Modern SCADA alarm management systems can be a powerful tool to assist an operations team in running a safe, efficient, and robust industrial facility. However, the design and deployment of the alarming system must be carefully planned to achieve exceptional effectiveness.

SCADA and DCS systems provide the capability to be configured with hundreds, if not thousands, of alarms with only a few keystrokes. When improperly deployed, these systems can generate a variety of different alarming problems that will inhibit effective and rapid diagnosis of issues in the system being monitored. Critical alarms can be overlooked due to alarm floods, cascading alarms, and nuisance alarms that are either unnecessary, or incorrectly filtered or classified. In order to effectively harness the power of the alarm management system, a comprehensive alarm management approach is required in every facility.

Alarm Management

Our team has a wide variety of strategies to provide our clients with powerful tools, comprehensive plans, and industry standards for alarm management. We strive to meet all operational, regulatory, and safety–related goals regardless of facility type, industry, or size of system.

Eramosa has extensive experience with the ANSI/ISA-18.2 alarm management standard which is currently being adopted as the upcoming IEC 62682 international standard. We have delivered various alarm improvement projects and have applied the full ISA-18.2 lifecycle approach to alarm management for a variety of clients. Additionally, we have worked with other industry approaches such as the EEMUA-191, NA-102, API-1167, and ASM alarm management guidelines.

Our in-house programming teams have experience with implementing alarm management concepts on a diverse array of control system platforms. We have also developed a powerful, web-based software tool called the Eramosa Reporting and Information System (e.RIS). This tool can effectively report on alarm performance and assist in tracking alarm management problems, in addition to automating workflows for critical alarm system response procedures.

Alarm Management Services

Eramosa provides the following services to our clients as part of a master planning package during both preliminary and detailed design, and as part of SCADA system development or maintenance:

Alarm Master Planning & Alarm Philosophy Documents

Eramosa has experience with developing large and small alarm master plans, alarm philosophy documents, and facility standards to ensure alarms are implemented in a consistent manner across the enterprise. These documents and standards require constant updating and modernization as platforms and international standards evolve. We provide up-front development of standards, as well as long-term document maintenance and version control.
Alarm Rationalization

Rationalization is a critical part of effective alarm management. As part of the design process, each alarm is examined and rationalized to provide clarity and meaning so the operator can fully understand the action to perform in order to reduce the chances of a definite consequence. Guided by a facilitator, both clients and Eramosa experts influence this process by outlining the criteria and methods within the alarm philosophy document. The result is that non-useful alarms are removed, and those that are required are properly classified, filtered, and clearly delineated. All of which helps to make sure the operations group receives critical information without distraction, or misunderstanding, from their alarm monitoring system.

Alarm System Programming

Our software development team has extensive experience with a wide array of SCADA and DCS systems. We can provide assistance in applying the necessary programming and configuration modifications to your automated control system to successfully reconfigure your existing alarms, or implement newly rationalized ones, so as to harness the full power of your automation platform.

Alarm System Monitoring & Assessment

You cannot improve what you do not measure. Eramosa has experience in recommending metrics to measure alarm system performance. Our team can also deploy software tools that provide both alarm trend visualization and KPI dashboards, while generating automated reports for in-depth analysis by key members of the organization.

Alarm Prioritization Projects

Lack internal resources to deploy a full alarm management program? We have experience with scaled-down deployments that focus on removing “bad-actors” while providing alarm prioritization. This means more effective alarm filtering and routing to help make sure alarms are received by the right person, at the right time, in a format they can understand. Success doesn’t need to be in the form of a large project — many improvements can be made with small, focused efforts on key areas.