SPRING 2020 QUARTERLY REVIEW

BUILDING PLAN REVIEW | FIRE SAFETY PLAN REVIEW | CONSULTING SERVICES

FSCI

IN THIS ISSUE

OUR GOAL IS TO COMPLETE ALL PLAN REVIEWS WITHIN 10 BUSINESS DAYS

PRESIDENT'S MESSAGE

An FSCI update from Keith Frangiamore, FSCI President

New people and New Positions

As we all know, change is a constant at Fire Safety Consultants, Inc. We recently had to say goodbye to two of our plan reviewers; however, in their place we have been lucky enough to find two talented young people who began work in early March. They immediately began their intensive training and mentoring program, and are doing quite well. Also, two new administrative assistants have joined our corporate office team to further enhance the quality service we provide to our clients and customers. These new administrative assistants will allow us to reorganize daily tasks, reduce the workload on existing staff and improve efficiency.

New Clients and Large Projects

Our ever-increasing client base, along with multiple, very large projects, is why we have been hiring and training additional field services personnel for the past two years. Additional clients and large projects not only keep our plan reviewers very busy, but our field services division will perform thousands of hours of field inspections to verify code compliance for all the projects. These large projects are located in both Illinois and Wisconsin, and with each over a million of square feet in area. Some projects are in planning, others are just coming out of the ground and still other are nearing completion.

Consulting Leader

Fire Safety Consultants, Inc., a leader in fire safety and life safety code consultation, has been inundated recently with varied code consulting requests from across the US, ranging from California to New York and Texas to Michigan. The requests range in nature from fire code issues such as hazardous materials storage and processes to life safety code, using the fire safety evaluation system for high-rise buildings. Some newer projects are related to the cannabis industry which is experiencing rapid growth and includes the growing and manufacturing processes related to local and state code compliance.

FIRST LOOK AT THE 2019 EDITION OF NFPA 13 – PART III

- Matt Davis, Sr. Fire Protection Consultant

In this article we will complete our look at the changes that have been made to the 2019 edition of NFPA 13. If you would like to read the first two parts of this article, covering Chapters 1 through 19, they can be found in our two previous newsletters.

Chapter 20
General Requirements for Storage

Chapter 20 is new and has been arranged to outline the basic requirements that apply to all high-pile storage arrangements. (Low-pile storage and miscellaneous storage are covered in Chapter 4.) This chapter contains all requirements that apply to storage situations including how to classify a commodity, defining the different types of storage arrangements, outlining the different types of construction that affect the protection of storage, and adjacent hazard design methods. The chapter also covers information on small hose connections, protection of idle pallets, and the protection of steel structural columns when required.

One of the changes to the chapter, is that unexpanded plastic has been re-designated as non-expanded plastic. Another item that has now been clearly defined is movable rack storage. Section 20.5.2 now states that moveable rack storage shall be protected as multiple–row racks. The sprinkler deflector distance to the top of storage has been expanded to include a specific requirement to address tire storage. This distance shall be a minimum of 36 inches regardless of the type of sprinklers used.

The remainder of this chapter remains mostly unchanged from Chapter 12 in the 2016 code edition.

Chapter 21
Protection of High Pile Storage using Control Mode Density Area (CMDA) Sprinklers.

This chapter consolidates all requirements for CMDA sprinklers from multiple chapters found in previous editions into one chapter. This edition makes no major changes to the information or requirements used for this type of sprinkler, just its chapter location within the standard.

Chapter 22
Control Mode Specific Application (CMSA) Requirements for Storage Applications.

Like Chapter 21, this chapter also consolidates all requirements for CMSA sprinklers from multiple chapters in previous editions. There are no major changes to the information or requirements used for this type of sprinkler.

Chapter 23
Early Suppression Fast Response (ESFR) Requirements for Storage Applications.

Chapter 23 consolidates the requirements for ESFR sprinklers from multiple chapters into a single location. Unlike the previous two chapters, the 2019 edition of NFPA 13 has some new and different requirements for the use of ESFR sprinklers.

One specific change that has been made addresses the use of draft curtains with ESFR sprinklers. Section 23.1.2 states that any draft curtain used to separate ESFR sprinklers from any other standard response sprinkler type shall be a minimum of 24 inches in depth and be made of non-combustible material. The draft curtain must be centered over a clear aisle of not less than 4 feet in width. Another requirement in this section states that ESFR sprinklers shall not be used for the protection of storage located on solid shelving unless the racking is also provided with in-rack sprinklers.

Another change related to ESFR sprinklers is the deflector distance from the roof deck has been reduced to a maximum of 14-inches. This has been added to the 2019 edition based on actual testing completed for expanded group A plastics. Older editions allowed K-25.2 ESFR sprinklers to be a maximum of 18-inches below the roof deck.

The chapter has also added several new specific requirements for K-25.2 ESFR sprinklers designed to flow water at 15 psi per sprinkler. Some of the limitations include storage heights cannot exceed 20-feet, only single and double-row racking is allowed, and the minimum aisle width shall be 6 feet. Refer to Section 23.11 for a complete list of the new requirements.

Chapter 24
Alternative Sprinkler Systems Designs

Chapter 24 in the 2019 edition was Chapter 21 in the 2016 edition of NFPA 13. The entire chapter was relocated and renumbered for the new edition.

This chapter provides a method for actual, full-scale fire testing for specific storage arrangements. Testing is based on several maximum ceiling heights to develop more specific design requirements based on the performance of the sprinkler. Using an alternative design approach to the requirements in the storage chapters might be desirable if specific test data on a storage arrangement of a particular commodity are available. There are many storage arrangements, commodity classification mixtures, and storage method configuration tests that will not qualify for use of the general rules in Chapter 20 through Chapter 23 and Chapter 25. Chapter 24 provides a location for inclusion of such specific testing. Aside from the numbering change, this chapter remains unaltered from its former requirements.

Chapter 25
Protection of Rack Storage Using In-Rack Sprinklers

Chapter 25, in the 2019 edition, consolidates all in-rack sprinkler design criteria into one chapter, eliminating redundancy and confusion. Chapters 21 through 24 are now dedicated to ceiling-only sprinkler protection options. This chapter addresses protection options that incorporate in-rack sprinklers. This allows users of Chapter 25 to determine their protection options for in-rack sprinklers, and the accompanying ceiling sprinkler system, without having to leave the chapter.

The NFPA 13 Handbook contains several new illustrations

Click here to continue reading...

LITTLE KNOWN FACTS

IBC–2015 Ed./MBC-2015 Ed. – Addressable Fire Alarm Systems

It is common for a fire alarm system designer to use a conventional FACU for sprinkler monitoring and, in some cases a conventional FACU (Fire Alarm Control Unit) is acceptable for use when a fire alarm system is monitoring other initiating devices. In the IBC (International Building Code) and MBC (Michigan Building Code), Section 907.6.3 Initiating device identification, requires that each initiating device be identified by specific address which includes location, device type and floor level, if applicable, as well as its status including normal, alarm, trouble and supervisory condition. The requirement is intended to require an addressable, or analog addressable FACU. Exceptions exist that will allow the use of non-addressable FACUs:

1. A single-story building that is less than 22,500 sq. ft.
2. Fire alarm systems that only have manual fire alarm boxes, waterflow initiation devices, and no more than 10 additional alarm initiating devices.
3. Special initiating devices that cannot support individual device identification.
4. Fire alarm devices or systems that are replacing existing equipment.

Although the cost may make the use of the conventional FACU more appealing to the designer, the limitations of the IBC and MBC no longer allow for these panels to be used unless one of the exceptions can be met. The technology that is currently available for fire alarm systems is beneficial to both the emergency response vehicles in knowing the type and location of the alarm initiation and the building owner to identify the specific location and type of trouble or supervisory condition that may be causing nuisance alarms.

-Angie Dayfield, Fire Protection Consultant

NFPA 13 – 2016 Edition – Extended coverage sprinklers; where can they be installed?

The thermal sensitivity of many extended coverage sprinklers is determined by the spacing shown in their data sheet. Most of the time, once the spacing exceeds 18 ft. by 18 ft., extended coverage sprinklers are classified as standard response. This can cause design difficulties for light hazard areas. Section 8.3.3.2 of the 2016 edition of NFPA 13 states that where quick response sprinklers are installed, all sprinklers in the same compartment must also be quick response. Because of this section, the spacing for extended coverage sprinklers must be limited so they are classified as quick response. This requires that more sprinklers be used to adequately provide coverage.

The 2016 edition of NFPA 13 addresses this issue. Section 8.3.3.5 allows for extended coverage sprinklers that have a listing for standard-response and quick-response as determined by their spacing, can be installed in compartments with either standard-response or quick-response sprinklers without any separation. This allows extended coverage sprinklers to be used to their maximum spacing without the system designer having to be concerned that the extended coverage sprinkler thermal sensitivity will match other sprinklers in the same compartment.

-Michael Carnduff, Fire Protection Consultant

NFPA 72 – 2019 Edition – NAC and Control Circuits

A common plan submittal mistake seen in our office is the connection of a remote power supply (NAC Power Extender) at the end of, or at some point along, a notification appliance circuit (NAC). Section 10.17.1 prohibits this design by stating that, “An open, ground-fault, or short-circuit on the installation conductors of one alarm notification appliance circuit shall not affect the operation of any other alarm notification circuit for more than 200 seconds…” A remote power supply or power extender must be connected to a circuit other than a NAC. This is typically a control circuit which, as Section 10.17.2 explains, does not have notification appliances connected directly to the circuit. This could also be a signaling line circuit which is used to trigger a remote power supply or power extender with a control relay or module. As appealing, and practical, as it may be to use a NAC to trigger a new remote power supply, NFPA 72 does not allow this practice.

-Warren E. Olsen, Vice President Building & Life Safety
Past Chair, Chapter 26 Supervising Station Alarm Systems

SEMINAR INFORMATION

Stay up to date on the latest Fire, Building and Life Safety code changes and equipment by attending one of our seminars. Fire Safety Consultants, Inc. is teaching seminars throughout the United States, led by our experienced staff of Matt Davis, Keith Frangiamore, Brent Gooden & Warren Olsen. Whether you are a Contractor, Architect, Technician, Engineer or an Authority Having Jurisdiction, each seminar is full of practical insight and first-hand experiences to help you comply with applicable codes and standards. FSCI can also provide custom seminars at your location. Be sure to check out our website to view our listing of available seminars or to check the schedule to see what we are teaching next! Contact us to learn more by emailing info@firesafetyfsci.com or by calling our corporate office at (847) 697-1300 x206.

EMPLOYEE SPOTLIGHT

Michael Gross

Michael Gross started with Fire Safety Consultants, Inc. in September of 2018 as a part-time Inspector. In that role, Michael would witness acceptance testing for both new and existing fire alarm and sprinkler systems and note any deficiencies that required corrections. After about a year, Michael moved from Carol Stream, IL to Michigan to start his new position as a full-time Plan Reviewer/Inspector in our Regional Office, located in Pleasant Ridge, MI. In his new position, Michael reviews proposed designs for fire alarm, sprinkler, and wet chemical systems to ensure compliance with all adopted municipal codes. He also works with local AHJ's and contractors to ensure reviews are completed quickly and accurately. In addition, he also does inspections for our Regional Office clients.

Prior to working at FSCI, Michael worked as an EMT-B with Western EMS and was a Firefighter/EMT-B Intern with the Bloomingdale Fire Protection District. He currently holds an ICC Inspector I certification and plans on adding to that in the near future. Michael is currently enjoying all that Michigan has to offer, although, every now and then he does find himself missing a good Italian beef from Portillo's!

WE'RE LISTENING!

Tell us what you are interested in learning about!
Email us at: info@firesafetyfsci.com