TECHNICAL REPORT

ISA-TR18.2.2-2016

Alarm Identification
and Rationalization

Approved 29 June 2016

ISA–TR18.2.2–2016, Alarm Identification and Rationalization

Preface

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Foreword

In June of 2009, ANSI/ISA-18.2-2009 Management of Alarm Systems for the Process Industries, commonly referred to as ISA-18.2 was issued. In that same year the ISA18 committee established six working groups to develop a series of technical reports with guidance on how to implement the practices outlined in ISA-18.2. In 2012, a seventh working group was also added. In 2016, a revision of ISA-18.2 was published as ANSI/ISA-18.2-2016.

The technical reports are each listed below with a brief overview:

- TR1 – Alarm Philosophy – provides guidance on the alarm philosophy. TR1 is limited to the scope of ANSI/ISA-18.2 Clause 6. The alarm philosophy provides guidance for successful management of the alarm system. It covers the definitions, principles, and activities by providing overall guidance on methods for alarm identification, rationalization, classification, prioritization, monitoring, management of change, and audit.

- TR2 – Alarm Identification and Rationalization – provides guidance on alarm identification and rationalization. TR2 is limited to the scope of ANSI/ISA-18.2 Clauses 8 and 9. Identification and rationalization covers the processes to determine the possible need for an alarm or a change to an alarm, systematically compare alarms to the alarm philosophy and determine the alarm setpoint, consequence, operator action, priority, and class. Activities include, but are not limited to, identification, justification, prioritization, classification, and documentation.

- TR3 – Basic Alarm Design – provides guidance on basic alarm design. TR3 focuses on the scope of ANSI/ISA-18.2 Clause 10 and may include other clauses as needed (e.g., operations and maintenance). Basic alarm design covers the selection of alarm attributes (e.g., types, deadbands, and delay times) and may be specific to each control system.

- TR4 – Enhanced and Advanced Alarm Methods – provides guidance on advanced and enhanced alarm methods. TR4 focuses on the scope of ANSI/ISA-18.2 Clause 12. Enhanced alarm design covers guidance on additional logic, programming, or modeling used to modify alarm behavior. These methods may include: dynamic alarming, state-based alarming, adaptive alarms, logic-based alarming, predictive alarming, as well as most of the designed suppression methods.

- TR5 – Alarm Monitoring, Assessment, and Audit – provides guidance on monitoring, assessment and audit of alarms. TR5 focuses on the scope of ANSI/ISA-18.2 Clauses 16 and 18. Monitoring, assessment, and audit cover the continuous monitoring, periodic performance assessment, and recurring audit of the alarm system.

- TR6 – Alarm Systems for Batch and Discrete Processes – provides guidance on the application of ANSI/ISA-18.2 alarm life cycle activities to batch and discrete processes, expanding on multiple clauses of ANSI/ISA-18.2.

- TR7 – Alarm Management when Utilizing Packaged Systems – provides guidance on the application of ANSI/ISA-18.2 to plants utilizing packaged systems, expanding on multiple clauses of ANSI/ISA-18.2.

Each technical report is written to be a standalone document. In an effort to minimize repetition, the technical reports have cross references.

The guidance as presented in this document is general in nature, and should be applied to each system as appropriate by personnel knowledgeable in the manufacturing process and control systems to which it is being applied.