

Cybersecurity Challenges Addressed in NFPA 72 Abstract

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Course Description

One of the biggest changes in the soon-to-be-released NFPA 72 Code is the addition of Chapter 11, Cybersecurity. Get an overview from an insider's perspective on how this chapter evolved, its implications to the industry, and where to reference the code to learn more about these new requirements.

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Learning Objectives

1. Why did the Code evolve to include Cybersecurity?
2. What does NFPA 72 actually address in relation to Cybersecurity?
3. Where do I find references to Cybersecurity in the Code?
4. How do I apply this knowledge to my specific facility or campus?

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Nelson Mandela

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Welcome our Presenter – Denise Pappas



- Executive Director, Technical Standards, Valcom
- Works on leadership teams (Valcom and Keltron)
- Extensive experience in the fire alarm and telecom
- Pre-Valcom, National Sales Mgr., Harrington Signal
- Participates in a wide variety of fire, life safety and emergency communications code committees
 - Intelligent Building Systems - BICSI
 - NFPA 72 Chapter 24 – EC Systems
 - NFPA 101/5000 - Life Safety Code
- Works on several ICC committees
- Communications and Systems Chair for NEMA 3SB
- Studied at Bowling Green State University
- Certified Speaker and experienced presenter

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Webinar Training



NFPA 72 Code Changes: Addressing Cybersecurity

Denise L. Pappas, Executive Director, Keltron Corporation
Chairperson of the NEMA3SB Communications and Systems Committees

October 8, 2020



The Basics



- I am not NFPA.
- I am not NEC.
- I am not NEMA.
- I am not an AHJ (and yes, they can be crazy!).
- I am not the smartest person in the room, but I do know a few things.
- I reserve the right to revise and extend my comments.
- You can ask questions – just don't annoy everyone else!



Today's Objectives

- Why did the Code evolve to include Cybersecurity?
- What does NFPA 72 actually address in relation to Cybersecurity?
- Where do I find references to Cybersecurity in the Code?
- How do I apply this knowledge to my specific campus or facility?

About NEMA

NEMA –

National Electrical Manufacturer's Association

NEMA 3SB –

Fire, Life Safety, Security and Emergency
Communications Section

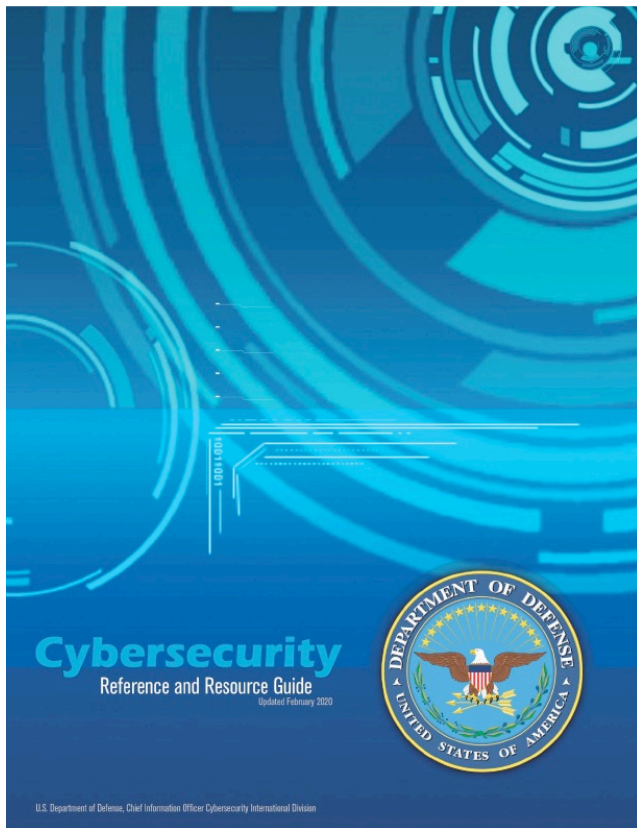




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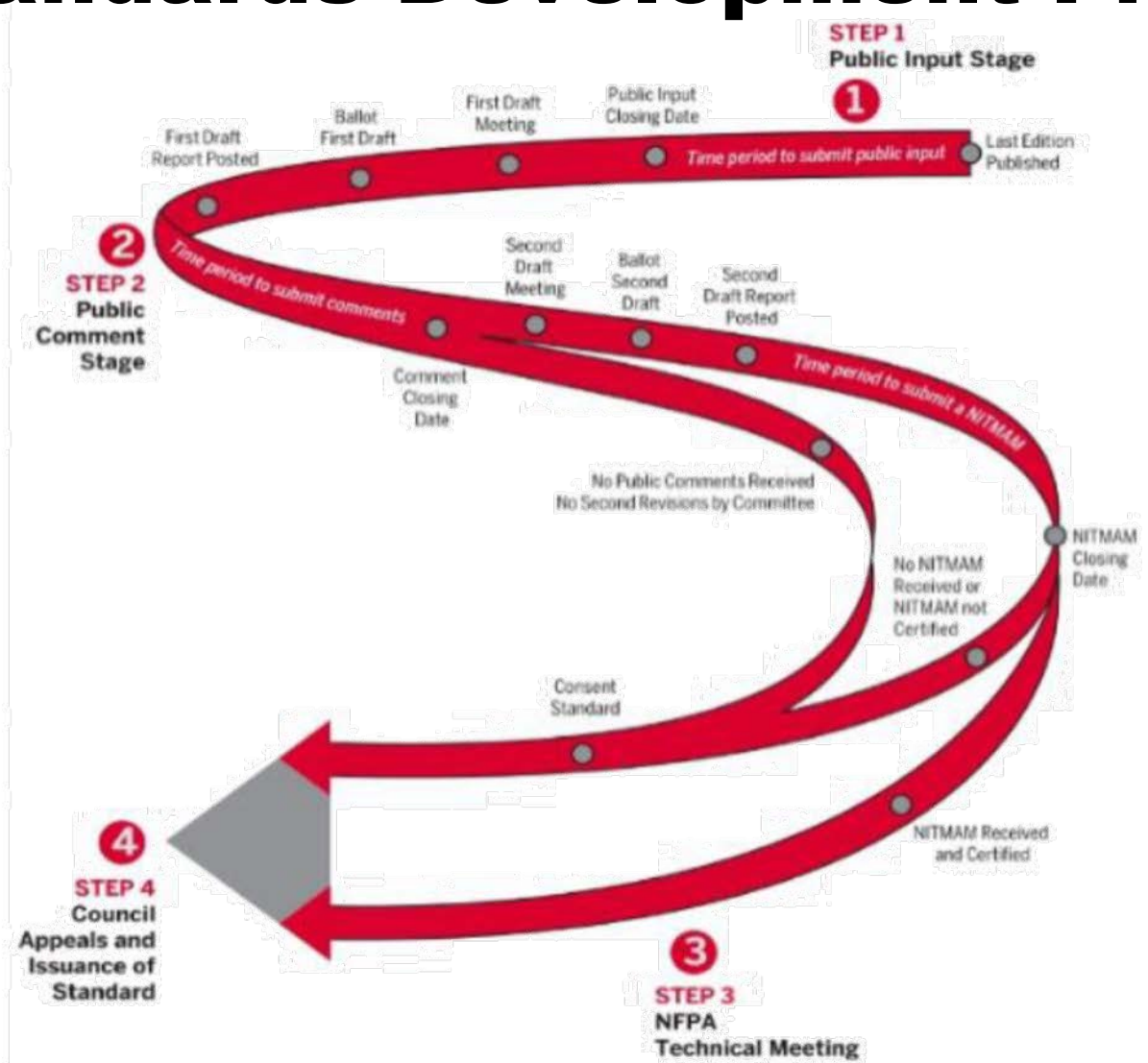
U.S. DEPARTMENT OF
ENERGY



Office of Cybersecurity, Energy Security and Emergency Response (CESER)



The Standards Development Process





Terms

- Cybersecurity
- Proprietary
- Open Architecture
- Encryption



Terms

- Cybersecurity – Proposed language NFPA 72 2022
 - Cybersecurity.
 - 3.3.64 Cybersecurity.
 - The protection of systems from theft or damage of data, or damage to hardware or software, as well as from unauthorized command or control or access to any information of any services the systems provide.



NFPA Requirements

- Redundancy
- Reliability
- Survivability
- Hackability



Cybersecurity Communication Pathways

- Ethernet/Internet
- Mesh Radio
- Cellular





The Evolution

- Coded signaling
- Direct wire connections
- Telephone communications
- Fiber optic distributed multiplex
- Radio frequency
- Ethernet signaling
- Cellular communications



Codes and Standards

Challenges with Codes:

- Technology always continues to advance
- Codes have a set cycle
- Adoption by local and state agencies
- The need for cybersecurity



Addressing Cybersecurity

- Framework is in place
- Not designed to overwhelm existing code
- Must go through the NFPA balloting process:

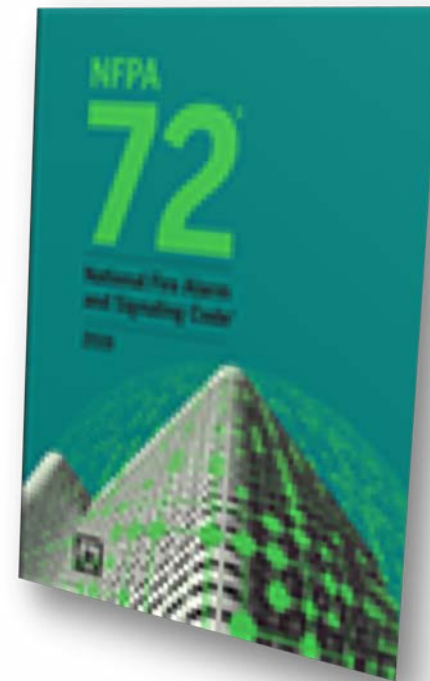
1st draft - complete

2nd draft – currently in ballot

2022 Edition final vote - June 2021

Cybersecurity References

Where in the 2022 Edition of NFPA 72
can I find information about
cybersecurity?





NFPA 72-2022 – Chapter 10

10.5 Cybersecurity Requirements.

Where required by other governing laws, codes, or standards, systems shall be protected by cybersecurity requirements.

NFPA 72-2022 – Chapter 24

24.3.12.11*

- Where identified by the risk analysis or required by federal, state, or local regulation or the AHJ, systems shall be designed, installed and maintained in accordance with cyber security standards.

NFPA 72-2022 – Chapter 24

A.24.3.12.11

- **Cyber security standards include the following:**
- **(1) ANSI/ISA-62443 Series**
- **(2) NIST Framework for Improving Critical Infrastructure Cybersecurity Version 1.1**
- **(3) UL 2900 Series**
- **(4) Performance standards accepted by the stakeholders**



NFPA 72-2022 - Chapter 26

26.2.10

- Cyber security Classification. Cyber security design standards and certification requirements shall be in accordance with 10.5.



Fire and Life Safety Systems' Cybersecurity Challenges

*The Challenge is to Ensure Cybersecurity
While Maintaining Maximum Performance*



Goal:

Provide secure, reliable and fast alarm signaling

Considerations:

- Existing infrastructure
- Firewalls
- Software limitations
- Passwords and privileges



Applying This Knowledge

- Dedicated fire alarm system computers
- Encryption
- Appropriate firewalls
- Proprietary architecture
- Limited access via the Internet
- Isolate from outside sources
- Use VPN for remote connections



Keltron History and Qualifications

- 50+ years of fire and security experience
- Founded by MIT engineers. Acquired in 2018 by the owners of Valcom, Roanoke, VA, USA.
- Products are UL 864 listed for Central, Remote and Proprietary Supervising Stations
- CSFM and FDNY approved
- Member of NFPA 72 Chapter 26 SIG-SSS committee
- ISO 9001: 2015 certified
- US DoD JF-12 certified
- Unique retrofit capability to ease the transition from legacy to newer technologies



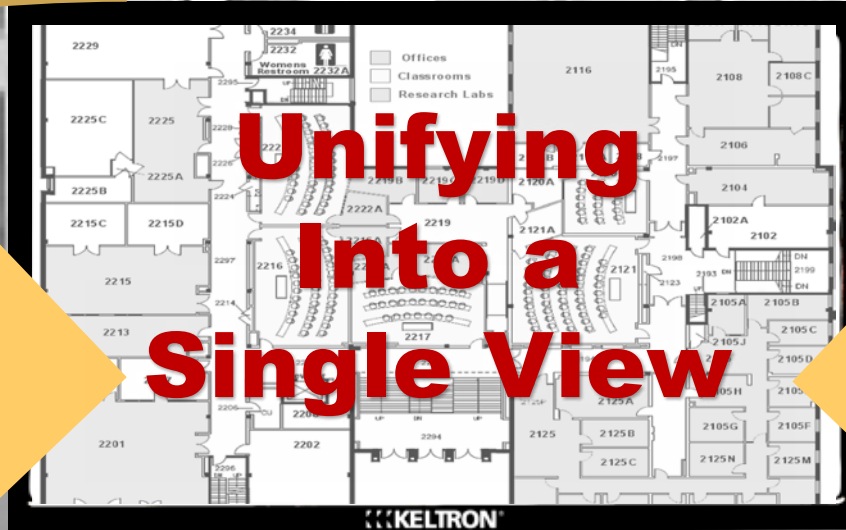


What Do Keltron's Systems Do?

Multiple Fire Alarm Panel Brands

Multiple Alarm Signaling Technologies

Unifying Into a Single View





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What Does the Future Hold?





New Solutions

Keltron LS NET9000 IP Transceiver – provides faster, more reliable, dual-path signaling

- **Keltron LS 50 Mobile Notifications** – increases facility-wide situational awareness



- **Shake Alert** – early warning system for earthquakes to notify fire departments, hospitals, and mission critical facilities of impending earthquakes



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Got Questions?

We've Got Answers

Stay Connected



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