

## **Too Many Alarms: Where Do I Begin?**

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### **FORMAT**

6-12 page paper plus 30-minute presentation

### **KEYWORDS**

Supervisory Control and Data Acquisition (SCADA), Human-Machine Interface (HMI), Alarm Management, Alarm Philosophy, Basic Alarm Design

### **ABSTRACT**

As more developers are getting involved in new and existing process control systems, alarms are not at the forefront of the planning process and are going unnoticed. What once used to be something that gave operators insight into their daily activities - are now being silenced and ignored. Many of the problems that plants experience with an abundance of alarms include non-operational equipment or nuisance alarms. These problems vary and are often heavily weighted towards the alarm philosophy that was used at the onset of the Supervisory Control and Data Acquisition (SCADA) system development.

A majority of alarms on the process control system simply come from points that have not been configured or do not have sufficient information to act upon them. When problems do occur, more time is expended tracking down the problem using historical data. However, many times a potential problem could be avoided had the alarm been acknowledged and action taken by the operator when the alarm originally occurred.

This paper will discuss the different alarm problems that exist in today's SCADA systems and the causes of these problems. Additionally, methods to benchmark and analyze the existing alarm system will be demonstrated based on case study material along with a discussion on potential solutions utilizing basic and advanced alarm design methods that have helped one facility drastically reduce the alarms that were being generated. Alarms should be a powerful tool to help operators be more efficient, not impede their ability to perform their daily duties. The topics and methodologies discussed in this paper will assist system users in planning for assessment and optimization of their own alarm systems.

### **About the Authors:**



**Kevin Patel, PE, MBA** is a Texas-Registered Professional Engineer and Vice President of Signature Automation. Mr. Patel received a Bachelor of Science in Computer Engineering from Texas A&M University and an MBA from the University of Texas at Dallas. He has more than 9 years experience in automation planning, design, programming and commissioning of water treatment, water distribution, pumping stations, and wastewater treatment. He is a current member of ISA101, ISA105, ISA106, and ISA18 related to HMI, testing, automation, and alarming.