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Training Manual on Fire Alarm Systems

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Foreword

The purpose of this training manual is to provide text material suitable for training persons in the proper physical installation of fire alarm signaling systems. To that end, this manual covers terminology, basic theory of operation, installation details, system startup techniques, and general maintenance.

While the manual may serve as a standalone text, it is best used as a source material for either apprentices or journeymen in a classroom environment using a qualified instructor.

The manual emphasizes installation of basic fire alarm signaling systems instead of how or when to apply the myriad system or equipment options available. Though the manual focuses on installation, the reader is cautioned to follow the specific published installation instructions provided by the manufacturer of systems or equipment being installed.

This information is a technical guide, distinct from mandatory requirements for compliance. It will be updated to keep current with requirements of referenced and/or quoted publications of other organizations. Comments, questions, or recommendations are invited and should be addressed to:

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Section 1 General

1.1 Scope

This manual, developed by NEMA's Fire, Life Safety, Security and Emergency Communication Section, provides technical information on basic life safety systems in common usage.

This edition of the manual supersedes all prior versions.

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1.2 Referenced Standards

Acoustical Society of America
ANSI/ASA S3.41

Audible Emergency Evacuation (E2) and Evacuation Signals with Relocation Instructions (ESRI)

International Code Council
IBC 2021
IFC-2021

International Building Code
International Fire Code

National Electrical Manufacturers Association
NEMA SB 50-2021

Emergency Communications Audio Intelligibility Applications Guide

National Fire Protection Association

NFPA 13-2022

Standard for the Installation of Sprinkler Systems

NFPA 70-2020

National Electrical Code®

NFPA 72-2022

National Fire Alarm and Signaling Code

NFPA 101-2021

Life Safety Code

NFPA 1221-2016

Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems

NFPA 5000-2021

Building Construction and Safety Code

Underwriters Laboratories
UL 1971

Signaling Devices for the Hearing Impaired

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