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

# WINTER 2017 QUARTERLY REVIEW

 BUILDING PLAN REVIEW

 FIRE SAFETY PLAN REVIEW

 CONSULTING SERVICES

## PRESIDENT'S MESSAGE

*An FSCI update from Keith Frangiamore, FSCI President*

On behalf of our team, Fire Safety Consultants Inc. (FSCI), we would like to thank you, our clients and customers, for a great 2016. Whether you joined us as a new client or continue as a long-term customer, FSCI is committed to providing you with the best customer service, from promptly responding to code questions to tackling challenging consulting projects.

Here are a few of our 2016 highlights:

- Completed a 75% increase in fire protection, building, and life safety plan reviews
- Expanded by 50% the number of client seminars
- Delivered consulting and training projects in Canada, Mexico and Saudi Arabia

As part of our commitment to excellent customer service, FSCI developed several internal development programs. For example, plan reviewers expanded their technical skills, gained additional certifications and took on more plan review responsibilities. Additionally, senior staff implemented an on-going mentoring program that shares code knowledge and practical insights which seeks to expand the skills of our plan reviewers.

As the year continues, we are committed to on-going internal training and seamlessly integrating our communication technology between corporate and regional offices to ensure timely and responsive customer service.



# THE MYSTERY OF COMMUNICATIONS TECHNOLOGIES FOR FIRE ALARM SYSTEMS

Warren E. Olsen, CFPS CBO. FSCI Vice President of Building and Life Safety, and Chairperson of NFPA 72, Chapter 26 (SIG-SSS), Supervising Station Alarm Systems

As chairman of Chapter 26 of NFPA 72, I routinely receive communication technology questions from Authorities Having Jurisdiction (AHJ) regarding Chapter 26, Supervising Station Alarm Systems, in the NFPA 72, National Fire Alarm and Signaling Code. Recently, Craig Trapp, Fire Marshal in the City of Helena, Montana proposed to Fire Safety Consultant Inc. to elaborate on the technical and complex communication technologies requirements found within Chapter 26.

There are three groups of communications technologies found within Section 26.6.2.4 of the 2016 edition (26.6.3 in the 2013 edition) of NFPA 72, which are available to fire alarm system designers, installers, and system owners. Editions of the code prior to 2013 also include these same groups, but the use of the term “performance-based technologies” for technologies, other than digital alarm communicator systems (DACS) and radio systems, changed a few times before stabilizing in the 2013 edition of the code.

Section 26.6.2.4, Communications Technologies permits the transmission of communication signals to a supervising station by three methods which can be found in Sections 26.6.3, 26.6.4 and 26.6.5. Section 26.6.3 addresses performance-based technologies while 26.6.4 and 26.6.5 cover prescriptive-based technologies. It should be noted that Section 7.2, Minimum Required Documentation, requires that whichever method is used it must be a part of the minimum documentation required for fire alarm system submittals; “Pathway diagrams between the control unit and the supervising station and shared communications equipment.”

Let’s take a look at each of the three permitted methods:

26.6.3, Performance-Based Technologies, are any transmission method that is not covered by the rules applicable to Digital Alarm Communicator Systems or Radio Systems. As stated earlier in this article, the requirements for Section 26.6.3 are, as the name implies, performance-based. The technical committee of Chap-

ter 26, in the 2010 edition of NFPA 72, eliminated references to legacy transmission types (Directly-Connected, McCulloh, Active Multiplex). These technologies, and another 2007 grouping titled Other Transmission Technologies, were lumped together as General (72-2010 edition, 26.6.3.1) requirements which served as the precursor in the code to what is currently classified as

Performance-Based Technologies in the 2013, 2016, and the 2019 editions (currently in cycle) of NFPA 72. Performance-based technologies would include commonly found communications pathways created by cellular, IP, or GSM transmitters.

Two of these differing technologies (or two of the same technologies) are often used to provide multiple pathways as can be found in an IP/GSM transmitter. Where multiple communications paths are employed each path must be supervised within not more than 6 hours and the loss of either path must be annunciated at the supervising station within not more than 6 hours. Where multiple paths are provided they must be arranged so

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Digital Alarm Communicator Transmitter



Private One-Way Radio Transmitter



## EMPLOYEE SPOTLIGHT

*Angela Dayfield*

Angie joined FSCI as a part-time employee in February of 2012 and over her 5 years with us, has progressed to a full time Fire Protection Consultant II and inspector for our Michigan office. Angie's current duties include plan review, field inspection and acceptance testing for fire suppression, sprinkler and fire alarm systems. Some of Angie's other duties include fire life safety reviews, consulting and working with clients, municipalities, contractors and coworkers to provide them with superior customer service.

Angie came to us with a background in the fire service industry where she served for 25 years with the Lincoln Park, MI Fire Department as a full-time firefighter. Previously, she spent 8 years with the Brownstown Fire Department as a Volunteer Fire Fighter and Fire Cadet. Angie has a passion for the fire service and enjoys the broad spectrum of responsibilities that she has with FSCI.

Angie is married and her and her husband have four sons. Angie enjoys spending time with her family camping or fishing and when she has the time, Angie enjoys spending quiet time quilting and practicing her hobby of photography. Angie and her husband also enjoy watching two of her sons play college baseball.



## EMPLOYEE SPOTLIGHT

*Harrison Bradstreet*

Harrison joined FSCI as a Plan Reviewer in August of 2013. He came to us from the fire alarm industry, working with a local alarm contractor, where he started out as an assistant inspector and after 8 years worked his way up to performing service calls and worked as a lead inspector. Harrison knew it was time for a change, as he is a big self-starter, and that is what lead him to FSCI.



Harrison started out reviewing fire alarm plans for code compliance and municipality ordinance structure, and in the 3 plus years that he has been with FSCI, has earned the accolade of being our fire alarm guru. If you have submitted a Fire Alarm plan review, odds are pretty high that Harrison has handled it. Most recently, Harrison has started to learn more about sprinkler plans as well. Every now and then, some of our customers will also see Harrison out at an inspection for our larger projects to ensure that things are going well and staying on target.

Harrison has most recently been appointed the alternate to the sitting chair for NFPA 72 Sig-SSS and is enjoying the experience and learning more about the structure of NFPA.



## 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](mailto:info@firesafetyfsci.com) or by calling our office at (847) 697-1300.

[Click here to see the current seminar schedule](#)

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## LITTLE KNOWN FACTS

### **2015 - International Building Code**

Religious facilities, such as churches and other places of worship, are not covered under the American with Disabilities Act and its access regulations. These facilities, though, are covered by the IBC. An exemption to the full access provisions for a religious facility was added to the 2015 edition of the Code. Raised, or lowered, areas of less than 300 square feet, which are 7 inches or more above, or below, the adjoining finished grade are exempt from the requirements of Chapter 11, Accessibility. These smaller areas must be used for the performance of religious ceremonies. Some examples of these areas would be pulpits or high alters which are found within buildings used by differing types of religious affiliations. An additional example would be a full-immersion baptistry where everyone using the feature would be assisted if needed. The IBC Commentary explains that access exceptions for religious facilities were already being given by jurisdictions in an inconsistent manner. Section 1103.2.8 was added to the code to provide guidance and create consistency.

**Totie Leonardo – Senior Plan Reviewer**

### **2016 - NFPA 13**

Obstructions to sprinkler system discharge is always a concern to a fire protection plan reviewer or inspector. One of the more common obstructions we see are cloud ceilings. Cloud ceilings are defined in Section 3.3.5.1 of the 2016 edition of NFPA 13 as “any ceiling system installed in the same plane with horizontal openings to the structure above on all sides.” Depending on the location and size of these cloud ceilings, sprinkler protection

located at the higher ceiling level could be obstructed from spraying the floor area below the cloud. In the past, NFPA did not address cloud ceilings and as a result sprinkler protection was expected above and below all ceiling clouds that were located more than 12” below the higher ceiling. New Section 8.15.24 now allows for sprinkler protection to be omitted above some cloud ceilings. In order to omit sprinklers many different requirements need to be met including the size of the openings around the cloud, limitations on sprinkler protection areas, sprinkler types and spacing, and cloud ceiling height, construction and dimensions. As a fire protection plan reviewer and inspector the sooner we can identify these types of obstructions the less impact they have on the progress of the project.

**Brent Gooden – Fire Protection Consultant**

### **2016 - NFPA 13R**

NFPA 13R, Section 9.6 requires that domestic water demand be accounted for in the sprinkler system hydraulic calculations where both the fire sprinkler system and domestic water is supplied to the building via a common underground lead-in. The inclusion of the domestic demand is not required where a means is provided for the domestic supply to be shut off automatically when the sprinkler system is activated. One acceptable method is a solenoid valve that closes upon activation of the sprinkler flow switch. If the domestic demand is required to be calculated, Tables A9.6(a) and A9.6(b) can be referenced by the designer to determine the necessary additional demand.

**Fred Hoegler – Vice President Fire Protection Division**

**WE’RE LISTENING!**

Tell us what you are interested in learning about!

Email us at: [info@firesafetyfsci.com](mailto:info@firesafetyfsci.com)