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

FALL 2018 QUARTERLY REVIEW

 BUILDING PLAN REVIEW

 FIRE SAFETY PLAN REVIEW

 CONSULTING SERVICES

PRESIDENT'S MESSAGE

An FSCI update from Keith Frangiamore, FSCI President

New Clients, Staff Changes and Life Safety!

New Clients and Projects

This past quarter has been quite busy as FSCI added several new clients in Michigan and Illinois. Along with these new clients, many of our existing clients have been very active with plan review, field inspections and multiple, large school projects. Although we usually have school projects over the summer, the size and volume of these projects have been greater than in previous years and included extensive field inspections. More and more clients are interested in FSCI for 3rd party consulting, because we provide high-quality services with integrity and professionalism.

Staffing

These past few months, FSCI has continued to add new staff positions in the Illinois office including two new fire protection plan reviewers and two new field service members. Although Ryan and Kyle come to FSCI with different backgrounds, they bring a strong professional approach to their work and are actively in their FSCI training program. Jake and Michael, the new field services staff members are immersed in their field training program. FSCI's training includes both technical training and staff mentoring.

Life Safety

In late August, I attended the two-day NFPA Life Safety Code – 101 and NFPA 5000 Education and Day Care committee meetings in Minneapolis, MN. The focus of this Committee has been dealing with the opposing issues of fire/life safety compared to active shooter/hostile event safety. At this first draft meeting for the 2021 Edition, we dealt with the many proposed Tentative Interim Amendments and numerous Public Inputs related to life safety in both new and existing education and day-care facilities.

Major concerns for this code cycle include targeted-violence events and options for protection of students and staff while maintaining life safety from fires. Specifically included in this code cycle are life safety options for egress doors and fire alarm systems such as allowances for locking of doors and potential removal of manual pull stations.



FOCUS ON WISCONSIN

Fred Hoegler, Vice President of Fire Protection and Inspection Services

Foxconn Lands In Mt. Pleasant

Wisconsin became a big winner when Taiwan-based, electronics manufacturing giant, Foxconn announced last year that they would be building a large manufacturing complex in Mt. Pleasant along with their North American Headquarters in Milwaukee, Wisconsin. Foxconn supplies a number of major electronics manufacturers and retailers with their products, including Apple and Amazon. Foxconn is expected to bring 13,000 new jobs to the southeast Wisconsin region and will result in additional manufacturing and warehouse projects. Located close to the state line, northeastern Illinois residents may also benefit from employment opportunities.

The approximate 1,200 acre manufacturing campus is anticipated to take three years to complete. In March 2018, Foxconn started the infrastructure work on the site. When complete, the site will have multiple manufacturing, warehouse, and office buildings totaling over 20 million square feet. Due to the size of the project, it is anticipated that multiple sprinkler, fire alarm and special suppression system contractors will be involved.

FSCI has been pleased to provide third-party plan review and inspection services in southeast Wisconsin for over 20 years. We have been providing service to the South Shore Fire Department for the past 7 years. South Shore protects Mt. Pleasant and Sturtevant.

FSCI's role at Foxconn started with the review of sprinkler, fire alarm, and clean agent system plans for an existing 150,000 square foot building that includes manufacturing, storage and office space. The building includes a large clean room which will likely be a common feature in the future manufacturing buildings. FSCI field inspectors also performed inspections and witnessed the required acceptance testing for each system. More recently, FSCI has begun the reviews of fire protection systems to be installed in the first of many new buildings. This building will be approximately 100,000 square feet and will also include manufacturing, storage and offices. ESFR sprinkler systems will be installed in the warehouse area for the protection of high piled storage of Class 1 through Class 4 commodities, as well as for Group A Plastics up to 35 feet, and for tire storage up to 25 feet. A hose valve system for fire department use is also to be installed with connections located at each exterior man door to the warehouse and manufacturing areas.

The plans for all systems to be installed are reviewed by FSCI in accordance with the codes adopted by the State of Wisconsin, as well as local amendments that

may be applied under Act 270. The state adopted the 2015 edition of the International Building Code (IBC) with amendments effective May 1, 2018. The IBC calls out the requirements for fire protection systems, and references the 2013 editions of many National Fire Protection Association (NFPA) codes and standards, including NFPA 13, Standard for the Installation of Sprinkler Systems, NFPA 72, National Fire Alarm and Signaling Code, NFPA 20, Standard for Installation of Stationary Pumps for Fire Protection, and NFPA 14, Standard for Installation of Standpipe and Hose Systems. For some standards, different editions may be referenced. One example is the 2015 edition of NFPA 2001, Standard for Clean Agent Fire Extinguishing Systems.



Existing building at 13315 Globe Drive now occupied by Foxconn

Large projects such as these can pose many challenges. They can be very complex and time consuming for the building and fire code officials. Projects that are completed in phases require more attention and coordination between the AHJ and contractors. This is particularly true when it comes to the inspection and testing of numerous systems. Careful tracking of completed inspections and testing is critical.

FSCI has substantial experience reviewing, inspecting, and tracking projects. A recent example was a 2.3 million square foot Amazon Fulfillment Center in Monee, Illinois. The sprinkler protection included 45 system risers fed from an underground private fire loop around the building that was pressurized by a 2,000 gpm fire booster pump driven by a diesel engine. The fire alarm system was very large and complex, requiring extensive testing. The system was powered by one fire alarm control unit located in the fire pump room and approximately 60 remote power supplies located throughout

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EMPLOYEE SPOTLIGHT

John Kobylas

John returned to FSCI in February of 2017 after taking some time off to care for family. He originally started with us back in February of 2014 as a part time plan reviewer while still working full time at the Birmingham Fire Department in MI. He has since retired from the Fire Department and is again working for us part time.

Over the two years in total that John has been with FSCI, he has been working on sprinkler and kitchen hood wet chemical plan reviews. John has completed the NFPA Fire Inspector program along with the NFPA Plans Examiner I course along with other various accreditations related to the fire service. John is married with 2 adult children and he enjoys travelling with his wife and tinkering with his 1974 Buick convertible as time allows.



EMPLOYEE SPOTLIGHT

Ryan Case

Ryan started with FSCI in August of this year. He came to us from the Roselle Fire Department where he worked for the past 2 years as a firefighter & paramedic. Ryan believes his past experiences in fire prevention helps him understand the basics of the plan review process.

As a new employee, Ryan has completed the first phase of training. He is reviewing fire alarm plans. Compared to working 24 hour shifts, Ryan is getting used to working a 5 day work-week. When Ryan is not at work, he enjoys spending time with his wife and three kids, working out and going for a good run.



EMPLOYEE SPOTLIGHT NEWS

Scott Kunzie became a grandfather for the 1st time to Landry JJ Kunzie on June 12, 2018.



SEMINAR INFORMATION

Stay up to date on the latest Fire, Building and Life Safety code changes and equipment by attending one of our seminars. FSCI is teaching seminars throughout the United States, led by our experienced staff of Matt Davis, Keith Frangiamore, Brent Gooden, George Michehl & Warren Olsen. Whether you are a Contractor, Architect, Technician, Engineer or an Authority Having Jurisdiction, each seminar is full of practical insights 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 schedule of upcoming seminars on our website. Contact us to learn more by emailing info@firesafetyfsci.com or by calling our office at (847) 697-1300.

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LITTLE KNOWN FACTS

NFPA 13D- Storage Tanks

Section 6.1.1 of the 2016 edition of NFPA 13D states that every automatic sprinkler system shall have at least one automatic water supply. When a city's water supply is not an option, storage tanks are frequently used to achieve this requirement. When a storage tank is used as the sole source of supply, the storage tank must be capable of supplying enough water to equal the greatest system demand rate for at least 10 minutes. Like many requirements found in NFPA 13D, there is an alternative to this requirement. If the structure is only one story in height, and is less than 2,000 square feet, the storage tank only has to be capable of supplying enough water to equal the greatest system demand rate for 7 minutes (Section 6.1.3).

Another possibility, when using a storage tank, is to combine it with a well (6.1.4). When using a well to refill the storage tank, the refill rate and the amount of water stored in the well above the pump may be factored into determining the necessary size of the tank. For example, if a two story house required a 300 gallon tank to meet the systems demand for 10 minutes, with a refill rate of 15 gpm with 50 gallons stored in the well above the pump, the storage tank would only have to be 150 gallons ($\{15 \text{ gpm} \times 10 \text{ minutes}\} + 50 \text{ gallons} = 200 \text{ gallons}$) (300 gallon tank less 200 gallons=100 gallons).

Another section within NFPA 13D to keep in mind when using a storage tank and a pump as the source of supply for a sprinkler system is 6.2.2. This section states the test connection shall return water to the tank, a method for refilling the tank shall be piped to the tank, and a method of determining the water level in the tank shall be provided without having to open the tank. Listed tanks complying with NFPA 22 are not required.

Michael Carnduff – Fire Protection Consultant

DACT Transmission Means

The 2016 edition of NFPA 72 has revised or expanded 26.6.4.1.5 under the DACT (Digital Alarm Communicator transmitter) transmission means section. The 2013 edition of the code simply stated "A DACT shall be connected to two separate means of transmission at the protected premises". The 2016 edition of the code adds that "A single point of failure on one means of transmission, shall not affect the second

means of transmission". The second part of 26.6.4.1.5 has not changed and still requires that the DACT shall be capable of selecting the operable means of transmission in the event of failure of the other means. If the DACT detects that one of the means of transmission has failed, it must automatically switch to the other operable means to complete the transmission. The DACT must also transmit a trouble signal to the supervising station on the operable second means of transmission. As a reminder, the current code states a fire alarm system utilizing a DACT shall employ a second means of transmission which must be a one way private radio, two way RF multiplex system or performance-based technologies (other technologies).

Scott Kunzie – Fire Protection Consultant

2016 NFPA 13 – Low Piled Storage Definition & In-Rack Sprinkler Requirements

The 2016 edition of NFPA 13 has had many changes. One such change is to Chapter 13, which has been renamed. The chapter is no longer just "The Protection of Miscellaneous Storage", but it now specifically includes "Low-Piled Storage".

In the 2013 edition, Low-Piled Storage was not defined, but was implied. In the 2016 edition, Section 3.9.1.17, Low-Piled Storage is defined as "Solid-piled, palletized, rack storage, bin box, and shelf storage up to 12 feet in height." How is this different than miscellaneous storage? Low-Piled Storage is storage of Class I-IV and Group A plastics that don't meet the definition of Miscellaneous Storage. Unlike Miscellaneous Storage, Low-Piled Storage is not considered to be incidental, there are no restrictions to layout size, other than height, and there is no separation requirement from any other storage areas.

Another new section to the 2016 edition is Section 13.1.3, which addresses sprinkler protection for storage that is at 12 feet in height or less and stored on solid shelf racks. This section states that in-rack and ceiling sprinklers shall be present for storage areas that cannot be classified as Miscellaneous Storage and when Class I-IV commodities are stored at heights of 12 ft. or less; or, when Group A Plastics are stored at heights of 5 ft. or less. It goes on to state that in-rack sprinklers will be installed per Section 16.1.6 for Class I-IV commodities and per Section 17.1.5 for Group A Plastics and the ceiling sprinklers shall be installed per Chapter 13.

Scott McBride – Fire Protection Consultant



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