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# Management of Alarm Systems for the Process Industries

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Management of Alarm Systems for the Process Industries

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## Preface

This preface as well as all footnotes, annexes, and draft technical reports associated with this standard are included for information purposes only and are not part of ANSI/ISA-18.2-2016.

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# Introduction

## Purpose

This standard addresses the development, design, installation, and management of alarm systems in the process industries. Alarm management includes multiple work processes throughout the alarm management lifecycle. This standard defines the terminology and models to develop an alarm system, and it defines the work processes recommended to effectively maintain the alarm system throughout the lifecycle.

This standard was written as an extension of existing ISA standards with due consideration of other guidance documents that have been developed throughout industry. Ineffective alarm systems have often been cited as contributing factors in the investigation reports following major process incidents. This standard is intended to provide a methodology that will result in the improved safety, quality, and operation in the process industries.

This standard is not the first effort to define terminology and practices for effective alarm systems. In 1955 ISA formed a survey committee titled Instrument Alarms and Interlocks. The committee evolved to Standard & Practices Committee 18. In 1965 the committee completed ISA-RP18.1, *Specifications and Guides for the Use of General Purpose Annunciators*. In 1979 ISA released, as a product of the ISA18 and ISA67 committees, ISA-18.1-1979 (R2004), *Annunciator Sequences and Specifications*. In 1994 Amoco, Applied Training Resources, BP, Exxon, Gensym, Honeywell, Mobil, Novacor, Texaco, Shell, and others formed the Abnormal Situation Management Consortium (ASM) to develop a vision for better response to process incidents, with additional support in 1994 from the U.S. National Institute of Standards and Technology (NIST). In 1999 the Engineering Equipment and Materials Users' Association (EEMUA) issued Publication 191, *Alarm Systems: A Guide to Design, Management and Procurement*, which was updated in 2007, and again in 2013. In 2003 the User Association of Process Control Technology in Chemical and Pharmaceutical Industries (NAMUR) issued recommendation NA 102, *Alarm Management*. This ISA standard was originally issued in 2009, and International Electrotechnical Commission (IEC) developed IEC 62682 from that version and issued it in 2014.

During the development and maintenance of this standard every effort was made to keep terminology and practices consistent with the previous work of these respected organizations and committees.

This document provides requirements for alarm management and alarm systems. It is intended for those individuals and organizations that

a) manufacture or implement embedded alarm systems,

b) manufacture or implement third-party alarm system software,

c) design or implement alarm systems,

d) operate and maintain alarm systems, and

e) audit or assess alarm system performance.

## Organization

This standard is organized in two parts. The first part is introductory in nature, (Clauses 1 to 5). The main body of the standard follows (Clauses 6 to 18), which presents mandatory requirements and non-mandatory recommendations as noted.