



**NECA 303-2019**

AN AMERICAN NATIONAL STANDARD



Standard for

# Installing and Maintaining Closed- Circuit Television (CCTV) Systems

Published by  
National Electrical  
Contractors Association



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(This foreword is not a part of the standard)

# Foreword

*National Electrical Installation Standards*® (*NEIS*®) are designed to improve communication among specifiers, purchasers, and suppliers of electrical construction services. They define a minimum baseline of quality and workmanship for installing electrical products and systems. *NEIS*® are intended to be referenced in contract documents for electrical construction projects. The following language is recommended:

Closed-circuit television (CCTV) systems shall be installed and maintained in accordance with NECA 303-2019, *Standard for Installing and Maintaining Closed-Circuit Television (CCTV) Systems* (ANSI).

Use of *NEIS*® is voluntary, and the National Electrical Contractors Association (NECA) assumes no obligation or liability to users of this publication. Existence of a standard shall not preclude any member or non-member of NECA from specifying or using alternate construction methods permitted by applicable regulations.

This publication is intended to comply with the National Electrical Code (NEC). Because they are quality standards, *NEIS* may in some instances go beyond the minimum safety requirements of the NEC. It is the responsibility of users of this publication to comply with state and local electrical codes and Federal and state OSHA safety regulations as

well as follow manufacturer installation instructions when installing electrical products and systems. Suggestions for revisions and improvements to this standard are welcome. They should be addressed to:

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# 1. Scope

This Standard describes installation procedures for new closed-circuit television (CCTV) system equipment installed for video surveillance and for protection of building interiors, building perimeter, and surrounding property. This publication applies to CCTV systems, equipment, components, and accessories as required for a complete and functional CCTV system for security and monitoring activities in non-hazardous locations both indoors and outdoors. It also covers periodic routine maintenance procedures for CCTV systems.

## 1.1 Products and Applications Included

This Standard applies to the following:

- Video cameras, controls, enclosures and accessories, including pan-tilt-zoom and fixed-mounted cameras
- Monochrome or color monitors, video controllers, video switches, remote switchers, quad switchers, signal processing equipment, combiners, amplifiers, control stations, video multiplexers, recording devices (tape or DVR), distribution components, power supplies, and accessories
- Electronic hardware components
- Conductor and cable installation

## 1.2 Products and Applications Excluded

This Standard does not apply to:

- One and two family dwellings
- Design or installation of lighting fixtures or security lighting

- Branch circuit wiring methods.
- Security of data, software, and computer systems
- Transmission of video images to remote locations
- Remote supervising locations that receive signals from pan-tilt-zoom CCTV Systems
- Commercial Monitoring Stations
- Alternate or back-up sources of power

## 1.3 Regulatory and Other Requirements

a) All information in this publication is intended to conform to the NEC (ANSI/NFPA 70™). Installers shall follow the NEC, applicable state and local codes, manufacturer instructions, and contract documents when installing CCTV systems.

b) Only qualified persons as defined in the NEC familiar with the construction and installation of CCTV systems shall perform the technical work described in this publication. Administrative functions such as receiving, handling, and storing CCTV system parts, components, and equipment and other tasks may be performed under the supervision of a qualified person. All work shall be performed in accordance with NFPA 70E, *Standard for Electrical Safety in the Workplace*.

c) General requirements for installing electrical products and systems are described in NECA 1, *Standard Practices for Good Workmanship in Electrical Construction* (ANSI). Other NEIS provide additional guidance for installing particular types of electrical products and systems. A complete list of NEIS is provided in Annex A.

#### 1.4 Mandatory Requirements, Permissive Requirements, Quality and Performance Instructions, Explanatory Material, and Informative Annexes

a) Mandatory requirements in manufacturer instructions, or of Codes or other mandatory Standards that may or not be adopted into law, are those that identify actions that are specifically required or prohibited and are characterized by the use of the terms “must” or “must not,” “shall” or “shall not,” or “may not,” or “are not permitted,” or “are required,” or by the use of positive phrasing of mandatory requirements. Examples of mandatory requirements may equally take the form of, “equipment must be protected . . .,” “equipment shall be protected . . .,” or “protect equipment . . .,” with the latter interpreted (understood) as “(it is necessary to) protect equipment . . .”

b) Permissive requirements of manufacturer instructions, or of Codes or other mandatory Standards that may or not be adopted into law, are those that identify actions that are allowed but not required, or are normally used to describe options or alternative means and methods, and are characterized in this Standard by the use of the terms “may,” or “are permitted,” or “are not required.”

c) Quality and performance instructions identify actions that are recommended or not recommended to improve the overall quality or performance of the installation and are characterized by the use of the terms “should” or “should not.”

d) Explanatory material, such as references to other Codes, Standards, or documents, references to related sections of this Standard, information related to another Code, standard, or document, and supplemental application and design information and data, is included throughout this Standard to expand the understanding of mandatory requirements, permissive requirements, and quality and performance instructions. Such explanatory material is included for information only, and is identified by the use of the term “NOTE,” or by the use of italicized text.

e) Non-mandatory information and other reference standards or documents relative to the application and use of materials, equipment, and systems covered by this Standard are provided in informative annexes. Informative annexes are not part of the enforceable requirements of this Standard, but are included for information purposes only.