^{1*}

¹City of Guelph Water Services, 29 Waterworks Place, Guelph, Ontario, N1E 6P7, Canada

(*correspondence: graham.nasby@guelph.ca)

Keywords:

SCADA, Instrumentation, Drinking Water, Automatic Control, DCS, PLC, PAC, RTU, OIT, SDWA, O.Reg.170

Format: 45 minute presentation

Abstract

Automatic Control Systems are an integral part of modern water utilities. This talk provides an overview of how automatic control technology is used to provide the clean, reliable and safe drinking water that we all depend on. The talk will start with a review of how a water treatment plant works, and how instrumentation, wiring, industrial controllers, programming, computers, and pumps/valves are used to control the many process that take place at a water treatment plant. This will include looking at where instrumentation is typically used and the types of automatic control strategies that are employed. The role of water towers, reservoirs and pumping stations, and their associated control schemes, will also be introduced. The presentation will also cover how the water utility's licensed operators interact with the various automatic control systems. This includes control rooms, remote terminals, and call-out alarm systems. Lastly, the role of ISA standards and recommended practices will be highlighted to show how the ISA and its automation body of knowledge have an important role when it comes to our public water supply.

So, if you have ever wondered where the water you use comes from – whether it be from your kitchen tap, in your morning coffee, in an after-work beer, or in a swimming pool, this is the talk for you.

About the Speaker



Graham Nasby, P.Eng, PMP, CAP holds the position of Water SCADA & Security Specialist at City of Guelph Water Services, a publicly-owned/operated 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.(Engineering) 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 several other ISA standards committees. He is currently the ISA's international VP of Industries & Sciences.. Contact: graham.nasby@guelph.ca