

RECOMMENDED PRACTICE

ISA-RP77.60.02-2010

**Fossil Fuel Power Plant
Human-Machine Interface:
Hard Panel Alarms**

Approved 28 October 2010

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ISA
67 Alexander Drive
P.O. Box 12277
Research Triangle Park, North Carolina 27709

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Foreword

This recommended practice pertains to alarms displayed using lights or light boxes. A user with both "hard" and "soft" alarm systems should also refer to ANSI/ISA 18.2 (2009), *Management of Alarm Systems for the Process Industries*, and/or EEMUA 191 Alarm Systems: A Guide to Design, Management, and Procurement.

1 Scope

This recommended practice is provided for the benefit of design engineers and, ultimately, plant operators. Use of this recommended practice will result in a more coherent and useful application of plant alarms for operations personnel. The goal of this recommended practice is to reduce alarm discrepancies, clutter, excessive noise levels, and information overload, but it is not intended for post-factum analysis of events.

This recommended practice will address the following alarm-related issues.

- a) Functional grouping
- b) Prioritization
- c) Order and consistency
- d) Colors
- e) Formats and displays
- f) Audio tone and pitch
- g) Acknowledge, reset, and test functions
- h) Nuisance alarms

These items are addressed both individually and with respect to their relationships with one another.

This recommended practice pertains to alarms displayed using lights or light boxes, but not software-based alarms (e.g., CRP-based alarms) and is intended to supplement the information provided by ANSI/ISA-18.1-1979 (R2004), *Annunciator Sequences and Specifications*.

2 Purpose

The purpose of this recommended practice is to provide advice and guidance in the development and design of plant alarm systems. The primary application for this recommended practice is fossil power plants; however, these guidelines are generic in nature, and suitable for use in other process industries.

3 Definitions

- 3.1 alarm:** An audible and/or visual means of indicating to the plant operator an equipment malfunction or abnormal condition that requires an operator action.
- 3.2 annunciator:** An electro-mechanical or electronic packaged alarm system, usually consisting of one or more light boxes, associated logic, and power supply.
- 3.3 first-out:** In a multiple-alarm scenario, a method of determining which alarm occurred first.