

2024

Hot Topics

Helping You Protect Lives And Property



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Periodic ITM is Critical for Restaurant Systems

The cooking areas of restaurants and cafeterias are high-hazard, requiring special attention due to the cooking media (cooking oils) and ignition sources (hot appliances and open flames). According to the National Fire Protection Association (NFPA), 60% of fires in these occupancies involve cooking equipment¹. The NFPA statistics also show a high frequency of fires in commercial cooking establishments. Between 2010 and 2014, fire departments responded to 7,410 restaurant fires¹. The installers and maintainers of these systems, or fire equipment distributors (FEDs), perform periodic inspection, testing, and maintenance (ITM) of the hood systems protecting the cooking appliances and exhaust ducts. Due to commercial kitchens being high hazards, the number of fires involving the cooking equipment, and the frequency of fires, these systems require ITM more frequently than other businesses (at least every six months). Here is a look at critical components and the ITM that ensure these systems will work when a fire occurs in a commercial kitchen.

Reliable and Effective Systems

Typical restaurant systems are mechanical, meaning they have levers, springs, and cables that make them operate. Also, their operation is both automatic and manual. In the event of a fire, where a worker does not operate the system manually, it will automatically actuate and extinguish a fire involving both the appliances and the exhaust ductwork. Independent laboratories verify that the chemical agent is extremely effective on cooking oil fires during testing and listing of kitchen systems. When the fine mist chemical spray from the system lands on flaming cooking oil, a foam is created. The smothering action of the foam extinguishes the fire and prevents reignition. Since the extinguishing agent is extremely effective, the task of service technicians is to perform ITM to ensure the reliability of operational controls and components of these systems. An effective extinguishing agent combined with reliable operation means safety for workers and patrons. An added benefit is minimal business interruption for your customers.

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Periodic ITM is Critical for Restaurant Systems

Requirement for Semi-Annual ITM

To ensure reliability, trained technicians service these systems every six months. The standards and codes adopted or referenced by state codes require the semi-annual ITM of restaurant systems.

6-month ITM of Kitchen Systems

Code or Standard	Reference
International Fire Code (IFC), 2021	904.6
NFPA 1, Fire Code, 2024	50.6.2
NFPA 17A, Wet Chemical Systems, 2024	8.3
NFPA 96, Commercial Cooking, 2024	12.2

Fusible Links

It is critical to replace fusible links during semi-annual ITM. Fusible links are critical components, used to automatically discharge the system in the event of a fire. The links are required to be replaced every six months. The replacement with new links is extremely important because links accumulate grease, which impacts their effectiveness, impairing response time. Heavily contaminated links may not operate at all, resulting in a total loss of a restaurant.



TECHNICIAN TIP!

“Installing a new, clean fusible link that is UL listed or UL classified ensures ultimate performance in compliance with codes...”

Fusible links are not tested for effectiveness, since they are single-use actuation devices. Once a fusible link operates it is permanently destroyed and cannot be used again. That is the reason they cannot be tested. Installing a new, clean fusible link that is UL listed or UL classified ensures ultimate performance in compliance with the model codes and Underwriters Laboratories listing criteria.

Pull Station Test

In addition to link replacement, the actuation and control components require testing. To troubleshoot problems, the manual and automatic features need to be operated during ITM. Although the system can be tripped within the system control module, that action does not fulfill the requirement for testing the proper operation of a pull station.” Cables connected

to pull stations require functional testing. After taking the steps outlined in the manufacturer’s manual to ensure agent discharge will not occur, each pull station is operated.

Fusible Link Cable Test

Testing is required for the detection and actuation cable connecting fusible links to the control module. To simulate fusible link operation, a test link is substituted for the most remote fusible link. System operation is tested by cutting the test link. Alternatively, an “S” hook at a fusible link can be cut. In either case, the most remote link is identified, so the entire cable is tested in one operation.

Problems identified with cables, such as misalignment or binding, can then be remedied. Another problem that can be identified and fixed is a wire crimp installed too close to a bracket or conduit piping. Although tension is released by cutting the test link or “S” hook, an improperly located wire crimp will get hung up, maintaining tension between the crimp and the control module. This will prevent the control module from releasing the extinguishing agent to the fire. To solve this problem, a longer cable is installed with new wire crimps. After installation, the cable operation is again tested.

Gas Valve Test

Cables also connect the control module to the gas valve. That cable is for automatic shutoff of the gas supply, upon system actuation. Gas shutoff (for both automatic and manual operations) and the manual resets are checked during pull station and link cable testing. Proper operation of the manual reset is verified during the test and replacement parts are installed where problems are identified. Visual indicators at the control module and any remote audible and visual alarms are also checked at the time of testing.



Complete Ansul R-102 System available from Brooks for all Customers.

Replacement Cable

Fusible links, pull stations, and automatic trips for gas valves are connected to the system control module by a 7 x 7 stainless steel cable (aircraft-type). This type of cable has seven strands in each of the seven bundles of strands that make up the cable. FireTech™ 7 x 7 aircraft-type stainless steel cable or equivalent is the only type of cable that should be used for new installations or as a replacement cable. It has the required strength, corrosion resistance, plus the essential flexibility necessary to make the short radius bends of corner pulleys. The manufacturer's manuals. Your customers will appreciate the work you perform to keep their systems code-compliant and reliable in the event of a fire emergency.



TECHNICIAN TIP!

“Cutting a test link after initial system installation is a good way to double check for cable problems...”

New System Installations

Your customers expect their systems to work during a fire emergency. Performing the required ITM every six months will ensure the proper operation of critical components and cables. Cutting a test link after initial system installation is a good way to double check for cable problems. Cable misalignment, cable binding, or a crimp that prevents system operation will be identified. These problems are easy to identify and fix when this test is performed during installation acceptance testing of a new installation.

When the system is operationally tested to local codes, reliability increases and the best outcome for operation of the system, in the event of a fire emergency, can be expected. ♦

Popular new tool that replaces the CC093 and ST364 Cable Cutter and Crimping Tool.



Schedule ITM Service EVERY 6 MONTHS

Performing the required ITM twice a year will ensure proper operation of critical components and cables.

¹ *“Structure Fires in Eating and Drinking Establishments”, Richard Campbell, February 2017, National Fire Protection Association 2021 International Fire Code (IFC)*

NFPA 1, Fire Code, 2024 Edition

NFPA 17A, Standard for Wet Chemical Extinguishing Systems, 2024 Edition

NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, 2024 Edition

The Importance of Building Fire Alarm Monitoring

Fire Prevention Week

Every year, we observe Fire Prevention Week (FPW) to commemorate the Great Chicago Fire of 1871. This year's FPW falls during the week of October 6-12, 2024. The National Fire Protection Association (NFPA) selects a theme each year, and this year's campaign strives to educate everyone about the importance of having working smoke alarms in the home.

Since the focus of FPW is on home fire alarms, we should also educate customers on the importance of fire detection and notification equipment in other buildings, including most commercial and governmental buildings. Those complex alarm systems are installed, tested, and maintained by trained technicians. They are designed to transmit the fire alarm automatically so that the fire department and other emergency responders can send personnel and equipment to the scene of the fire to save lives and minimize property damage.

Here is information that you can share with customers to emphasize the importance of the installation and upkeep of fire alarm monitoring systems.

Fire Emergency Plan & Monitoring Systems

All building owners and managers should have a written fire emergency plan. An important component of many building fire plans is the fire alarm monitoring system. Fire alarm monitoring systems use sensors and detectors to identify and locate fires in buildings. Once the system recognizes a fire emergency, it sounds the building alarm and automatically sends an alert to a monitoring center to notify emergency services. Those emergency services can then take quick action to dispatch personnel and vehicles to prevent injuries, save lives, limit property damage, and minimize business interruption.

How Monitoring Systems Work

Monitoring alarm systems include a fire alarm control panel that relays signals to a supervisory station. The signals are typically relayed by phone line, cell connection, radio frequency, or the internet. Once a signal is received at the supervisory station, the trained monitoring station staff notify emergency responders of the location of the fire emergency.

Fire departments determine how much equipment to send to a fire scene based on information received from the monitoring station operators.

Automatic Transmission of Alarms

According to 9.6.4.2 of NFPA 101, Life Safety Code, where emergency response notification is required by one of the occupancy chapters of the code, the fire alarm system must be designed and installed to transmit an alarm automatically by one of the following fire alarm systems:

- **Central Station Monitoring System:**
Most common, 24/7 service, UL listed providers
- **Proprietary Supervising Station System:**
Multiple properties, same ownership
- **Remote Supervising Station System:**
24/7 service – Installed/tested/maintained by owner
- **Auxiliary System:**
Owned and operated by the local municipality

Honeywell

FIRE SOLUTIONS



Fire Alarm Components

The components of an effective alarm monitoring system are interconnected to trigger alarms and initiate emergency responders. Some of the components used in building monitoring systems include the following:

- **Smoke Detectors:**

Smoke particulate indicates a fire emergency.

- **Heat Sensors:**

Heat from a fire is another important indicator during a fire and are used in cooking areas and dusty environments where smoke detectors are less appropriate.

- **Flame Detectors:**

Installed in many open spaces with high ceilings to detect flames as they become visible from smoldering fires.

- **Smoke Sampling Detectors:**

Also called early warning smoke detectors, these detectors are installed for the protection of high-value and critical equipment needed for business continuity.

- **Carbon Monoxide (CO) Detectors:**

CO is a dangerous gas that can incapacitate or kill occupants of buildings and is important where fuel-fired appliances could become faulty.

- **Detectors for Other Harmful Gases:**

For many industrial operations, the presence of harmful gases can be detected to alert workers of the need for evacuation or other action.

Layering of Detection Equipment

When it comes to effective monitoring for safety, property protection, and business continuity, installing only one technology may not suit the needs of your customers. Often a layered approach to selecting and installing detectors and sensors makes the most sense. Understanding the limits and advantages of each of these technologies puts you at a distinct advantage when customers are looking to make the most informed and best choices for their unique activities and operations.

Central Station Monitoring System

A central station monitoring system connects the fire alarm system to an offsite monitoring facility, where operators are standing by to relay signals to emergency dispatchers.

When an alarm is triggered, the operator receives the signal and then determines the appropriate agencies to notify. Central Station Monitoring Systems reduce false alarms and can save your customers the cost of associated fines.

A UL Listed Central Station Monitoring System is the most common and reliable type of system. These monitoring systems are typically equipped with state-of-the-art computerized communication systems with fully redundant backup systems for computers, phones, automation, and emergency power. Brooks' preferred Central Monitoring Station is ESC Central, located in Birmingham, AL, which has been in operation since 1995. ESC Central's professionally trained operators are available 24/7, 365 days a year. ESC has a rigorous onboarding process for new employees, including background checks, confidentiality training, and thorough evaluations before anyone is allowed to work independently within the central station.

Brooks Equipment's Preferred UL Listed Contract Monitoring Station is **ESCCENTRAL**

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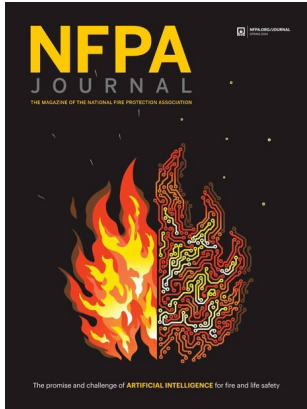
Conclusion

As we observe Fire Prevention Week this October, it is important to remember that fire safety is important not only in the home but for all buildings. By helping your customers understand the importance of fire alarm monitoring systems in their buildings, you will be helping to assure life safety, property protection, and business continuity. ♦



Feedback/Spring 2024: Getting Serious About Hot Work Safety

Your recent statistical report summary on hot work fires (“Structure Fires Caused by Hot Work”)¹ is alarming. It shows the need to improve safety and reduce fatalities/injuries/property losses during hot work operations by



ensuring a fire watch is present and equipped with the proper tools to handle incipient fires. Federal OSHA regulations (1910.252) for welding, cutting, and brazing reference NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work. Both documents require a fire watch and fire-extinguishing equipment needed for fires that frequently occur during hot work operations.

A fire watch ensures that safe conditions are maintained during hot work operations. It also has the authority to stop operations and extinguish fires. Typically, portable fire extinguishers are among the tools provided to a fire watch for extinguishment of incipient fires. But that is not always the case. It is not uncommon for hot work operations to be missing the fire watch altogether or for the fire watch to be ill-equipped to handle fire emergencies. Expecting a fire watch to use extinguishers installed in the building for occupant use is a mistake, as it takes time for the fire watch to retrieve those extinguishers and allows the fire to propagate. Fires that spread beyond the point of origin, and necessitate fire department intervention, are most likely the fires that contribute to the fire-loss statistics in your article. [The full report on structure fires caused by hot work is available at [nfpa.org/research](https://www.nfpa.org/research).]

The portable fire extinguishers mounted on hangers or installed in extinguisher cabinets throughout buildings are required to be located at a maximum travel distance of 75 feet from any point in a building for Class A fires. Those extinguishers are for use by occupants and are not intended for the required fire watch for hot work operations.

Where hot work operations are performed, additional extinguishers are necessary in the vicinity of the work. With portable fire extinguishers readily available as part of a trained fire watch, incipient fires can quickly be extinguished, thereby maintaining safe conditions. Reliance on portable fire extinguishers installed in buildings for occupant use is never a substitute for fire-extinguishing equipment that is required to be readily available for the fire watch.

Providing a properly equipped and trained fire watch for every hot work operation will help us improve safety and reduce injuries, fatalities, and property losses. ♦

Mark Conroy, Engineer

Brooks Equipment Company
Member, NFPA Technical Committee
Portable Fire Extinguishers

¹ NFPA Journal Magazine, <https://www.nfpa.org/education-and-research/research/nfpa-research/fire-statistical-reports/structure-fires-started-by-hot-work>, May 23, 2024. NOTE: This letter to the editor appeared in the 2024, Spring Edition of NFPA Journal, the Official Magazine of NFPA.

“Improve Safety, and Reduce injuries, Fatalities, and Property Losses...”

Improve safety by providing a properly equipped and trained fire watch.

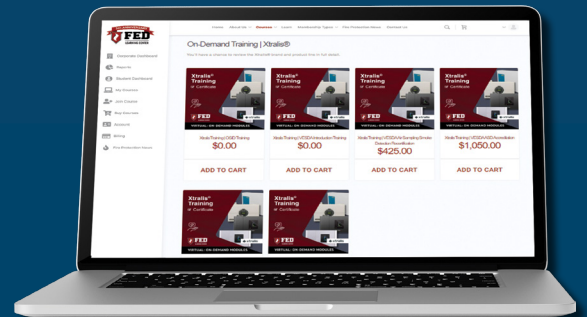
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Meet Jason Schaefer, Territory Sales Manager

Jason began his journey with Brooks in November 2022. Before that, he worked for a big Fire and Life Safety company for nearly 18 years, where he started as a Fire Sprinkler Apprentice, working his way up to a licensed Fire Sprinkler Technician, Suppression Manager, Service Manager, and Regional Territory Leader. He also had the honor of serving in the US Army for four years and the US Air Force Reserves for 12 years, with deployments to Iraq in 2006/2007 and Afghanistan in 2010/2011.

Jason is currently the Territory Account Manager for Oklahoma and Texas at Brooks, where he closely collaborates with all our customers to ensure a strong partnership. In addition, he aids our Inside Account Managers by educating them on all the ways Brooks can be a one-stop solution.

According to Jason, what he loves most about his job is being able to help our customers recognize the value of Brooks Equipment. If he weren't in this career, he'd consider returning to firefighting, a role he held for a few years after high school.

Jason's mantra is "Everything happens for a reason." When he's not working, you can find him unwinding at a beach or by a pool. He has a weakness for a great steak and watching college football, especially his favorite team, the Oklahoma Sooners.

As for career lessons, the best one he's learned thus far is, "never stop learning and embrace change." ♦



Legislation & Code

Brooks Tracks State Codes and NFPA Standards

STATE UPDATES

Washington State

Washington State continues to hold hearings on the updating of the licensing requirements for fire extinguishing system technicians. The Technical Advisory Group (TAG) to the Washington State Building Code Council (SBCC) met again on **September 17, 2024** to consider allowing the ICC/NAFED test to be used as the benchmark for qualifying technicians for pre-engineered dry and wet chemical systems. Results from that meeting were not available prior to the issuance of this newsletter.

FEDERAL UPDATES

NFPA 96

The technical committee (TC), responsible for NFPA 96, *Ventilation Control and Fire Protection of Commercial Cooking Operations*, met **September 9 and 10, 2024** at NFPA headquarters in Quincy, MA. The TC acted on the Public Inputs and developed a First Revision (FR) of this standard. The FR will be available for Public Comments (PCs) early next year. The committee plans to meet again during the summer of 2025 to address any PCs that are received.

NFPA 17 and 17A

The technical committee (TC), responsible for NFPA 17, *Standard for Dry Chemical Extinguishing Systems* and NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, met virtually on **October 8, 2024**. Similar to NFPA 96, a First Revision (FR) was developed, and the committee will meet mid-2025 if any Public Comments (PCs) are received.

NFPA 10

The NFPA Technical Committee on Portable Fire Extinguishers met **November 12-13, 2024** in Boston, MA and acted on Public Comments (PCs) that were received on the First Revision (FR) of NFPA 10, *Standard for Portable Fire Extinguishers*. Following balloting of the actions on the Public Comments, a second draft will become available in early 2025. The next step in the revision process is to solicit for anyone that wishes to submit a Notice of Intent to Make a Motion (NITMAM) at the June NFPA conference. That solicitation will take place in the spring of 2025. ♦

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