WATER ENVIRONMENT ASSOCIATION OF TEXAS

Preserving & Enhancing the Water Environment of Texas

SAFETY: AN ALARMING CONCEPT

Webinar Date: March 21, 2018
Webinar Time: 11:30 AM – 1:00 PM

Presentation Title: Managing the Risks of Organizational Accidents

Presenter: Rob Brooks, VP of Operations at User Centered Design Services

Presenter bio: Rob has a degree in Chemical Engineering from the University of Mississippi. With a 37-year career in the Chemical Industry, he has spent the last 21 years in the Process Control arena, including positions as an advanced control engineer, department manager, and corporate manager. Prior assignments include positions in Technical, Maintenance, Operations, and Engineering, giving him a vast range of experience to apply to his projects. Also in his background are assignments to three grassroots projects as a Start-Up Operations Engineer. During his career Rob has gained extensive Control System Project knowledge, having been involved in dozens of projects in capacities ranging from lead programmer to project manager. While in his corporate role, Rob authored company standards for LOPA, Corporate Risk Matrix, Safety Instrument System Design, Change Management, Alarm Management, and Control System Cyber-Security, along with producing PSM guidance documents. Rob is a TÜV Functional Safety Engineer, an ISA Certified Automation Professional, and sits on the Foxboro Steering Committee.

Presentation Overview/Synopsis: Control room operators must detect, manage, and safely respond to abnormal situations. The control room environment, HMI, and management systems must be designed with a focus on human factors and abnormal situation management. Situation awareness is key. Operators can prevent down time, organizational accidents, regulatory and financial losses, if we focus on their needs.

Area of Interest: Wastewater and/or Water

Presentation Questions:

- What does alarm management have to do with high performance HMI?
    - Answer: Alarms and graphical information both provide the operator with situation awareness. If your graphics do not provide the operator with the right information when they need it, they will create alarms to make up for that missing information.

Operators use alarms to give them information when things happen. We can prevent them from adding alarms if we focus on what they need to see on the graphics.)

- When designing a control room, what are the most important things to consider?
    - Answer: First you need to know what graphics they need and how many they need to see at the same time. You need to understand what they need in front of them so you can design the console based on their needs. Once you know what they need in the form of a console, and you know how many consoles are needed, then you can design a layout that is ergonomic. So the first and most important thing you need to do is a task analysis to fully understand the user's needs, then you can design a room that is centered around the user's needs.

Panel Discussion: The presentation will be followed by a 30-minute panel discussion including Rob Brooks and Kevin Patel, whose bio is below:

Kevin is Vice President of Signature Automation and a leader in the International Society of Automation (ISA). He currently serves as Director of the ISA Water/Wastewater Industry Division and President of the ISA North Texas Section in addition to his membership on several technical committees, including ISA 101, ISA 105, ISA 106, ISA 112, and ISA 18, related to human machine interfaces (HMI), testing, automation, supervisory control and data acquisition (SCADA), and alarming. He is a licensed electrical engineer with 15 years of experience integrating, programming, configuring, and commissioning SCADA systems and distributed control systems (DCS) primarily for the water/wastewater market.