1 Scope

This technical report was written in support of the standard ANSI/ISA-18.2-2009, Management of Alarm Systems for the Process Industries (June 2009).

This technical report is designed to provide guidance, rationale, and examples of Alarm Monitoring and Assessment, (Clause 16 of ISA-18.2) and Audit (Clause 18 of ISA-18.2). This technical report provides guidance and information supplementing ISA-18.2 on the use of alarm system analysis for both ongoing monitoring and periodic performance assessment. Monitoring, assessment, and audit are essential to achieving and maintaining the performance objectives of the alarm system. These activities can identify improvement opportunities in the other lifecycle stages, such as philosophy, rationalization, detailed design, implementation, operation, maintenance, and management of change.

Alarm system performance analysis can also play a part in overall plant performance metrics and be used as an input to process improvement efforts. This is typically in conjunction with process historian data and control loop effectiveness data. However, analysis of control system data, process data, and operator actions are not included in this report except to note the relationship between alarm metrics and other process metrics.

The focus of the assessment process is to apply engineering judgment and review to determine whether the alarm system is performing properly. The evaluation of work processes relative to the alarm system is covered in the audit section.

2 Normative references

ANSI/ISA-18.02-2009, Management of Alarm Systems for the Process Industries

3 Definitions

3.1 General

These defined terms are used in this technical report. Synonymous terms, which are not used in this report, are listed in parentheses.

3.2 Definitions

For the purposes of this technical report, all terms defined in ISA-18.2 Subclause 3.1 are used with their identical meaning. For ease of reference, these are repeated in this section. Subclause 3.2 defines terms used in this document that are not specifically defined in ISA-18.2.

3.2.1 absolute alarm

an alarm generated when the setpoint is exceeded

3.2.2 activate

the process of enabling an alarm function within the alarm system

3.2.3 adjustable alarm (operator-set alarm)

an alarm for which the setpoint can be changed manually by the operator

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