

Using ISA-101 & High Performance HMI's for More Effective Operations

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)

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Abstract

In the last 10 years there has been a sea of change with respect to global best practices for Human-Machine Interface (HMI) design in SCADA systems. Drawing from lessons learned in the process industries, particularly from accident investigations and human factors research, new international standards have been developed to guide the design of more effective SCADA screens. These include the consensus standards ISA-101 and EMMUA-201, and publications such as the ASM Guidelines for Effective Operator Displays and the High Performance HMI Handbook.

This presentation will provide an introduction to High Performance HMI (HPHMI) concepts, why they were developed, and how they can be applied to increase overall operator effectiveness at water/wastewater facilities. Topics to be covered include: Effective use of overview displays; Display hierarchy/navigation; Level 1-4 displays; Task-based screen design; Use of colour/icons on screens, Alarm display methods; and What a screen designed with HPHMI concepts looks like. The talk will also provide an overview of the ISA-101 workflow/lifecycle for managing HMIs, and some pointers how to implement HPHMI concepts at your facilities.

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 water utility located in Guelph, Ontario, Canada. 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. In 2014, Graham was recognized with a 'Mid-Career Achievement' award from his alma mater, the University of Guelph's School of Engineering.

Contact: graham.nasby@guelph.ca