



IN THIS ISSUE

1 PRESIDENT'S MESSAGE

2 THE COVID-19 EFFECT ON THE LOGISTICS INDUSTRY

3 LITTLE KNOWN FACTS

4 SEMINAR INFORMATION

4 EMPLOYEE SPOTLIGHT

4 EMPLOYEE SPOTLIGHT NEWS

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

SUMMER 2021 QUARTERLY REVIEW

 BUILDING PLAN REVIEW

 FIRE SAFETY PLAN REVIEW

 CONSULTING SERVICES

PRESIDENT'S MESSAGE

An FSCI update from Keith Frangiamore, FSCI President

Back to Work in the Summertime

As the temperatures rise, and many people are vaccinated, we have finally moved back into a “normal” business environment with the hope that the economy will recover quickly.

With the Illinois move to Phase 5 on June 11, 2021, fully lifting the COVID-19 restrictions and Michigan heading in the same direction soon, we are excited to finally be back in the office without face coverings and social distancing. Some FSCI and PSI managers recently visited the Michigan office in May and again in June for the first time in nearly a year. Prior to the pandemic, managers visited the Michigan office regularly to coordinate and promote our seamless office environment and show support for our great Michigan office team.

In June, the Illinois office enjoyed an outside “game” day where we spent an afternoon together along with enjoyable team building activities. A big thank you to the team members for organizing this very entertaining (and hot) day! Also, congratulations to the winners of the bags tournament!

Growth Opportunities

As we grow to serve all our clients more effectively, we have re-aligned some of our staff duties to meet the high demand for these consulting services. To strengthen our consulting services, Senior Fire Protection Consultant Brent Gooden has begun taking on some of the consulting division responsibilities while still maintaining his involvement in the fire protection plan review and field services division. Brent has successfully managed the Illinois fire protection field services group for the past few years and has already begun sharing some of the field services duties with other team members.

Look for more team member updates coming in the next newsletter!

Please stay safe, support each other, and help us all move toward a healthy future!



THE COVID-19 EFFECT ON THE LOGISTICS INDUSTRY

Keith Frangiamore CFPS, President FSCI

COVID-19 has made a lasting impact on us and businesses worldwide. Throughout the world and highlighted in the US, we've all read about the difficulty in finding and buying "normal goods" like toilet paper and hand sanitizer. Often these supply shortages are due to a lack of production and are related to supply chain issues. The supply chain issues have several root causes can include insufficient raw materials and finished product delivery due to the lack of storage space and transportation capacity.

How do supply chain issues effect the local fire service and the fire safety of occupants and buildings in their jurisdiction? In general terms, fire safety in warehouse occupancies may be compromised because of overstocking or a change in commodities being stored which may include hazardous materials.

When FSCI engages in a warehouse storage fire consulting project, the first aspect we evaluate is overstocking in a warehouse. Overstocking can be caused by companies increasing production to meet demand, an inability to ship product once manufactured, or a combination of both. This issue can create fire and life safety conditions that increase risk to the occupants and fire service alike.

Overstocking can comprise the means of egress as well as the commodity storage arrangement. Too much stock can reduce available egress capacity by blocking doors and can increase travel distances. Narrowed aisle widths can reduce required fire separation of storage areas, increasing the likelihood for fire spread and restricting firefighting access. In addition, overstocking can increase the potential for industrial accidents and employee injuries.

The more serious fire safety impact is a change in the product storage arrangements making it difficult for the existing fire sprinkler system to control a fire should it occur. Most people wrongly assume that as long as the building is protected with an automatic fire sprinkler system it does not matter what and how you store commodities. However, the composition of products differs resulting in the potential for different fire severities. Some products burn freely and can result in a fire expand rapidly. Other products burn slowly, if they burn at all, and take longer to expand in size. A fire sprinkler system may be designed to protect a Class I product, and it's packaging, which is expected to produce a low fire hazard, such as fruits and vegetables. Should the warehouse be repurposed to store

Class III products dry foods such as baked goods, cereals, and coffees, the fire sprinkler system may not be capable of adequately protecting the higher commodity classification.

In a building with 15-foot ceiling heights, and limited floor space, you can imagine that the easy solution to an excess storage problem would be to get the product off of the floor and onto racks or into a high-piled pallet storage arrangement. Higher-piled storage can easily produce fires that the existing fire sprinkler system cannot control. Historically, this type of storage practice has led to the loss of entire buildings. Fire sprinkler design must take into account the height of the storage, in addition to other factors.

Another key issue is the practice of hazardous material use and storage in buildings that are not necessarily designed with the proper features of fire protection. The ICC's, International Fire Code (IFC) as well as NFPA 1, Fire Code, specifically address fire safety requirements based on various hazardous chemicals and processes.

Hazardous materials are defined as products that pose an unreasonable risk to the health and safety of operating or emergency responders, the public, and the environment if not properly controlled during handling, storage, manufacture, processing, packaging, use, disposal, or transportation. The codes and referenced address the dangerous conditions related to their storage, dispensing, and handling, and requirements needed to mitigate the hazards associated with the products or processes.

Hazardous Materials

In the IFC and NFPA 1 there are several hazardous materials chapters that address specific products and safety requirements related to the products. Here is a list of those hazardous materials addressed in both codes and included in the Hazardous Materials - General Provisions chapter.

Physical Hazards

1. Explosives and blasting agents.
2. Combustible liquids.
3. Flammable solids, liquids and gases.
4. Organic peroxide solids or liquids.
5. Oxidizer, solids or liquids.
6. Oxidizing gases.
7. Pyrophoric solids, liquids or gases.
8. Unstable (reactive) solids, liquids or gases.

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LITTLE KNOWN FACTS

Hydraulically Calculated Design Areas – NFPA 13

As an FSCI plan reviewer, I constantly see issues come up with hydraulic calculations during the plan review. Chapters 19 and 27 within the 2019 edition of NFPA 13 provide the sprinkler system designer with options and requirements for hydraulically calculated systems. One common issue is figuring out the design area square footage when using the area/density method. To properly figure this out we first look at Figure 19.3.3.1.1 which calls for the area of sprinkler operation. This is not the maximum possible sprinkler spacing but the actual floor area over which the sprinklers will operate. If you are uncertain what the area per sprinkler is please see section 9.5.2.1. Sprinkler spacing is determined by discerning the larger of either the distance to the next sprinkler or twice the dimension to the wall in both directions and multiplying the two numbers together. For additional visuals on how to figure out sprinkler spacing see Exhibit 9.17 and 9.18 in the NFPA 13 Handbook. As far as spacing for extended coverage sprinklers remember, the coverage per sprinkler is based on what it is calculated for, i.e., 16' by 16' spacing calculated and not the maximum coverage area allowed for the sprinkler of 20' by 20'. When locating the boundaries of the design area, the sprinkler operation only goes to the centerline between it and the adjacent sprinkler or to the wall. If you are designing a system, remember these guidelines for a successful design area calculation.

- Hannah Rodriguez, Fire Protection Consultant

NFPA 13 – 2019 Edition – Listing of FDCs

Recently, I received a phone call from a longstanding client that wanted to “ask a simple question”. The fact that they were chuckling indicated to me that it was not going to be a “simple question” and I would need to crack open the code book to answer it. As it turns out, the question was very simple and the reason he was laughing was because he had never been asked it before. “Are Fire Department Connections required to be listed?” I had to take a moment to respond, because I also had never been asked that question.

The client had been on a job site doing a final inspection and was trying to connect to the FDC to verify it was the proper size and type but could not get the connection to fit properly. Being a 4-inch Storz connection this should not have been a problem. After inspecting the connection for damage and finding none, the AHJ asked the contractor to provide documentation for the FDC to show its listing. The contractor could not provide the proper paperwork and indicated the FDC did not need to be listed.

The 2019 edition of NFPA 13, in Section 7.1.1.2, addresses the listing of equipment stating, “Unless the requirements of 7.1.1.3, 7.1.1.4, or 7.1.1.5 are met, all materials and devices essential to successful system operation shall be listed.” Section 7.1.1.3 deals with specific piping, such

as copper tubing, that is not required to be listed. Section 7.1.1.4 deals with parts of the sprinkler pipe hangers, such as the threaded rod, that do not need to be specifically listed. Section 7.1.1.5 simply states “Components that do not affect system performance shall not be required to be listed.” This would seem straight forward, until you read the annex material of this section that states “Certain components installed in sprinkler systems are not required to be listed as their improper operation will not detrimentally affect the automatic system performance. Examples include but are not limited to drain valves, drain piping, signs, gauges, automated inspection and test devices, distance monitoring devices, fire department connections that do not use threadless couplings, and so forth.”

So, like everything else in the code, the answer to the question is “it depends”. If it is a standard Siamese connection it is not required to be listed. But, if it is a Storz connection, yes, it is required to be listed.

- Matt Davis, Senior Fire Protection Consultant

Standpipe Requirements for Roofs

Standpipe systems are a necessity when fighting fires on upper floors of taller buildings such as high-rise structures. The design of these systems must be carefully planned out and be provided in locations that are the most beneficial to responding firefighters. One of the locations that can be confusing for contractors and AHJ's are rooftop connections. Fires involving equipment commonly found on the roof, such as HAVC units and photovoltaic equipment, can be difficult to extinguish without a reliable means of getting a water stream to the roof. This is especially true when the building exceeds the reach of fire department aerial apparatus.

The wording in NFPA 14 (2013) can be a bit misleading if not read correctly. Section 7.3.2 requires that a 2 ½” hose connection be located at the highest landing of stairways with access to a roof. When the stairway does not have access to the roof, a 2 ½” hose connection needs to be provided on the roof. If the roof has a slope of 4 in 12 or greater, the hose connection is not required as the pitch makes it unsafe for firefighters to operate a fire hose line. Many people take this to mean that if the stairs do not terminate at the roof level, then the roof hose connection is required. The annex of NFPA 14 provides clarification that “access to the roof” can be defined as a permanent ladder, ladder rungs, or a pull-down stair with a roof hatch. This access to the roof must be inside the stairway with a hose connection at the highest landing in order to avoid placing a hose connection on the roof. This is so that the hose line can easily be stretched up to the roof without having to travel through other parts of the building. If the access to the roof is in another area other than within the stairway, the hose connection on the roof would be required.

- Michael Gross, Fire Protection Consultant



SEMINAR INFORMATION

Keep you and your staff 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. Fire Safety Consultants, Inc. 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 x223.



EMPLOYEE SPOTLIGHT

Hetul Chokshi

Hetul joined Fire Safety Consultants, Inc. in March of 2020 and he could not have come to us at a more uncertain time in the world. However, he did not let that stop him and he jumped right in. Hetul is one of the plan reviewers in our corporate office and he started off his training by learning all about automatic sprinkler systems and soon after, kitchen wet chemical extinguishing systems. Now that he has completed his training in both areas, if you have submitted either of these types of reviews to our office, Hetul may have in fact completed the review for your project.

Before Hetul switched career paths and joined FSCI, he was a pharmacy claims auditor. He has enjoyed the transition to becoming a fire protection plan reviewer and within his 1st year with us, he has achieved his NICET Level I certification for Water-Based Systems Layout.



EMPLOYEE SPOTLIGHT NEWS

We would like to congratulate Hetul Chokshi for receiving his certificate for the NICET Level 1 exam for Water Based Systems Layout on Wednesday, March 31st. Congratulations Hetul!



WE'RE LISTENING!

Tell us what you are interested in learning about!

Email us at: info@firesafetyfsci.com