

**Fire Protection Technology** 

## **Principles of Community Risk Reduction**

Fire Code updates, Legal Aspects, Prevention, and Public Education

**Campus Fire Safety & Campus Community Risk Reduction** 



# Conference Schedule of Events Program and Session Descriptions

February 26th and 27th, 2024

Hyatt Regency - Columbus, Ohio







**The Fire Code Academy** 81 Mill Street – Suite 300 Gahanna, Ohio 43230 1-614-416-8077

## www.FireCodeAcademy.com

The Fire Code Academy (FCA) provides affordable professional level training, consulting, and continuing education in the fields of *Community Risk Reduction, Code Enforcement, Fire Science, Fire Protection systems, Fire Prevention, High-Rise Fire Safety and Emergency Response.* It is our mission to serve as a leader in advancing professionalism by designing and delivering high quality training and education to members of the fire service and those fire safety and code related fields for competent practice as firefighters, fire inspectors, educators, and beyond.

Through our educational programs, the FCA offers comprehensive and practical education in the administration, application and enforcement of the Ohio Fire Code, the International Fire Code, NFPA 101, Fire Inspection Techniques, Firefighter CEUs, Fire Service Management & Leadership, OSHA required trainings, and related subjects. The FCA encompasses all major model codes and training programs designed for the Fire Service as well as Private Industry (safety and risk management) personnel. The FCA completed a multi-year contract to provide fire code/fire inspector training to federal firefighters including members of the VA Healthcare System, the Army and Airforce.

#### **Training and Continuing Education**

We are committed to excellence by offering exceptional educational programs from knowledgeable and experienced instructors for fire and industry professionals to advance their careers.



With our "Close-to-Home" program, the FCA brings training and education to <u>your area of the</u> <u>State</u>. We will train multiple members of your organization in your community for a fraction of the cost you would pay to send them out of town or provide multiple online memberships.

#### **Ohio Certified Firefighters and Fire Safety Inspectors**

Programs offered through the FCA meet and/or exceeded the continuing education requirements as set forth in the Ohio Administrative Code (OAC) Sections 4765-20-13 for Firefighters and 4765-20-12 for Fire Safety Inspectors as approved by your Fire Chief or Charter Training Director.

#### **Consulting and Fire Inspector Assessment Center & Evaluation**

Our cadre of professionals can assist your fire department or business in conducting fire inspections or risk reduction surveys within your community or on your company property. In addition, we also provide fire prevention and fire code management services. The Fire Code Academy conducts professionally operated fire inspector/fire marshal hiring and promotional assessment center evaluations.













First Floor Rooms

Second Floor Rooms

# **Conference Schedule**

Workshop/Breakout Sessions Overview Information

#### Sunday February 25, 2024

5:30pm - 12:00am - Franklin Lobby Exhibitor Set-up

7:30pm – 9:00pm – Knox Meeting Room Early Arrival Registration

7:45pm - 9:30pm Hotel PDR Room (<u>Private Dining Room located on the 2nd floor next to the restaurant</u>) Early Arrival Conference Registration and Hospitality

#### Monday February 26, 2024

8:00am - 11:00am - Franklin Rooms A, B, C, & D Conference Open and Keynote General Session

#### 11:00am - 12:00pm - Franklin Lobby / Exhibit area

!! Hour of Power !! - One-On-One with our Technology Experts and Exhibitors

#### 12:00pm - 1:00pm - McKinley & Hayes Meeting Rooms (located on the first floor) Lunch

NOTE: This logo [ ] in the program schedule indicate this lecture has an been APPROVED by the Ohio Board of Building Standards (OBBS) for 1-hour of continuing education credit for building officials, fire protection inspectors, building inspectors and those who receive a separate certification from the State of Ohio [OBBS].

### Monday February 26, 2024

#### 1:00pm - 2:00pm – Break Out Sessions and Work Shops

Franklin Room - A 116. Handling Emergency Responses on College, University, Educational and Business Campuses

Franklin Room - B 114. Lithium-Ion Batteries - Defining the Problem



143. Emergency Responder Communication Enhancement Systems (ERCES) and the UL Certification Program [B]

**Franklin Room - D** 128. Putting NFPA 915 - To Work in Your Jurisdiction [The Standard for Remote Inspections] [B]



138. Summary of Key Changes to the 2024 ICC Model Codes - International Fire Code, International Building Code, Etc... [B]

#### Taft Room - A

118. Wood Construction and the Fire Investigator

#### 2:15pm - 3:15pm - Break Out Sessions and Work Shops

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Franklin Room - A

109. Fire Alarm Awareness and Education for Students with Disabilities



Franklin Room - B

120. Technology - It Moves How Fast?



#### Franklin Room - C

140. When Seconds Matter - A Wholistic Look at the Journey of the Fire Alarm Signal - How Technology Can Be Leveraged to Reduce the Time it takes to Deliver These Signals to First Responders [B]



#### Franklin Room - D

127. Understanding Sprinkler Monitoring - Past, Present, and Future [B]

#### Fairfield Room

112. Updates to the 2023 Edition of NFPA 25 - Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems [B]



130. Large Construction Site Fire Case Study. Is Your Community Prepared?

#### 3:15pm - 3:45pm - Franklin Lobby / Exhibit area

Afternoon Break with Exhibitors



### Tuesday February 27, 2024

#### 8:00am - 9:00am - Break Out Sessions and Work Shops



#### Franklin Room - A

107. Understanding Wall Assemblies Used in Townhouse Unit Separation

Franklin Room - B

101. Providing Fire Safety Education through Civic Engagement - Community Risk Reduction



#### Franklin Room - C

126. Electro-Mechanical Systems for Life Safety - Smoke Control & Fire Service Access Elevators (FSAE)



#### Franklin Room - D

142. A Quick Look at Consumer Fireworks & Other Useful Information

#### **Fairfield Room**

104. NFPA 770 and Hybrid Fire Extinguishing Systems. [NFPA 770 - Standard on Hybrid (Water and Inert Gas) Fire-Extinguishing Systems] [B]

#### 9:00am - 9:30am - Franklin Lobby / Exhibit area

Mid-Morning Break with Exhibitors



#### Franklin Room - A

133. Ensuring School Safety: Strategies and Best Practices



#### Franklin Room - B

137. Safe Passage: Exploring Fire Door Inspections, AHJ Roles, and Ohio (ICC) Building Code Updates

#### Franklin Room - C

139. NFPA 96 and NFPA 17A Inspections Working Together - [NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking] [NFPA 17A, Standard for Wet Chemical Extinguishing Systems]

#### Franklin Room - D

154. Updates to the 2022 Edition of NFPA 72 - National Fire Alarm and Signaling Code [B]

**Fairfield Room** 132. The AHJ-Fire Alarm Contractor Relationship: A Prescription for Success

#### Taft Room - A

129. Historic Districts and Buildings - Fire Sprinkler Retrofit Case Study

#### 12:00pm - 1:00pm - Lunch

#### Hayes Meeting Room (located on the first floor)

Ohio Fire Officials Luncheon and Round Table Discussion with the State Fire Marshal

#### McKinley Meeting Room (located on the first floor)

Lunch – (Those not attending the Ohio Fire Officials Luncheon with the State Fire Marshal)

#### 1:00pm - 2:00pm – Break Out Sessions and Work Shops

#### Franklin Room - A

131. Elevator Occupant Evacuation Operation (OEO). OEO 2.0: Supplementing Fire Alarm Prescriptions with Practical Performance to Enhance Life Safety



#### Franklin Room - B

145. Company Officer Training & Tactics in Buildings with Sprinkler & Standpipe Systems using NFPA 13E. [NFPA 13E - Recommended Practice for Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems [B]

#### Franklin Room - C

141. YES!, There are Updates to NFPA 96 and ANSI/IKECA Standards. [NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations]

Franklin Room - D

136. MythBusters: Fire Protection Edition - Volume 3 [B] 🗑

#### 2:15pm - 3:15pm – Break Out Sessions and Work Shops

#### Franklin Room - B

103. Colliding worlds of Emergency Management and Fire Safety

#### Franklin Room - C

119. Emergency Responder Radio Coverage (ERRC) and Two-Way Radio Communications Enhancement Systems (RCES) [B] 🗑



Franklin Room - D

156. The Compliance Engine - Brycer

## Conference Workshop and Breakout Sessions Program Overview



**<u>NOTE</u>**: These two logos in the program descriptions (below) indicate this lecture has an <u>been **APPROVED**</u> by the Ohio Board of Building Standards (OBBS) for <u>1-hour</u> of continuing education credit for building officials, fire protection inspectors, building inspectors and those who receive a separate certification from the State of Ohio [OBBS].

#### 100. Plan Review: Jump Started & Streamlined

Presented by: City of Redlands Fire Department (California)

At initial glance the plan review process can seem confusing and complicated. Not to worry! This presentation highlights a variety of resources in NFPA standards to help fire protection system designers as well as AHJ personnel effectively navigate the plan review process. Attendees will be guided through the requirements of plan submittal construction documents and associated acceptance tests for some of the most common fire protection systems including: Fire Sprinkler Systems (NFPA 13, 13D, & 13R), Fire Alarm Systems (NFPA 72), & Kitchen Hood Systems (NFPA 17A). The best practices from this class will provide all stakeholders involved in the plan review process enhance their service delivery for clients and communities alike. [BBS2024-357]

At the conclusion of this presentation attendees will be able to identify:

1. The aspects required in a complete set of plans and construction documents for fire sprinkler systems (NFPA 13, 13D, & 13R).

2. The aspects required in a complete set of plans and construction documents for Fire Alarm Systems (NFPA 72).

3. The aspects required in a complete set of plans and construction documents for kitchen hood fire suppression systems (NFPA 17A).





#### 101. Providing Fire Safety Education through Civic Engagement

Presented by: Fayetteville State University

As part of our Ethics and Civic Engagement requirement for graduation, students' complete coursework provided in cooperation with the American Red Cross. Students participate in Sound the Alarm smoke alarm installation campaigns within the community. Students learn the value of fire safety activities, presenting fire safety messages to the public, and providing lifesaving smoke alarms to needy families.

Learning Objectives:

1. Learn about fire safety at home and on campus.

2. Provide fire safety instruction allowing the student to improve communication skills.

3. Learning about and developing actions to serve poor and underserved residents within the community to reduce their risk from fire.

#### 103. Colliding worlds of Emergency Management and Fire Safety

Presented by: George Mason University

This presentation will cover how at schools and University's traditional fire safety systems are changing in light of a shift to all hazards planning and an intensified focus on non-fire emergencies. NFPA 72 has introduced a mass notification risk assessment that should lead you down the path of getting a mass notification system for the building. However, whenever you are talking about Institutions of Higher Education or even K-12 school systems it is very challenging to make changes to one building and not provide an equal level of safety in another building. The world of Fire Safety is well established in the codes of today (in fact founded the modern landscape of codes), however Emergency Management isn't included in codes that have real world impacts on emergency response. We will explore how Emergency Management should be included as new buildings are being built or old ones renovated. The other questions that must be asked are: 'How does the Emergency Manager fit into the building design process?' 'How does a buildings features fold into the already established notification protocols that the school system or institution already has?' 'Does even installing this system provide additional protection for the occupants?' and 'How does this building's system interface with other buildings surrounding it?'. All these questions and more will be answered in my presentation.

Learning Objectives:

- 1. Explore the impacts that building systems have on Emergency Management.
- 2. Learn strategies to make buildings align with all hazard planning.
- 3. Learn about the Mass Notification risk assessment and how it can be used.



#### 104. NFPA 770 and Hybrid Fire Extinguishing Systems

Presented by: Fire and Pump Service Group



This presentation will assist and in the Understanding and outlining the new NFPA 770 and the Hybrid (Nitrogen and Water Mist) fire extinguishing system.

Learning Objectives:

To inform the public of the new NFPA Code; to inform the public about Hybrid fire extinguishing system, and the Fire and Pump Service Group Hybrid Fire Extinguishing System. [BBS2024-354]

#### 107. Wall Assemblies Used in Townhouse Unit Separation

Presented by: GBH International

Townhouse unit separation is a source of much confusion on the part of builders and code officials. Specifically, there are misunderstandings regarding fire resistance-rated assemblies and, allowable penetrations (and their protection), and allowances (or restrictions on) mechanical, electrical, and plumbing equipment inside the walls.

Learning Objectives:

(1) Have a general understanding of how fire-rated wall assemblies are tested.

(2) Understand what types of wall assemblies are permitted for townhouse unit separation.

(3) Understand code requirements regarding penetrations through and equipment inside of townhouse separation walls.

#### **108. Fire Code Officials and Fire Service Personnel Preparation for Testimony and other Legal Proceedings** Presented by: The Fire Code Academy

"So, you get asked or subpoenaed to testify or provide information in a case that you may have been involved in." Whether you are a firefighter, company officer, chief officer, fire safety inspector or fire investigator, there may come a time when you may have to provide information or testify in a criminal or civil trial. Or you may have to provide facts in a deposition, hearing or other form of legal setting. Testifying as a witness can be very scary, because it's something that the fire service does not do often.

When and if, this happens, being prepared is the most helpful thing to get through it. This session will provide ways for members of the fire service to prepare for courtroom testimony, as well as participating in other legal settings. Also, it will provide information on the legal process, to help the participant better understand their duty. The importance of thorough and accurate reports and notes will also be discussed. In the end, the participant will have a better understanding of the legal process and the experience will be less intimidating. Obtain knowledge about the case by reviewing reports and notes and research pertinent Codes and regulations to be better prepared. A (Yogism) from a great baseball player (Yogi Berra) "Know what you know: Know what you don't know: Know what you need to know: Know what you don't know but need to know" is good advice to help you in the preparation process. Actual case reviews will be presented to enforce lessons learned.

Learning Objectives:

- 1. Participants will have a better understanding of the Legal process.
- 2. Provides various ways a person can obtain needed knowledge to prepare themselves.
- 3. Will highlight the importance of good record keeping and accuracy of reports.

#### 109. Fire Alarm Awareness and Education for Students with Disabilities

Presented by: Jerome Township Division of Fire (Ohio)

This presentation is to help students and adults with disabilities to understand and remain calm when the fire alarm alerts. During this presentation you will learn educational tips to help people with disabilities to remain calm and exit the building during the fire alarm. This program was designed to combat the problem of students with disabilities leaving before the fire drill. It will show tips on how we can educate students to make them feel a little more relaxed with fire alarm sounds.

Learning Objectives:

1) How to develop better relationships with your schools, students with disabilities, and the special education department.

2) How to educate students with disabilities to feel safer during fire drills

3) How to develop a fire alarm program for students with disabilities.

#### 110. Fire Department Operations in Multi-Story and Large-Area Structures

Presented by: Dayton Fire Department (Ohio)

Do your fire companies really know the buildings in their first-due district? Various concepts of fire protection systems, some of which can be quite complicated or intimidating, and brought down "to the street" for firefighters and company officers. Significant knowledge of standpipe and sprinkler systems, fire pumps, elevators, fire alarm control panels, smoke control systems, and other building safety features is often reserved for fire prevention or code enforcement personnel. Students will gain an understanding of complex fire protection system components that will enable them to apply the easy-to-remember principles on working incidents. Attendees are also guided in developing a realistic and engaging company-level pre-incident planning program. Case studies involving line-of-duty deaths and high-dollar-loss fires that occurred in buildings despite fire protection systems being in place are also examined.

#### Learning Objectives:

1. Identify basic operating principles and functionality of common fire protection features in buildings.

2. Explain how to troubleshoot and resolve operational problems with existing fire protection systems.

3. Develop a more thorough and engaging pre-fire planning process for large-area and/or tall commercial structures.

#### 111. Fire Pumps: The Good, The Bad, and The Ugly

Presented by: American Fire Sprinkler Association

Where needed, fire pumps are an essential component of a water-based suppression system. Selecting the most efficient driver and pump is a critical component of a successful and profitable installation project. This seminar examines how to determine the need for a fire pump along with choosing the proper pump capacity. The latest in pump installation requirements are reviewed including those for multi-stage, multi-port pumps. The latest information and requirements for acceptance testing and periodic inspection, testing, and maintenance are discussed along with the most efficient methods for assuring compliance with the standards. This seminar concludes with a review of some common issues and mistakes made when designing, installing, and inspecting/testing fire pumps. [BBS2024-352]

Learning Objectives:

1. Determine the need for a fire pump, calculate the most efficient pump capacity, and select the best driver for the application.

2. Locate and apply the latest requirements for fire pump installation.

3. Locate and apply the latest requirements for acceptance testing and periodic inspection and testing of fire pumps.

4. Explain common mistakes made when designing, installing, and maintaining fire pumps along with potentially negative consequences.

#### 112. Updates to the 2023 Edition of NFPA 25

*The Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems* Presented by: American Fire Sprinkler Association



This seminar will discuss the changes made to the 2023 edition of NFPA 25 Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems. The newest edition is available to the public and this presentation will help you stay ahead of the game with the ever-changing requirements in NFPA 25. Remember — there is no retroactivity clause! - *[BBS2024-358]* 

Learning Objectives:

- 1. Determine the qualifications for a competent person
- 2. Identify and apply new definitions for "Floor Level" and "Exercise"
- 3. Identify updated frequencies for the testing of sprinklers
- 4. Identify new requirements for the testing and inspection of concealed sprinklers
- 5. Identify new requirements for the testing and inspection of fire pumps

#### 113. Planning Modifications to Existing Sprinkler Systems -

Presented by: American Fire Sprinkler Association



For the 2022 edition of NFPA 13, the single-point density concept was finally adopted, and the area/density curves became obsolete. This change sparked an overhaul of the Modification to Existing Systems chapter in NFPA 13 and includes a lot more direction for changes to systems that are already in service. This seminar will review the new structure of the existing systems chapter and additional requirements on the evaluation, modification, and testing of existing systems. [BBS2024-361]

Learning Objectives:

- 1. Define an existing system
- 2. Identify the existing system requirements that were relocated from Chapters 4-29 to Chapter 30
- 3. Identify and apply the five new parent sections in the reorganization of Chapter 30
- 4. Identify installation allowances for existing systems
- 5. Identify appropriate design criteria for modifications based on the installed system
- 6. Identify and apply acceptance test allowances for existing systems

#### 114. Lithium-Ion Batteries - Defining the Problem

Presented by: The National Fire Protection Association (NFPA)

From cell phones to power tools, to e-scooters, electric vehicles, and energy storage systems, lithium ion batteries are everywhere. Over the past 10 years, costs have fallen and performance has doubled. The opportunities have dramatically widened for manufacturers, but there are fire risks associated. In this presentation, NFPA helps to define the problem, increase knowledge, and highlight research, reports, and resources.

After attending this presentation, attendees will:

- 1. Identify the fire risks associated with Lithium Ion Batteries.
- 2. Understand conceptually Lithium Ion Batteries cell construction.
- 3. Recognize training and research resources through NFPA

#### 115. Interacting with the Special Needs Population

Presented by: Western Illinois University

This presentation will discuss the opportunities members of the fire service have to interact with the special needs population on a more personalized basis. Topics covered will be methods of communication, methods of physical interaction, and ways to utilize social media to engage those with special needs.

Learning Objectives:

1. Understand the need for the fire service to engage, and interact with, members of the special needs community in their service areas.

2. Identify methods of communication to utilize with individuals of various special needs.

3. Identify resources that can help engage special needs populations.

#### 116. Handling Emergency Responses on College, University, Educational and Business Campuses

Presented by: University of Louisville Department of Public Safety

As this is often not considered or thought of, most Colleges, Universities and Business Campuses are basically a city within a city, consisting of assembly areas, classrooms, administrative offices, restaurants and cafeterias, laboratories, hazardous materials storage, general storage, recreational facilities, athletic facilities and dormitories. Many of these occupancies are intertwined together, and facilities are relatively large in capacity. Other potential hazards exist including railroads, interstates and/or major highway transportation, nearby industry, wildland/urban interface, airports, and active aggressor situations just to name a few. Through class participation and general discussion, this class will focus on how we deal with emergency situations on our campuses and provide insight on how to pre-plan and manage these events, and provide tools and ideas to take back to your respective agencies to work with your local Colleges and Universities in developing a good partnership and generate training opportunities between agencies from tabletop drills to large-scale exercises. This will help identify key stakeholders, emergency contacts, building access, evacuation routes, campus "hot spots", emergency vehicle access and staging, hazard identifiers, and other key components that will enhance your response, improve campus relations, and create a cohesive relationship so when the time comes all parties are on the same page and work well together, and that key decision-making personnel are involved from the onset.

#### Learning Objectives:

1. To enhance participants ability in identifying hazards that exist in around campuses, and developing flexible pre-plans.

To identify key stakeholders, decision makers, and facility personnel that would be directly involved 2. in the event of an emergency situation, and establish strong working relationships amongst groups. 3. To provide building blocks in establishing good training practices amongst all agencies and campus administration.

#### 118. Wood Construction and the Fire Investigator

Presented by: American Wood Council

Tis course is designed for Fire/ Arson Investigators to better know the principals of wood construction and how a thorough knowledge of wood construction can benefit an investigation. It will review key sections of NFPA 921. The program will highlight provisions of the International Residential Code to call attention to possible code violations that could possibly cause unusual or rapid-fire spread and failure of an assembly. The course concludes with a case study.

Learning Objectives:

1. Review the scientific method as a "systematic approach" to fire investigation and why a knowledge of building construction is required.

2. Identify the 5 types of building construction and wood construction methods. Focus on various wood construction methods.

3. Discuss specific code requirements and how failure to meet the code can result in rapid fire spread or failure.

#### **<u>119. Emergency Responder Radio Coverage (ERRC) and Two-Way Radio Communications Enhancement</u> <u>Systems (RCES)</u>**

Presented by: Code Consultants, Inc

This presentation focuses on the code requirements pertaining to emergency radio responder coverage and, if adequate coverage is not anticipated, the subsequent two-way radio communications enhancement system. The presentation covers both procedural and technical aspects of the numerous codes including International Building Code (IBC), International Fire Code (IFC), NFPA 1 - Fire Code, NFPA 72 – National Fire Alarm and Signaling Code, and NFPA 1221 – Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, and NFPA 1225 – Standards for Emergency Services Communications regarding minimum radio coverage requirements and radio enhancement system design concepts and capabilities as a result. The presentation contains a heavy focus on code compliance for new and existing buildings.

[BBS2024-351]

Learning Objectives:

1. The participant will be able to identify code requirements regarding emergency responder radio coverage within IBC, IFC, and/or other building codes.

2. The participant will be able to understand various engineering approaches utilized in determining if adequate radio coverage exists for new and existing structures.

3. The participant will be able to understand various approaches to the design and installation of an enhancement system if adequate radio coverage does not exist, including pathway survivability and enhancement system installation requirements.

#### **120. Technology - It Moves How Fast?**

Presented by The Keltron Corporation

In the world of fire and life safety, getting information in real time is critical - how fast can it move, really? This session will focus on communications technologies within the fire and life safety world from historical POTS lines to some of the cutting-edge technologies available today. From cybersecurity to AI, what's out there? What does NFPA 72 say about using new technologies and how can we adapt them in the fire alarm and life safety world today? What's available to improve overall situational awareness that helps you make decisions in real time.

#### 122. The Benefits of Combining Fire Code and Zoning Code Enforcement

Presented by: Springfield Township Fire Department (Ohio)

There will be discussion on how Springfield Township combined the fire code and zoning code enforcement; what drove Springfield Township to this decision and the success and pit falls associated with such an undertaking. After seven years, this initial program has taken many different approaches on how to achieve enforcement. We will discuss the many benefits of using the codes to supplement each other to achieve enforcement. Explanation of the legal process and how the court system works in your favor for enforcement will also be a topic of discussion.

Learning Objectives:

- 1. The benefits of combining Fire Code Enforcement and Zoning.
- 2. Collaboration between inter municipality departments and county or state agencies benefit enforcement.
- 3. Utilizing the court system for enforcement, when it was not an option before.

#### 123. A Look into School Safety; How New Technology and Design Affects Safety. |

Presented by: Springfield Township Fire Department (Ohio)

Have you been involved in the pre-planning of a new education building? It is a world of changing technology from bullet resistant drywall and glass to metal detectors at entryways. New design features such as open learning areas and open unisex bathrooms are all new concepts that most of us are unfamiliar with and change every year. We will discuss these and more changes in this everchanging field. There also will be a comparison between lessons learned from one school district of a school built last year and a new school in the planning phase this fall for construction to start in the spring. How cost affects the final decision on what stays and what the decision makers feel are not needed.

Learning Objectives:

- 1. Demonstrate the new building materials being used for entryways.
- 2. How the monetary budget affects safety between schools.
- 3. Is it possible to have a minimum requirement for security for schools?



#### 124. The Fire Code Official's Role in Reducing Unwanted Fire Alarms

Presented by: The National Fire Sprinkler Association



The issue of unwanted fire alarm calls is a problem that needs to be addressed. Statistics show the number of unwanted fire alarm calls that the fire service must respond to is getting worst, not better. This seminar will discuss the code official's role in reducing unwanted and nuisance fire alarm calls. While attending this seminar will not solve this problem, you will leave with specific concepts that are proven to be effective at reducing unwanted fire alarms. [BBS2024-360]

Learning Objectives:

1. Review the IFC criteria for fire alarm installations to ensure the installation meets code and devices are not installed in areas that will lead to problems.

2. Provide guidance from NFPA 72 and examples to show how the technical committee and fire alarm technology is trying to deal with this issue.

3. Show specific methods for reducing the number of unwanted fire alarm calls in your jurisdiction.

#### **126. Electro Mechanical Systems for Life Safety - Smoke Control & Fire Service Access Elevators (FSAE)** Presented by: Space Age Electronics

Smoke Control Systems are highly complex and require a multitude of expert designers and installers. This presentation will provide a brief history of how these systems evolved over decades of code changes and enhancements. You'll learn the two types of systems and their designed purpose as well as seeing graphically how all equipment interconnects. A high level review of codes and standards will be discussed, (IBC, NFPA, IFC) along with a review of design documents needed to quote and understand the full functionality. Lastly you'll be introduced to Fire Service Access Elevators and how this important system is being required in more jurisdictions across the country.

Learning Objectives:

1. Understand the purpose of smoke control system & Codes/Standards that drive design as well as installation.

Learn the Ecosystem of Responsibility for designing these complex systems, including FSAE
Learn the two primary types of smoke control system, Electro/Mechanical equipment and the interconnection between all major components.

#### 127. Understanding Sprinkler Monitoring - Past, Present, and Future

Presented by: Potter Electric Signal Company



The monitoring of sprinkler systems is not a new concept. But technology allows for monitoring these critical systems for conditions never before thought of. New sensors, wireless technology, and increased integration with other systems all take this age-old practice to places only dreamt about just a few years ago. In this interactive presentation, participants will hear of the beginnings of sprinkler monitoring, where current codes, standards, and products are, and peek into the future as well. [BBS2024-356]

Learning Objectives:

1. Recall the history of fire sprinkler system monitoring and trace its origins.

2. Understand the importance of monitoring certain critical system functions and the consequences of improper monitoring.

3. Predict where new technology is heading with sprinkler monitoring and these improvements will help improve overall fire and life safety.

#### **128.** Putting NFPA 915 - The Standard for Remote Inspections and Tests - To Work in Your Jurisdiction Presented by: Potter Electric Signal Company



NFPA 915 began is life just a few short years ago as a standard developed around "Remote Video Inspection". But even before it's publication, its grown into a standard that provides a framework around not only remote inspections, but also automated testing. As its currently written, NFPA 915 addresses many of the considerations needed to implement and manage remote inspection and testing in today's rapidly changing world. In this presentation participants will learn about the history behind NFPA 915, its current status, and how to put the concepts addressed in NFPA 915 to work. [BBS2024-355]

Learning Objectives:

- 1. Recall the conditions that prompted the development of NFPA 915.
- 2. Understand the scope and application of the standard.
- 3. Put into practice the concepts covered by NFPA 915.

#### 129. Historic Districts and Buildings - Fire Sprinkler Retrofit Case Study

Presented by: City of West Des Moines Fire Department (Iowa)

Our city was founded around a 6 square block historic district called Valley Junction. As new development occurred elsewhere in the city, this area filled with historic buildings became stagnant. Current fire codes required fire sprinklers and fire alarms to be installed for proposed use changes that drove up costs and killed development. The city and Fire Marshal worked together to secure and helped design 3 large grants to provide fire sprinkler and fire alarm infrastructure projects which has greatly helped transform the district into a thriving area. Fire codes were looked at negatively in this area for so long, but now are pointed to as a reason for significant economic development.

#### Learning Objectives:

1. Students will learn how fire sprinkler and fire alarm retrofits can become reality.

2. Students will learn how to work with engineers and sprinkler/fire alarm designers on how fire alarm and fire sprinkler systems can be designed without confirmed uses in a building or block.

3. Students will learn how to involve city staff and business owners to find solutions to fire codes that can drive up costs and hinder economic growth.

#### 130. Large Construction Site Fire Case Study. Is Your Community Prepared?

Presented by: City of West Des Moines Fire Department (Iowa)

According to a February 2020 report issued by the NFPA, local fire departments responded to an estimated average of 3,840 fires in structures under construction and 2,580 fires in structures under major renovation per year in 2013 through 2017. The fires in structures under construction caused an average of four civilian deaths, 49 civilian injuries, and \$304 million in direct property damage annually.

This session will provide an in-depth case study on a large construction site fire that occurred in West Des Moines, Iowa in April 2020. We will discuss how fire safety requirements from Chapter 33 of the International Fire Code helped prepare the site, provide details of events that led up to the fire and numerous challenges encountered during the incident. In-depth details of lessons learned, how workers failed with their emergency plan, the economic impact of the loss, and new policies implemented within the jurisdiction as a result of the fire will be discussed. The West Des Moines Fire Department was able to obtain over 25 minutes of drone footage during the fire that will be shown to help highlight the magnitude of the event.

#### Learning Objectives:

1. Examples will be provided on how increased attention and monitoring of construction sites by Fire Prevention Bureau Staff, and construction pre plans routinely updated by fire crews within the response district are critical with construction projects in your jurisdiction.

2. Show the importance of visiting construction sites after major weather events to see how they might have been affected.

3. Discussion on how new policies that were implemented in West Des Moines, Iowa as a direct result of this fire may be used in your jurisdiction to help prevent or reduce damage caused by a construction site fire.

#### <u>131. Elevator Occupant Evacuation Operation (OEO). OEO 2.0: Supplementing Fire Alarm Prescriptions with</u> <u>Practical Performance to Enhance Life Safety</u>

Presented by: Edwards & Kidde Commercial

Case study of newly commissioned OEO system in a 43-story mixed-use high rise in Bellevue, WA which incorporates performance-driven measures between the elevator and the fi re alarm system to provide positive confirmation of OEO availability on a floor-by-floor basis. Presentation concentrates largely on the fi re alarm system as deployed in this building (presented primarily as a Case Study), which are the fruits of a joint project between fi re alarm manufacturer and elevator manufacturer to develop a method of achieving prescriptive OEO requirements while laying the foundation for future enhancements.

Learning Objectives:

1: Identify the relevant prescriptions associated with deploying a fire alarm system for use in an OEO application.

2: Identify the main concerns of the individual stakeholders in an OEO project and how to develop effective strategies to address them.

3: Establish the added life safety value of providing performance-based measures which exceed the minimum code prescriptions.

#### 132. The AHJ-Fire Alarm Contractor Relationship: A Prescription for Success

Presented by: Edwards & Kidde Commercial

The AHJ and Fire Alarm Contractor relationship is examined based on the expectation of each party with regards to code prescriptions and common interpretations. Key aspects of each entity's paradigm are examined, culminating in a recommended best practices method for a successful new system installation and acceptance.

Learning Objectives:

1. Identifying the roles and qualifications of the fire alarm contractor and the AHJ.

2. Establishing criteria against which the submitted and executed work will be evaluated.

3. Best practices from the paradigm of each entity to overcome common challenges associated with the whole of new fire alarm system installation.



#### 133. Ensuring School Safety: Strategies and Best Practices

Presented by: Dormakaba

This presentation on school safety aims to provide educators, administrators, and stakeholders with a comprehensive understanding of the key components necessary to create a safe and secure learning environment. Participants will learn about the latest research, best practices, and strategies for enhancing school safety, including prevention, preparedness, response, and recovery. The presentation will also address the importance of a collaborative approach involving school staff, students, parents, and the community in fostering a culture of safety.

Learning Objectives:

- 1. Identify Threats and Risk Assessment
- 2. Understand the Foundations of School Safety
- 3. Implement Comprehensive Safety Measures
- 4. Foster a Culture of Safety and Preparedness

### 134.Identifying Serious Defects and Irregularities in Fire Alarm System Design, Installation, Inspection, Testing. Maintenance and Monitoring

Presented by: IDS

Case Studies will be presented where both Household and Commercial Fire Alarm Systems failed, and the scientific and technical reasons why will be explained. These cases involve catastrophic property loss, serious personal injury, and/or persons killed due to the fire. Attendees will be presented with a behind-the-scenes analysis of the failure(s) and how utilizing the Forensic Study of Alarm Systems and Alarm Science Methodology helped identify the cause(s) of the loss that but for the actions and inactions of the Alarm Contractor and/or Central Station, the damages sustained would have been significantly minimized, and/or persons who were seriously injured and/or killed, would have had time to escape from the premises before it became untenable. A detailed technical overview will also be provided as to the Duties of Alarm Contractors and Central Stations, and time will be allotted for questions and answers.

Learning Objectives:

 Identify violations of Adopted Mandatory Minimum Combination Listed UL 1023/985 Standards: UL-1023 Household Burglar-Alarm System Units and UL-985 Household Fire Warning System Units.
Identify violations of Adopted Mandatory Minimum UL 864 Standards:

UL 864- Standard for Control Units and Accessories for Fire Alarm Systems.

3) Identify violations of Adopted Mandatory Minimum NFPA 72- National Fire Alarm and Signaling Code Standards.

#### 135. Code Clarifications for the Modern World

Presented by: Protection Engineers, LLC (PELLC)



Using Black and White Codes in a World of Grey - Understanding the Code is not enough. Effective enforcement requires understanding the "whys" behind the codes and standards as well as using the Codes properly. You can't simply cherry-pick code sections without proper application in context. Codes addresses reasonably "normal" circumstances (the "norm" or what most people think of "the norm."). So, what happens when today's codes and standards need to be applied to those "out of the norm" situations? [BBS2024-366]

Learning Objectives:

Through real world, select application examples participants will ...

1) Learn the "hows" and "whys" behind specific code references.

2) Learn how to use the codes and standards properly.

3) Understand that codes and standards very often lag technology and other solutions not thought of in the Code may be as relevant and applicable as what's written in the requirements.

#### 136. MythBusters: Fire Protection Edition (Volume 3)

Presented by: Protection Engineers, LLC (PELLC)



In this presentation we will discuss and bust various myths surrounding common fire protection issues. This unique 2024 program expands on a variety topics and tackles some other myths and misconceptions surrounding fire protection issues. For example, what does it mean to "void a UL listing? The codes are all based on technically substantiated science. Come and learn of some of these fire protection myths and misconceptions and see them busted so you can more effectively understand and apply fire and life codes and standards.

[BBS2024-353]

#### 137. Safe Passage: Exploring Fire Door Inspections, AHJ Roles, and Ohio Building Code Updates

Presented by: Indiana, Ohio, Kentucky Region Council of Carpenters

In this presentation, we will explore the intricacies of life safety, focusing on key elements such as fire door inspections, AHJ (Authority Having Jurisdiction) responsibilities, and upcoming changes to the Ohio (ICC) Building Codes. As stewards of public safety, understanding the nuances of egress and fire doors is paramount. Join us as we delve into the critical role these elements play in safeguarding lives, ensuring compliance, and fortifying our communities against emergencies.

#### 138. Summary of Key Changes to the 2021 ICC Model Codes

Presented by: Honeywell Building Technology



An informative 60 minute discussion that provides an overview of the new requirements in the International Code Council (ICC) and National Fire Protection Association (NFPA) model codes for in-building emergency responder radio enhancements systems (ERCES), pull stations, low frequency audible fire alarm signal, visible notification appliances, emergency voice alarm communication (EVAC) systems, carbon monoxide (CO) detection systems and smoke detection.

#### 139. NFPA 96 and NFPA 17A Inspections Working Together -

[NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations] [NFPA 17A, Standard for Wet Chemical Extinguishing Systems] Presented by: Precision Kleen, Inc, PKI Fire Protection

In this session we will discuss overall system inspections, talk about the problems found in suppression systems during systems inspections and general service. We will also cover improper cleaning and the fire dangers improperly maintained systems/hoods present. An overview of just how NFPA 96 and 17A work together.

#### 140. When Seconds Matter -

A Wholistic Look at the Journey of the Fire Alarm Signal - How Technology Can Be Leveraged to Reduce the Time it takes to Deliver These Signals to First Responders Presented by: Honeywell Fire Americas



In less than 30 seconds, a small flame can turn into a major fire. To prevent small incidents from turning into major emergencies, new technologies are delivering alarm signals to the fire service quickly, reliably, and accurately with enhanced information at each step of the alarm journey. During this session, we'll take a wholistic look at the journey of a fire alarm signal and how technology can be leveraged to reduce the time it takes to deliver these signals to first responders. *[BBS2024-362]* 

Items Discussed:

- 1. First Responder challenges
- 2. Fire Department response requirements as outlined in NFPA 1710

3. An overview of recent technology enhancements in the alarm signal journey from detector to first responder

4. An overview of the value to first responders including why seconds matter and the economic impact to the community and local investment in the fire service

5. What you can do to improve first responder response outcomes

6. What a code compliant Emergency Responder Communication Enhancement System (ERCES) looks like and recent programs that will improve industry competency

#### 141. YES! There are Updates to NFPA 96 and ANSI/IKECA Standards.

[NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations] Presented by: Precision Kleen, Inc, PKI Fire Protection

We will review and discuss NFPA 96-2024 edition and the additions to cleaning/inspection reporting and documentation, the addition of Food Trucks in the 2021 edition. We will also review and discuss what the ANSI/IKECA Standards are and discuss solid fuel cooking.

#### 142. A Quick Look at Consumer Fireworks & Other Useful Information

Presented by: Phantom Fireworks

This presentation will cover some important elements about the history of the 1.4G consumer fireworks industry. Including how and what consumer fireworks are made of, a brief look at the manufacturing process, how they are regulated by the many agencies and shipped in commerce for retail & wholesale distribution in the USA.

Attendees will get an inside look as well as a clearer understanding of consumer fireworks and novelties retail and wholesale sales facilities whether you are in the fire service, law enforcement special investigators or any other public safety position.

This program is a good refresher for all new, intermediate, and veteran persons who have to deal with fireworks as part of their job in the fire service, public safety, and enforcement communities. We will also look at some new and improved national safety tools now available for educating the buying public as well as local and state officials.

The primary intent is to better educate & partner with industry for a safer tomorrow.

Learning Objections:

1. A much better understanding of consumer fireworks

2. To partner with industry for all the right reasons

3. To achieve the highest degree of safety, compliance and education to better serve & protect the public

4. A look at what the future holds for the fireworks industry and some of the biggest, upcoming celebration years we have ever seen.



#### 143. Emergency Responder Communication Enhancement Systems (ERCES) and the UL Certification Program

Presented by: Underwriters Laboratories (UL) - UL Solutions



Responder Communication Enhancement Systems (ERCES).

The UL Solutions certification program forms a strong connection among the ERCES service providers, building owners, code authorities and UL Solutions. Certification provides confidence to all stakeholders that these systems comply with all of the elements found in the model codes, along with National Fire Protection Association NFPA 1221 or NFPA 1225 and International Fire Code IFC Section 510.

In-building emergency responder radio systems are an important life safety technology that provide emergency responders an effective and reliable means with which to communicate in environments that present interference and coverage concerns. *[BBS2024-319]* 

144. Modular Construction Associated with Energy Storage Systems (ESS) Occupancies

Presented by: Underwriters Laboratories (UL) - UL Solutions

Overview of 2021 IBC and IFC construction and fire protection requirements and fire safety concerns As Energy Storage Systems (ESS) become increasingly popular, this session provides an overview of construction and fire protection requirements from the 2021 IBC and IFC as well as fire safety concerns associated with modular structures utilized for ESS.



#### 145. Company Officer Training & Tactics in Buildings with Sprinkler & Standpipe Systems using NFPA 13E.

[NFPA 13E - Recommended Practice for Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems

Presented by: The National Fire Sprinkler Association (NFSA)



This program provides fire department company officers, training instructors, and firefighters with information and recommended practices to properly support sprinkler and standpipe systems in buildings where fires occur. Success depends on multiple factors, such as understanding fundamentals on the different types of sprinkler and standpipe systems.

This program provides attendees with an overview guides attendees through an often-overlooked document titled "NFPA 13E: Recommended Practice for Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems", which provides information for pre-incident planning and fireground operations for buildings equipped with fire sprinklers and/or standpipes. [BBS2024-350]

At the conclusion of this seminar the participant will have a better understanding of:

1. The importance of understanding the differences between NFPA 13, NFPA 13R, and NFPA13D fire sprinkler systems and The (5) types of standpipe systems, including manual and automatic.

2. The basic operation of the four types of automatic fire sprinkler systems.

3. The purpose and features of a fire department connection (FDC), and the critical need to understand providing primary vs. supplemental water.

4. The difference between PRD's (pressure restricting devices) and PRV's (pressure reducing valves) and their basic operation and the recommendations for pre-incident planning and fireground operations for buildings equipped with fire sprinklers or standpipes.

**154. Significant Changes and Updates to the NFPA 72 (2022) [The National Fire Alarm and Signaling Code]** Presented by: The National Fire Sprinkler Association (NFSA)



The new 2022 Edition of NFPA 72, National Fire Alarm and Signaling Code, was published by NFPA in 2021. It includes many significant changes regarding fire alarm systems and other signaling systems. This session will discuss some of the more significant changes and updates. [BBS2024-369]

#### 156. The Compliance Engine

Presented by: Brycer

Across the nation, 40% of Fire Protection Systems go un-tested, un-inspected, and un-maintained year after year. Less than 3% of Fire Code Officials nationwide can tell you when a Commercial Properties Sprinkler was last inspected or even if it is Compliant or Deficient. 95% of Fire Departments do not have the time, manpower, or resources to inspect each of their properties on an annual basis. How is this changing...? Departments are implementing Software as a Service models to combat these drastic numbers and tackle the 3rd party inspection reporting industry.