FSCI NEWSLETTER

Fire Safety Consultants continues to be a leader in providing third party plan review services. During the first quarter of 2014, FSCI experienced an increase in the number of building, life safety, and fire protection plans submitted to our Illinois and Michigan offices over the same period in 2013. Plan reviews are being received from all areas of the country that FSCI serves. Many of the building code projects that we are seeing are exceeding 3,000,000 cubic feet. Fire protection projects involving fire suppression systems have exceeded 2,000 automatic sprinklers and fire alarm projects have been received with more than 500 devices and appliances. The number of larger projects being seen is in addition to the many smaller free standing and tenant build-out projects that FSCI receives on a daily basis.

FSCI continues to complete plan reviews in 10 business days and will work with the submitter of plans and specifications in order to be able to approve submittals following either the initial review or usually one additional follow-up review. Unlike other third party plan review firms, FSCI does not charge for subsequent plan reviews which may be necessary. Municipal clients, contractors, and developers submitting plans to FSCI realize that the single plan review fee paid to FSCI is the only fee they will pay to have their plans submitted.

FSCI is happy to announce that Akihiro Mishima has recently joined the FSCI team. Aki, as he called, is an Illinois licensed architect and has worked for several municipalities. He also had operated his own professional architecture practice. Aki is a graduate of the University of Illinois, Chicago. Currently, he is conducting field inspections on behalf of FSCI for the City of Highland Park, Illinois which is located in Lake County. Aki also has experience as a commercial building plans examiner and has been the head of municipal building and planning departments.

In search of some training? Many people seem to be these days. Perhaps as a result of department and business training budgets being increased, or maybe because many people need continuing educations hours for certifications that they hold, FSCI has seen an increase in the number of attendees at seminars that we have been providing across the country. Company founder "Jimbo" Schifiliti recently had more than 60 attendees at one of his fire suppression seminars held in Auburn Hills, Michigan. More recently, Vice President of Building and Life Safety Warren Olsen had an average of nearly 50 people each of three days for fire alarm related presentations at the Montana Building and Fire Code Education Conference held in beautiful Bozeman, Montana. Seminars on ESFR Sprinkler Systems, Clean Agent Fire Suppression Systems, and Kitchen Fire Suppression Systems have also been well attended at Rutgers University. These on-site and webinar programs have been taught by "Jimbo and Senior Fire Protection Consultant Matt Davis.

Care to see an ocean? Warren Olsen will be teaching NFPA's 3-Day National Fire Alarm and Signaling Code on June 2 – 4, 2014 in Fort Lauderdale and on July 21 – 23 in San Francisco. Pick a coast and register (www.NFPA.org) for one of these seminars that provide a great exposure to the contents of the 2013 edition of NFPA 72. Stay a few days before or after the seminars and make it a vacation.

FSCI offers several fire protection related seminars which can be presented at your fire department or business. Please contact our office for a list of available classes.

Included in this Issue:

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Upcoming Seminars:

March 31-April 2, 2014

Instructor: Warren Olsen

Various Fire Alarm Topics

3 Day Seminar

MT Building Codes Bureau

April 3, 2014

Instructor: Matt Davis

Alternative Extinguishing Systems & Commercial Cooking Appliance Fire Protection Requirements

1 Day Class

Rutgers University—New Jersey

April 4, 2014

Instructor: Matt Davis

ESFR Sprinkler Heads & High Pile Storage Code Requirements

1 Day Class

Rutgers University—New Jersey

April 17, 2014

Instructor: Warren Olsen

Significant Changes to NFPA 72

1 Day Class

City of Auburn Hills—Auburn Hills, MI

Contact us today to reserve a seminar date at your location!

847.697.1300

ggiannone@firesafetyfsci.com

Acceptance Testing of Fire Pumps

A fire pump is a significant and expensive component of a fire protection system. It is imperative that the installation of this component meets the minimum standard requirements. Acceptance testing of pumps installed for fire protection systems is addressed in Chapter 14 of NFPA 20, Standard for the Installation of Stationary Pumps for Fire Protection. The acceptance test is the last chance to evaluate that the pump's performance matches the shop test curve and design and that it will function as intended during a fire condition. I will detail some of the procedures and tests required as part of a fire pump acceptance test.

Before performing the acceptance test, the installing contractor must provide a certificate for the flushing and hydrostatic test of the underground lead-in water supply to the Authority Having Jurisdiction. Notification of the times of these tests must be coordinated with the AHJ. Suction piping is to be flushed in accordance with section 14.1.1.1, and at a flow rate specified in Table 14.1.1.1 or at the greatest hydraulically calculated water demand of the systems whichever is greater, before the installation of the fire pump. Flushing of this piping will lessen the potential for damage caused by rocks, tools and other foreign materials sometimes found in underground piping. These materials could critically damage the pump and prevent the proper operation of the system. Following the flushing, all suction and discharge piping is required to be hydrostatically tested for 2 hours at 200 psi or 50 psi over system working pressure whichever is greater.

Representatives of the pump, engine, controller and transfer switch manufacturer, the owner, the insurance company, the installing contractor and AHJ shall be notified and present during the field acceptance test. This will ensure that any problems during testing are identified and corrected to the approval of all parties. Testing equipment shall be provided in accordance with section 14.2.6.1 to make sure results are accurate and minimize multiple tests. For example calibrated test gauges, labeled with the most recent date of calibration, shall maintain an accuracy level of plus or minus 1%. Prior to the startup of the pump all electric wiring shall be completed and checked by the electrical contractor. Many equipment failures can be avoided by checking the entire installation before testing.

The pump shall be in operation for not less than a total of 1 hour for all required tests. Flow testing of the pump through test valves located on the outside of the building shall be performed and data recorded for minimum (churn), rated (100%) and peak load (150% or greatest system demand whichever is greater) of the fire pump. As a minimum, the pump must meet the greatest calculated system demand and 100% of the pump's rated flow. Other flow points may be required based on the type of pump or to help develop the performance curve. Recordings of pump rpm, suction and discharge pressures, gpm, amps and volts are required for each test point. It should be noted that water flow is not necessary for the entire 1 hour test duration. A copy of the manufacturer's pump test curve shall be provided to compare the field test results. During flow testing, vibrations that could cause damage to equipment shall be identified. In addition overheating of any components shall be identified and corrected before any harm occurs.

Fire pump controllers shall be tested in accordance with all manufacturers' requirements. Acceptance tests shall include a minimum of six automatic and six manual starts for at least 5 minutes each. Pumps supplied with an alternative power source shall be tested at a minimum of half of the required starts. Automatic transfer to an alternative power source shall be tested with the pump operating at peak load. Transfer to the alternative power should occur within 10 seconds and flow at peak loads should resume in 30 seconds.

Upon the conclusion of an acceptance field test, manuals from the equipment manufacturer for all equipment, a completed test report, and as-built drawings shall be provided to the building owner. Subsequent required inspection, testing and maintenance of the pump and related equipment are specified in NFPA 25. In the event that replacement of a critical component of the fire pump such as the impeller, motor, controller, etc. is required, a complete field acceptance re-test shall be performed.

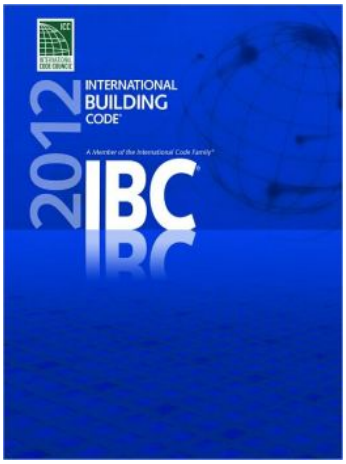
Brent Gooden— Sr. Fire Protection Consultant

New and Little Known Code Sections From IBC, IFC, IMC and NFPA

NFPA 72 – 2010

The requirements of Section 10.17.1.17.1 have been expanded in the code. These changes discuss the use of notification appliance circuits beginning at a remote power supply which are actually to be classified as control circuits. In the previous edition of the code these circuits were thought of originating only from a fire alarm control unit. The 2010 edition states that "Notification alarm circuits that do not have notification appliances tied directly to the circuit shall be considered control circuits." For example, a notification circuit originating at a remote power supply is now allowed to be used to activate another power supply. This is assuming no appliances are on the circuit and it is dedicated to the remote power supply in which it is activating. The code prohibits notification appliances from being installed on the circuit between a FACU and a power supply which serves other notification appliance circuits.

Harrison Bradstreet— Fire Protection Consultant



NFPA 17A-2009

In the 2009 edition of NFPA 17A, the maintenance requirements pertaining to the replacement of metal alloy fusible links became more stringent. The 2002 edition required that metal alloy fusible links be replaced annually. The 2009 edition calls for replacement of these fixed temperature sensors at least semiannually, or more often if deemed necessary (NFPA 17A, 7.3.4 2009 edition). The intent of section 7.3.4 is to maintain the integrity of fusible links, which are installed in environments that are subject to contaminants, such as grease and oil, in hoods and ducts. The manufacture date on fusible metal alloy temperature sensing elements does not affect when they can be used. Their shelf life is unlimited. However, once installed, NFPA 17A requires that they be replaced semiannually and destroyed once removed.

Jessica Sullivan— Fire Protection Consultant

New and Little Known Code Sections From IBC, IFC, IMC and NFPA

NFPA 13 – 2010 Edition

On a recent project, the pipe hanger location came into question with regards to the difference between end sprinklers on branch line piping and sprinklers on armovers. NFPA 13 section 9.2.3.4.1 allows the maximum unsupported length of 1" steel piping to be 36". What is not clear is that this would refer to the last sprinkler on a branch line run only. The 36" unsupported length is not applicable to armovers. NFPA 13 section 9.2.3.5 specifically addresses unsupported armovers by stating the maximum cumulative horizontal length of an armover to a sprinkler, sprinkler drop, or sprig shall not exceed 24" for steel pipe.

In both cases (armover or branch line piping) the location of the hanger is reduced to 12" maximum unsupported length when the static or flowing pressure in the piping (not counting pressure from an FDC) can exceed 100 psi.

Matt Davis, Fire Protection Consultant

NFPA 13R

Backflow preventors need to be listed for fire service use. This is something that has long been assumed, but not until the 2010 edition of NFPA 13R was it actually stated. Section 5.2.12.5 further explains that a listing or approval by another agency does not mean it can be used for fire protection service. A backflow preventor listed for fire protection service has undergone specific testing, including being able to handle pressures up to 175 psi. The backflow preventor also needs to be installed per the orientation that it was listed. This means if the backflow was tested in a vertical position, it can only be installed in that manner. The annex of this section also notes that the term “U.L. classified” is deemed the same as “U.L. listed” in terms of backflow preventors in accordance with NFPA 13R

Paul Sullivan, Fire Protection Consultant

NFPA 101 – 2009 Edition

When approving the use of windows in fire barriers, the authority having jurisdiction must differentiate between two types of glazing, fire-resistance rated glazing and fire protection rated glazing. Fire resistance rated glazing is tested in accordance with ASTM E-119. Fire protection rated glazing is tested in accordance with ASTM E-2010. Both standards require glazing to prevent the transfer of products of combustion from the fire side of the test barrier to the non-fire side, but ASTM E-119 also requires glazing to prevent the transfer of heat.

Curt Edelmann, Building and Life Safety Consultant

Upcoming Seminars, cont’d…

May 9, 2014

Instructor: Matt Davis

Alternative Extinguishing Systems & Commercial Cooking Appliance Fire Protection Requirements

1 Day Seminar

Rutgers University—New Jersey

May 30, 2014

Instructor: Brent Gooden

ESFR Storage Warehouse Occupancies

1 Day Seminar

City of Auburn Hills—Auburn Hills, MI