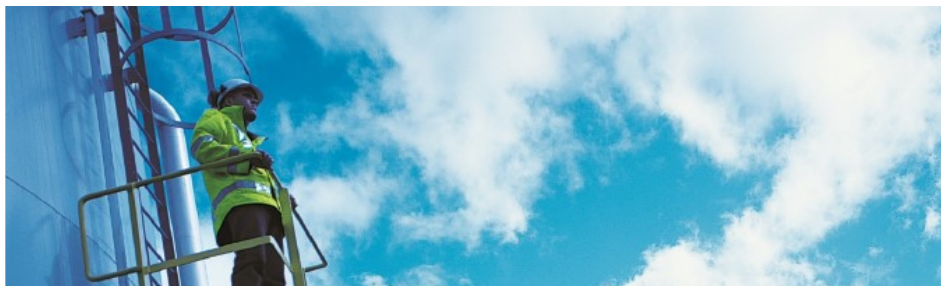


Application Note



Transform data into decisions with automated alarm reports

Alarm reporting requirements

Alarm management has been an important factor in process industries with an increasing focus on alarm system performance. Senior management sponsorship is key to a successful alarm management improvement program, requiring an overview of the alarm practices for continuous analysis and insight presented in the form of monthly management reports.

Information required for these reports are often compiled from a number of different data sources in varying formats and configurations, which are more commonly used by operators and engineers to assist with day-to-day plant operations. This operational data has not been designed to provide the type of summary information that is required for management reporting.

Bridging this information gap can be a complex process, requiring dedicated resources and time to provide an aggregated view of alarm performance data. Information needs to be collected and arranged in a standardized format that can be shared with the entire management team on a monthly basis.

Time consuming and expensive reporting

A customer was producing a set of monthly reports to have a clearer understanding of alarm analysis across their plant. This was a manually intensive process, requiring data and screen shots to be gathered for each individual report from Yokogawa and non-Yokogawa systems that tied-up valuable resources. For the monthly management meetings, alarm performance analysis had to be prepared in a standardized format, with all accumulated data configured into a report. Compiling and collating this data absorbed valuable resources on a monthly basis which was time consuming and expensive.

Automated reports

Yokogawa were able to provide a solution that provided a single overall monthly management report using the Alarm Reporting and Analysis (ARA) application. This



automated PDF report replaced the manual process that was labor-intensive and expensive. This new management report is quick to run and takes a matter of seconds to produce, which can be shared instantly by email to the management team for review meetings. Yokogawa were able to engineer a number of background reports within the application that pulled together the specific information for the management report. This tailored company report is also branded in-line with company guidelines and includes the company logo.

What are the benefits?

Saves Time

Because the report is automated, it is no longer a manual and labor-intensive process which represents a significant cost saving and frees up resources.

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Reduces Cost

Previous to this automated report, it would take one person up to five man-days to collate the necessary information and data and produce each report on a monthly basis.

Continuous Reporting

The management report is now a streamlined and automated process that combines all the necessary data and information at run time. This can be repeated on a monthly basis for regular and accurate reporting for comparison and benchmarking of performance.

Elevates alarm management to senior management

Senior management sponsorship is key to a successful alarm management improvement program. The management report provides alarm system information for analysis of all alarms across the plant, highlighting any potential safety concerns. For example, the report includes an analysis of annunciated alarms, which indicates if operators are being overloaded by the number of alarms being received.

Adheres to alarm standards

Alarm management has impact on risk management, process safety, compliance, insurance costs that are the responsibility of the senior management team. Alarm performance data can be rated against Key Performance Indicators (KPIs) based on international standards (ISA 18.2, EEMUA 191 and IEC 62682). This forms part of a continuous improvement program that can improve plant safety, helps reduce the number of process accidents and delivers a more effective alarm system.

Alarm Report – Dive into the details

The alarm analysis report is produced on a monthly basis and provides an overview of alarm system performance and is divided into two sections.

The first section is for total alarms including annunciated and unannunciated alarms, providing an overview of the general alarm system setup. The second section looks at frequent annunciated alarms, giving an indication of whether operators are being overloaded with alarms.

The alarm performance report can also be compared to KPIs that are based on international standards for alarm management (ISA 18.2, EEMUA 191 and IEC 62682). The report also includes a summary section, which shows the following:

- The total number of alarms compared against previous months as a percentage increase/decrease
- The total number of annunciated alarms across all departments as a percentage increase/decrease
- All annunciated alarms as a contribution to the total number of alarms as a percentage increase/decrease
- Total gas detector alarms as a percentage increase/decrease
- Highlights areas/equipment with most significant impact on gas detector alarms
- Total of gas detector alarms as a percentage of the total annunciated complex alarms
- Total alarm type distribution across the plant

Management report features

The report also included a number of tailored requirements including:

- A single overall Monthly Management Report output in PDF format
- Report includes a Title Page, Table of Contents and an Introduction followed by a full set of custom reports
- Report page layout will be portrait and includes the company logo
- Report scheduling uses standard reporting services functionality
- Report can be emailed to nominated email addresses



Key Takeaways

Valuable Management Tool

By utilizing an existing application, Yokogawa developed customized reports that provided access to important data to improve their situational awareness. This enhances their ability to process and understand this information and then make judgements based upon it to assist the decision making process. This creates a powerful and valuable management tool by accessing data from both Yokogawa and third party systems and combining this information into a single document.

Customized Reporting Service

Alarm reporting and analysis is a necessity for many customers in the process industries. Reports can be either new reports, or modifications and updates to existing reports that are aligned to individual requirements. Reports can be scheduled on a regular basis, for example for monthly management meetings, or accessed on-demand, as and when the need arises. It provides information on a regular and consistent basis that can be run at the touch of a button, and takes seconds to create.

Reduces Costs and Saves Time

By having an automated report, it reduces the manual overhead by eliminating the labor time that was associated with gathering data and producing a manual report. This is a more efficient and effective use of time, and this saves up to 5 man days every month, representing a significant cost saving.



Conclusion

Yokogawa Information on alarm system performance is being elevated to senior plant management because it impacts risk management, process safety, compliance and insurance costs. Alarm reports and performance data needs to be summarized on a monthly basis for management meetings, with up-to-date information that is produced quickly and on a regular basis. These reports are collected different data sources, which need to be compiled and configured in a standardized format.

Yokogawa can provide an efficient reporting solution that produces a single monthly management report that summarizes alarm performance data.

This automated PDF report can be shared instantly by email to the management team for review meetings. It takes a matter of seconds to produce and replaces a labor-intensive, manual process that reduces costs and saves time.



References

Exaquantum Plant Information Management System
Exaquantum Alarm Reporting and Analysis

Source Information

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