

## **Introducing Alarm Management for Packaged Systems**

ISA18 Standards Committee – Working Group 7

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### **FORMAT**

6-12 page paper plus 30-minute presentation

### **KEYWORDS**

SCADA, Instrumentation, Packaged Equipment, Alarm Management, Optimization, Interfacing

### **ABSTRACT**

The use of packaged equipment, along with the associated individual vendor-provided control systems, is a reality in most modern municipal water and wastewater plants. The benefits of using packaged equipment can be many. Packaged systems typically capitalize on the years of experience that a particular vendor has in designing and servicing equipment for a specific purpose, and thus can often perform better than one-off custom-designed equipment. However, one of the ongoing challenges with packaged equipment is how to effectively interface it within the context of larger plant-wide SCADA and DCS supervisory control system.

Oftentimes, the specialized control systems that come with packaged equipment will focus almost entirely on the operation of the specific equipment and give little consideration to how they are to be monitored and alarmed in the greater plant context. This is further compounded by there being few if any existing industry guidelines how to undertake this interfacing. The result is that integration between packaged systems and plant-wide SCADA/DCS systems is often lacking. Common problems include: inability to get meaningful status information, too many or not enough alarms, and problems with how alarms are latched/reset on equipment vs. on the plants alarm system. The minimal interfacing that is accomplished is usually only the result of painstaking (often last minute) custom programming by both the equipment vendor and the plant's SCADA programmer. Consequently most SCADA professionals have a love-hate relationship when it comes to working with vendor-provided packaged control systems.

The ISA's alarm management standards committee, ISA18, has recently formed a working group to develop a recommended practice document on how to more effectively interface packaged control systems within plant-wide SCADA/DCS systems, with a specific focus on alarm management. Entitled the "Alarm Management for Packaged Equipment Systems for Process Industries," the ISA18 WG7 working group is looking at a developing a set of guidelines that will reduce costs and improve performance/functionality for both equipment vendors and system integrators, as well as facility owners.

The paper will provide an overview of some of the interfacing concepts WG7 will be investigating in terms of how to effectively implement alarming for packaged systems from the context of the operator who has to operate the entire plant. It will also provide some insight into how some of the well-established alarming techniques from the ISA18.2 standard and associated technical reports can be readily applied to the challenge of effectively interfacing with packaged systems.

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**About the Author:**

**Graham Nasby, P.Eng., PMP** currently designs automated control and monitoring systems for the municipal water/wastewater sector with Eramosa Engineering. Prior to joining Eramosa, he worked in various industries, ranging from IT and software development to pharmaceuticals and semiconductor manufacturing. He has multi-company and multi-industry experience that spans over 10 years.

Graham is a senior member of the ISA, and is active on several standards committees including ISA18, ISA101, ISA105, and SCC/IEC-TC65. He is voting member of the ISA 18 alarm management committee and co-chair of the ISA 18 WG7 working group. In 2011, he was named among Controls engineering magazine's "Leaders Under 40, Class of 2011" award winners, and received the ISA's Keith Otto Award for best article of the year in InTech magazine for his article entitled "SCADA Standardization." Graham is also current director of the ISA water/wastewater division, and the general symposium chair for the 2013 ISA Water/Wastewater and Automatic Controls Symposium.