STANDARDS

an American National Standard

ANSI/BICSI 005-2016

Electronic Safety and Security (ESS) System Design and Implementation Best Practices

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Electronic Safety and Security (ESS) System Design and Implementation Best Practices

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Revision History

May 5, 2013 First publication of this standard, titled ANSI/BICSI 005-2013, *Electronic Safety and Security (ESS) System Design and Implementation Best Practices*

May 11, 2016 Revision of ANSI/BICSI 005-2013 published as ANSI/BICSI 005-2016, *Electronic Safety and Security (ESS) System Design and Implementation Best Practices*

Major revisions include:

- Complete revision of Section 9, including section title change to *Fire Alarm System*s
- Addition of Section 12, *Commissioning*
- Addition of Appendix D, *Cloud Computing*
- Addition of Appendix E, *System Training*
- Addition of Appendix F, *ESS Operations and Maintenance*

Minor revisions include:

- Addition of content for automated infrastructure management (AIM)
- Addition of content for physical security of cabling infrastructure
- General content updates and editorial corrections

Document Format (Usability Features)

This standard has the following usability features as aids to the user:

- Additions and changes, other than those for editorial purposes, are indicated with a vertical rule within the left page margin.
- Deletions of one or more paragraphs are indicated with a bullet (•) between the content that remains

Translation Notice

This standard may have one or more translations available for the convenience of its readers. As translated text may contain inconsistencies when compared to the original text, if differences between the translation and the published English version exist, the English text shall be used as the official and authoritative version.

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1 Introduction

1.1 General

This standard is written in the context that a comprehensive safety and security strategy for a specific project or property has been developed. The interconnections of these electronic safety and security (ESS) systems are facilitated once the client requirements have been determined by parties responsible for the development of those requirements. The designed or recommended system takes into account the environmental constraints in which the electronic safety and security infrastructure will be installed and operated. This includes consideration of the appropriate safeguards that may be necessary due to:

- Layout of a particular area
- Environment
- Topology
- Climate
- Current and future types of equipment to be supported
- Type of cabling
- Functionality of the network
- Pathways or spaces over which the cabling will be installed

1.2 Purpose

This standard is written for use in the design and implementation of the structured cabling systems used within electronic safety and security systems. This standard provides a reference of common technology and design practices, and is not intended to be used by architects and engineers as their sole reference or as a step-by-step design guide. This standard may also be used to determine design requirements in conjunction with the system owner, occupant, or safety and security consultant.

This standard is intended primarily for, but not limited to:

- ESS system owners and operators
- ESS system consultants and project managers
- Architects
- Authorities having jurisdiction (AHJ)
- Engineers
- ESS system installers

1.3 Categories of Criteria

Two categories of criteria are specified - mandatory and advisory.

- Mandatory criteria generally apply to protection, performance, administration, and compatibility; they specify the absolute minimum acceptable requirements.
- Advisory or desirable criteria are presented when their attainment will enhance the general performance of the ESS system infrastructure in all its contemplated applications.

Mandatory requirements are designated by the word *shall*; advisory recommendations are designated by the words *should*, *may*, or *desirable*, which are used interchangeably in this standard. When possible, recommendations and requirements were separated to aid in clarity.