

Introducing the ISA62443/IEC62443 Series of Cybersecurity Standards & Applying them to Municipal Water SCADA Systems

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

¹ City of Guelph Environmental Services, 29 Waterworks Place, Guelph, Ontario, N1E 6P7, Canada
(*correspondence: graham.nasby@guelph.ca)

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Abstract:

In 2002, the ISA (international society of automation) brought together industrial cyber security experts from across the globe to develop a series of standards to provide best practices for industrial automation and control system cybersecurity. This group of experts became known as the ISA99 committee, who develop and maintain the comprehensive suite of ISA-62443 (and IEC-62443) cyber security standards. These consensus-based technical standards are now available to guide both designers and users of industrial control systems. In addition to a design and policy framework, the 62433 series of standards also provide cybersecurity guidance – and minimum requirements – for manufacturers who develop and sell industrial control equipment. The 62443 series of cybersecurity standards continue to be actively developed, with many of the individual standards now on their third update.

This presentation, by a member of the ISA99 committee, provides an overview of how the 62443 series of standards have been developed specifically for the needs of the Operational Technology applications in critical sectors public water utilities. The talk will highlight features of the 62443 standards, and how they can be readily applied to the design and day-to-day management SCADA and other critical systems in Water utilities. Insight will also be provided into how the 62443 standards can be used in conjunction with other more general industry standards such as the ISO 27000 series, CIS20, NERC CIP and NIST CSF. Lastly, several examples of how ISA-62443 series of standard has been applied to the critical control systems used by municipal water utility for a city of 140,000 people will be discussed.

About the Speaker



Graham Nasby, P.Eng, PMP, CAP, FS.Eng holds the position of Water SCADA & Security Specialist at City of Guelph Environmental Services, a publicly water utility located in Guelph, Ontario, Canada. Prior to joining Guelph Water in 2015, 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. He is also active on the CSA P125, ISA18, ISA101 and IEC-TC65A committees. Mr. Nasby is a member of both AWWA and WEF, and currently sits on the Ontario Water Works Association's Automation Committee. In 2021, he received the Standards Excellence award from the International Society of Automation for his contributions to consensus-based technical standards in the municipal water sector. Contact: graham.nasby@guelph.ca