



March, 2020 Edition

THE FIRE LINE

Fond du Lac Fire/Rescue Monthly Newsletter

FROM THE BALCONY

A message from Chief Peter O'Leary



New Year New Challenges

It's been a fast start to 2020 with so many things in play. We welcome our newest FF/PM Andrea Hoksbergen who began her recruit academy training in January along with Noah Kreilkamp who has been with us for several months but had not yet completed his probationary training. We are excited to have Andrea and Noah begin their probationary year!

We are also excited to be welcoming home FF/PM Brett Hefty who comes back after a lengthy absence serving our country with the Wisconsin National Guard. We had grateful for Brett's service and his safe return home and welcome him back to Fond du Lac Fire Rescue!

Over the next couple months the second city council meeting of the month will have an informational input session on the agenda to discuss personnel needs in the police and fire departments. The goal is to provide enough information to the city council and the public about our staffing need which we have proposed adding a fourth ambulance and hire six additional firefighter/paramedics. The council will be hearing on options to fund the positions which could include a referendum question being placed on the November ballot.



If you see Assistant Chief Janquart's door closed more than open it's because he is diligently quarterbacking our reaccreditation documents which need to be ready ahead of the Center for Public Safety Excellence's onsite visit in June with an anticipated hearing in front of the Commission in August.

Finally, Division Chief Troy Haase has announced his plan to retire from the department in April. I am working with City Human Resources to weigh out options for the future staffing models of the Fire Prevention Bureau. We hope to have information out soon so that interested internal members would have time to consider the position, ask questions and challenge the examination prior to Troy's departure in April.

We look forward to seeing as many of our current and retired members at our annual awards banquet on February 25th.

*Until next month,
Be Safe and Be Well*

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UPCOMING EVENTS

*Agriculture Showcase
March 7th
FDL County Fairgrounds*

*St. Patrick's Day
Downtown Parade
March 14th - 3:00pm*

*Super Home Extravaganza
March 28-29
FDL County Fairgrounds*



FOND DU LAC FIRE RESCUE OPERATIONS

By: Assistant Chief Erick Gerritson



Firefighters Skills Proficiency: How many things can you really be good at?

Today's firefighters are stretched to the limit on the number of tasks we are called upon to perform. It presents the question: How many different skills can one person really perform well?

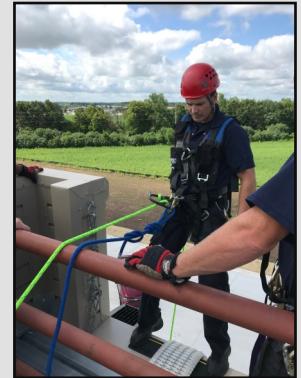
This is an honest question many of us may not be willing to answer honestly. Our profession looks much different than it did 20 years ago. Today, America's firefighters are who you call for a multitude of problems—or when you don't know who else to call. Firefighters are asked to perform many different tasks beyond firefighting. Many of us are members of fire departments that provide fire suppression and EMS in a transport or non-transport role. Many of these same organizations also operate a special operations division that includes swift water rescue, large area search, high-angle rescue, confined space rescue, trench rescue, structural collapse, vehicle/machinery rescue and hazardous materials incident response.

With each additional responsibility, members of the organization are asked to take on new tasks, learn new skills and perform them all when called upon. These are critical tasks that require proficiency and must be performed safely. If we fail, the consequences can result in significant injury or death. Even more challenging, we don't experience high call volumes for most of these tasks, so we depend primarily on training to maintain firefighter skills proficiency. Before too long, some members could make a full-time job attending training just to keep up with continuing education unit (CEU) mandates for their licenses and certifications—and that's not even counting special team proficiencies for the teams they are on!

INDIVIDUAL PERSPECTIVE

Let's use rope rescue as an example. Suppose your local jurisdiction has found out a new zip-line attraction is coming to your area. Because of this new community risk, the decision has been made to develop a rope rescue team to respond should someone become injured or trapped.

Firefighter Jones is a real go-getter and volunteers to be on the new team. Keep in mind Firefighter Jones already is a certified firefighter, a licensed paramedic, and a certified fire service instructor and fire investigator. Each of these skills require annual CEUs to maintain proficiency and to meet relicensure or recertification requirements. That means Firefighter Jones must spend a significant amount of time just to maintain his certifications. Depending on where Firefighter Jones works, these requirements may or may not require hands-on skills evaluation as part of the recertification/relicensure process.



Now Firefighter Jones is going to add rope rescue, which requires learning new skills during initial training and an additional commitment to proficiency training to maintain very perishable skills. Maybe Firefighter Jones has extensive rope experience because he spent time in the Scouts, or served in the Navy or Coast Guard, or participated in recreational rock climbing. Even so, it's likely he won't use this skill very often and must train regularly to be ready when he needs to perform at an actual event.

From Firefighter Jones' perspective, this may not be a problem at all—in fact, it might make the job more interesting. After their initial training in the academy, firefighters are often looking for a new task or challenge to keep them motivated to come to work.

COMMUNITY AND DEPARTMENT PERSPECTIVE

On the other side of this situation, however, is the fire department and the community it protects. Community members will almost always regard increased response abilities as a good thing; we all recognize people will call us for everything from toe pain to someone trapped in a collapsed building after a tornado has ripped the building apart. But ordinary citizens rarely realize the effort required to maintain these perishable skills and the danger involved in having personnel respond who may not have the required proficiency.

FOND DU LAC FIRE RESCUE OPERATIONS

By: Assistant Chief Erick Gerritson



Firefighters Skills Proficiency: How many things can you really be good at?

HIGH-RISK, LOW-FREQUENCY

Firefighters gaining additional certifications isn't negative in principal, but it can be problematic in practice. In fact, it can end up being what Gordon Graham, one of the founders of Lexipol, labels a high-risk, low-frequency event—as he puts it, "things that can go very badly, and happen very rarely." A rope rescue call is a classic example: Members are expected to perform complex tasks and skills at a moment's notice, but they have very few opportunities to actually practice these skills outside of training. That poses a risk to the fire agency and its members.

A important question is, are you really good at everything you say you are? We have all heard the phrase, "Jack of all trades, but master of none." Is that what the community really wants when they need rescue? In some jobs, lacking proficiency can be embarrassing or disappointing. When it comes to firefighter skills proficiency, however, the consequences of getting it wrong can be severe—it can be the difference between life and death.

Don't think it can happen to you? Ask yourself, if someone asked you to perform a simple task like folding a salvage cover, could you do it? *What does it matter, right? It's just a salvage cover.* But if you can forget a perishable skill like the proper way to fold a salvage cover, what more-critical skills have you likely forgotten too?

Consider all the skills in which you are responsible for maintaining proficiency. Have the courage to do some self-evaluation and honestly evaluate how proficient you are versus how proficient you need to be. If you're not where you need to be, then get to work and get better.

MEETING EXPECTATIONS

We all need to remember what the public expects when they call 911. They expect a superhero with a cape and a great big letter on our chest. And why shouldn't they? When the public makes that call, it's the worst day of their life. When we arrive, they expect us to be their superhero at that moment—which means we must perform at the highest level of service.

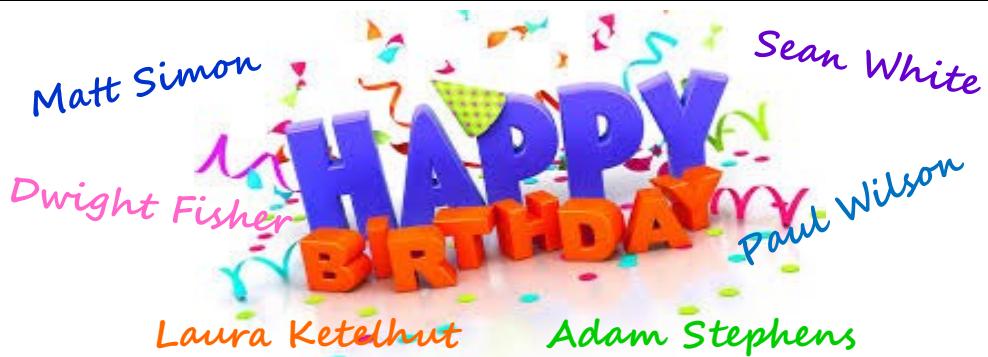
Many times, lives are truly on the line during special operations response, which involve very complex tasks with little room for error. Make sure that for every special team operation you are expected to perform, you don't just know what to do in theory. You must know what to do as well as anything you have been trained to do in the fire service. These incidents aren't just about making the public's worst day a little better—they are also about making sure that everyone on your team goes home at the end of the response.

Source: Bruce Bjorge of Fire Rescue 1

Until next Month...Stay Safe!

OPERATIONS BY THE NUMBERS

| JANUARY, 2020 | THIS MONTH | | YEAR-TO-DATE | |
|----------------------------|-------------------|------------------|---------------------|------------------|
| PREVENTION | Last Year | This Year | Last Year | This Year |
| Total Inspections | 392 | 256 | 392 | 256 |
| Total Defects | 149 | 161 | 149 | 161 |
| SUPPRESSION | | | | |
| Alarms Involving Fire | 10 | 13 | 10 | 13 |
| Fire Mutual Aid Given | 0 | 2 | 0 | 2 |
| Fire Mutual Aid Received | 0 | 0 | 0 | 0 |
| Service/Good Intent Calls | 46 | 51 | 46 | 51 |
| False Alarms & False Calls | 35 | 15 | 35 | 15 |
| Other Calls | 16 | 18 | 16 | 18 |
| Total Fire Alarms & Calls | 107 | 97 | 107 | 97 |
| EMS | | | | |
| Total Ambulance Calls | 523 | 531 | 523 | 531 |
| Total Fire & Ems Responses | 630 | 628 | 630 | 628 |
| Fire Property Loss | \$101,809.00 | \$76,000.00 | \$101,809.00 | \$76,000.00 |
| Fire Contents Loss | \$31,600.00 | \$46,000.00 | \$31,600.00 | \$46,000.00 |
| Engine Assisted EMS Calls | 209 | 218 | 209 | 218 |

**March, 2020****Sean White**
March 2, 2015**Sam Tennessen**
March 2, 2015**Jacob Fisher**
March 2, 2015

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The Code Summary

*By: Todd Janquart
Assistant Chief of EMS*

Don't panic but prepare: What you need to know about the novel coronavirus

EMS providers may find themselves face to face with this new and highly infectious virus – here's how to protect yourself and the patients you transport.

The term "pandemic" demands attention and rightfully strikes fear in the hearts of the public. The mere prospect of a potentially lethal, fast-multiplying virus being transmitted from one continent to another in a matter of days can cause global panic in a world interconnected by numerous modes of transportation and 24/7 news.

Although as of this writing the World Health Organization has not yet declared a pandemic, there is concern over the newest viral threat recently discovered in China. The novel coronavirus (2019-nCoV) is one in a family of viruses that can cause acute respiratory distress. Although little is yet known about nCoV, it is related to the SARS and MERS viruses that swept through Asia and the Middle East in 2003 and 2012. The nCoV strain has infected over 40,000 people since it was first reported on December 31, 2019, and the number of people infected grows daily.

As a newly discovered virus about which little is known, there is no vaccine to prevent it and no known medical treatment to control it. Emergency evacuations, travel restrictions, quarantine and other large-scale precautions are being taken to prevent the spread of nCoV from one country to the next, but the reality is that no one knows where it may spread next or when.

Treating symptoms in those infected and preventing the spread of the disease is critical to helping keep illnesses and fatalities to a minimum. This is where EMS providers may find themselves serving as the front lines of defense.

EMS1 spoke with Rosie D. Lyles, MD, MHA, MSc, current director of clinical affairs for Medline, about what EMS providers need to know to protect themselves and their patients.

First, what is 2019-nCov?

2019-nCov is a new respiratory virus, from a large family of envelope viruses called Coronaviruses; some causing illness in people and others circulate among animals, including camels, cats and bats. When we [public health] first heard about it, we were under the impression that it originally transmitted from animals to humans at an animal and seafood market in Wuhan, China. But we're learning now that it can be transmitted person to person because the growing number of patients who have not had exposure to animal markets were positive for the virus.

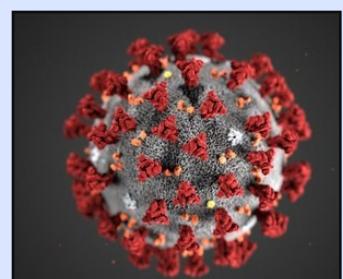


Illustration of the 2019-nCoV viewed through an electron microscope. Note the spikes that adorn the outer surface of the virus, which impart the look of a corona surrounding the virion.

What are the signs and symptoms?

The nCoV virus is very similar to influenza in that you would see someone with fever and cough; however respiratory distress (shortness of breath) is an additional symptom. We do know there are certain patients who have a higher risk factor, such as those with underlying health conditions. Very elderly patients, as well as younger patients, are very susceptible to the virus, much as they would be to influenza (the flu).

When do symptoms present?

This is a very contagious virus that has, as far as we can tell, a wide range of incubation period. Someone could be exposed to the virus but not show any signs and symptoms until two to 14 days later. That is part of the reason there is such a concern about people traveling from country to country. They may be exposed to it, but do not show any signs and symptoms until a week or two later.

If the signs and symptoms are similar to other viruses, like influenza, how can an EMS provider distinguish a possible nCoV infection from the flu?

I think EMS can ask the right questions about patient's symptoms like, "Do you have a fever, cough, shortness of breath/difficulty breathing?" Also ask the next two critical questions, "Have you traveled to mainland China within 14 days of symptom onset? Or, have you been in close physical contact with a person confirmed with 2019-nCoV infection?" If they say yes, the EMS provider should provide the patient with a facemask and continue with their preventive actions.



The Code Summary

*By: Todd Janquart
Assistant Chief of EMS*

How concerned should an EMS provider be about nCoV?

I think they should be concerned about all pathogens (i.e. MRSA, C.diff, flu and nCoV) because they can cause mild to severe illness and in some cases death, unfortunately. We need to practice everyday preventive actions and infection control strategies to prevent the spread of these pathogens.

From a clinician standpoint, we have to put this virus into perspective. We are in flu and respiratory disease (i.e. respiratory syncytial virus) season right now, and these viruses cause millions of medical visits that ultimately lead to hospitalization. However, the flu kills several thousands of patients just in the U.S. each year. Nevertheless, we are taking aggressive measures to prevent the spread of nCoV in the U.S.

As EMS personnel, your job is not only to treat an illness and injuries that require an urgent medical response, but also to act as if you are an out-of-hospital emergency room. EMS professionals should take precautions to protect themselves, the patient and their environment (the vehicle). They should have awareness of the latest information from their public health department and CDC, ask the right questions from patients (signs and symptoms) and continue to practice everyday preventive actions (good hand hygiene, cleaning and disinfecting their environment).

How should an EMS provider protect themselves and their patients from exposure to the virus?

Since it's still so early and we're still learning more information day by day, we should follow the standard precautions that the CDC recommends for healthcare providers: To wear personal protective equipment (gloves, respiratory protection masks and eye protection). In addition, EMS should place a facemask on suspect patients who have those signs and symptoms.

What we do know is that coronavirus itself can last on dry surfaces for about three hours, compared to influenza virus, for example, that can last from 24 to 48 hours. A recent analysis of 22 studies indicates that other strains of human coronaviruses like SARS, which is very similar to what we are currently dealing with, can persist on inanimate surfaces like metal, glass or plastic for up to nine days.

EMS providers should be sure to keep their environment clean, just on a regular basis, because you just never know if this could be influenza, the coronavirus, or it could be MRSA — it could be any type of pathogen. So they should just be more vigilant to make sure they're implementing regular infection control strategies to prevent the spread of any type of pathogen.

What should EMS providers keep top of mind?

We have to make sure that everyone knows they play a vital role in preventing infection and the spread of nCoV and other infectious pathogens like the flu. There is no vaccine to prevent the nCoV and we have to be proactive and consistent with optimal daily preventive actions to prevent this respiratory virus:

Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing.

If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol. Always wash hands with soap and water if hands are visibly dirty.

Avoid touching your eyes, nose, and mouth with unwashed hands.

Avoid close contact with people who are sick.

Stay home when you are sick.

Cover your cough or sneeze with a tissue, then throw the tissue in the trash.

Clean and disinfect frequently touched objects and surfaces.

Author Laura Neitzel from February 10th, 2020 online edition of EMS1.com

I have learned that success is to be measured not so much by the position that one has reached in life as by the obstacles which he has had to overcome while trying to succeed.

Booker T. Washington

News from the Station



FDLFR warmly welcomed home FF/P Brett Hefty who returned from a yearlong deployment to Afghanistan as a member of the Wisconsin Army National Guard. A special thanks to Winnebago Lutheran Academy Choir, Pastor Grant Baumgart, City Council President Brian Kolstad, City Manager Joe Moore, and Sgt. First Class Christopher Lauerman who helped to make the celebration extra special.



Welcome to our newest FDL Fire/Rescue member, Probationary FF/PM Andrea Hoksbergen. Andrea is from the Randolph area. She is the oldest of 7 children and enjoys hiking and camping with friends and family. Andrea states she is excited to be working at Fond du Lac Fire/Rescue and looks forward to the opportunity to serve the citizens of Fond du Lac. Welcome to our family, Andrea!

Well trained people
are the best defense
against fire.

By: James Knowles III
Assistant Chief Training/Safety

The NFPA 1403 Debate (Part 1 of 2)

Many in the fire service are of the opinion that NFPA 1403: Standard on Live Fire Training Evolutions (2012 ed.) and all the previous editions of this important training standard are and were *failure-driven documents*. The history of failures and omissions in conducting safe and effective live-fire training are numerous and evident probably throughout the history of the fire service. In addition, many instructors and students alike now consider the acquired-structure type of live-fire training not worth the time or effort, and not worth dealing with the number of paperwork “walls” put in place by the myriad regulatory and permit-driven agencies we deal with on a regular basis when putting together a live-fire training plan.

But I’m not making a case to conduct live-fire training outside of or in ignorance of NFPA 1403; I’m saying quite the opposite. Live-fire training and all training should be planned, conducted and documented in accordance with not only an applicable standard, but also local policies. This article is built around helping the progressive fire service professional address some of the issues or stones that are thrown at 1403-compliant exercises.

A Matter of Responsibility

In 2010, the International Society of Fire Service Instructors (ISFSI) launched a credentialing program designed to provide professional education and instruction on the various roles and responsibilities outlined in NFPA 1403. This program provides classroom and practical instruction that will help the Live-Fire Training Instructor and the Instructor in Charge to understand how a proper live-fire training plan is prepared, and all the safety and instructional positions that must be filled when conducting any type of live-fire training. The driving message throughout this program: It is the *responsibility* of both the sponsoring agency and all members of the instructional team to follow all 1403 training recommendations and practices, from the first notification that live-fire training will take place to the documentation process at the end.

By now, most firefighters and hopefully all officers and instructors understand their *responsibilities* to follow and execute live-fire training in compliance with NFPA 1403, as doing otherwise would expose them and their organization to potential legal issues and other matters that are easily avoidable if they follow the standard.

The 1403 Debate

I’ve had the privilege of participating in many live-fire training exercises throughout my career and have gained much needed experience from them. In some cases, they were conducted outside of the existing 1403 standard of that time—and we certainly were lucky instead of good. As the standard has been revised, many may say that it has become more restrictive, almost to a fault. NFPA isn’t to blame for that; the mission of the committee is to provide guidance and direction to conduct these important evolutions safely and reasonably. However, some instructors have not taken it that way; they view it as so restrictive that the value of conducting live-fire training is lost.



Well trained people
are the best defense
against fire.

By: James Knowles III
Assistant Chief Training/Safety

The NFPA 1403 Debate (Part 1 of 2), continued...

Some instructors think that hotter and smokier evolutions are better, and throughout the day, they should get progressively more difficult to handle—hotter and with more fire sets and fuel loading. Other instructors who try to conduct a “by the book” live-fire training exercise are questioned and/or ridiculed as being safety zealots and scared of legal repercussions if they don’t go by the book.

The Student’s Viewpoint

Both sides of those arguments can clearly be seen, but what about the student’s viewpoint? A new firefighter needs to see and experience the effects of heat and smoke during live-fire training, and an experienced firefighter should have the opportunity to keep their skills sharp through these exercises as well. In some cases, a recruit firefighter may gather more live-fire experience during their academy and entry-level training than they might in the first few years on the job.

Firefighting students undergo safe training experiences that they can use to build upon with experience from the street and the classroom. But bad habits can easily form when recruits observe instructors and/or stokers (ignition officers) taking shortcuts on safety actions, such as improperly donned PPE or lack of effective rehab, just because they’re the instructor.



By enforcing the requirements of 1403 during recruit training, new firefighters understand the value that the organization places on safety and its adherence to policies and procedures, with no shortcuts on safety. As an instructor, stoker or other member of the live-fire training team, remember that you’re being watched at all times and are setting the example for best practices in operations and safety compliance.

NFPA 1403 Overview

NFPA 1403 covers the following major areas:

- General requirements
- Acquired structures
- Gas-fired live training structures
- Non gas-fired live-fire training Structures
- Exterior props
- Exterior Class B fires
- Records and reports

FIRE PREVENTION

That's what it's all about!

**By: Troy Haase
Division Chief of Fire Prevention**



Current Status of New Construction

- Tavern on the Avenue at 725 Fond du Lac Avenue - Excavation is underway.
- Carew Concrete at 244 West Pioneer- Building is under construction.
- Mercury Marine Plant 98 Addition at 545 W. Pioneer Road - Building is close to completion.
- Lenz Truck Center at 536 Seymour Street - Building is under construction.
- Eilertson Electric at 920 Willow Lawn Road - Building is close to completion.
- Fairfield Inn at 935 S. Rolling Meadows Drive - Building is under construction.
- Riviera Maya at 609 West Johnson Street - Building is close to completion.
- Ducharme Cottages at 100-400 Ducharme Parkway - Buildings are under construction.
- River Hills Mixed Use Development on S. Main Street - Buildings 1, 2, 3, 4, 5, 6 & 8 are complete and 7 & 9 are under construction.



FIRE PREVENTION

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**By: Troy Haase
Division Chief of Fire Prevention**



How to Ensure Fire-Alarm System Reliability

Get fire-alarm facts and develop a proactive and prescriptive inspection, testing, and maintenance plan to ensure operational excellence.

Your building has a fire-alarm system - the local fire authorities blessed it when it was built, so now you're all set. Or are you? There are certain things that every property professional should be aware of (at least on the most basic level) to ensure that his or her building's fire-alarm system provides the protection required from initial install to replacement.

That's right - the truth is that your fire-alarm system should be replaced or upgraded periodically. Until that time, however, there are other things you can do to get the most mileage out of your system. Four recommendations to follow for anyone involved with a fire-alarm system.

Be Knowledgeable

Be aware of some basics about your building and your community (specifically, which codes the local municipality uses with regard to fire-alarm systems). The two main code bodies in use at this time - the Intl. Code Council (ICC) and the National Fire Protection Association (NFPA) have very similar requirements (the ICC actually references NFPA codes and standards). In addition, laws that apply to fire-alarm systems can dramatically impact what comprises a fire-alarm system. If you understand what type of building you have and how your community's codes apply, you will better understand your fire-alarm system's role in the life safety of your building. You will also be better prepared when you are approached about changing your system.



Be Proactive

The most important thing you can do for your building and its occupants is to perform the proper inspection, testing, and maintenance of the fire-alarm system. What type of inspection, testing, and maintenance program do you have in place? If, for some reason, you don't have one, or possibly don't know if yours is adequate, the care, maintenance, and testing of your fire-alarm system - whether you follow ICC or NFPA codes - will be governed by NFPA 72, the National Fire Alarm Code®.

You've likely read the chapter on maintenance and testing, and there's a lot to do to simply test the system (and recommendations suggest that a system be tested all the time). In reality, visual inspections need to be performed monthly, quarterly, and semi-annually on various components, but the actual activation and testing of devices is typically done annually if your system is monitored by a central station service. Your personnel can usually handle the basic visual inspection; however, it's probably best (and is often required) to hire a licensed and trained company to perform your system's annual testing.

Many owners are concerned about having proprietary systems and being locked into a particular vendor for service and testing. While it can be difficult to find multiple vendors in your area that have the access to program your panel - a common complaint among any owners who have received marginal service over the years and feel trapped by the system they have - almost every system is proprietary in a sense (they all have their own unique software programs and passwords). As the owner of the system, you have the right and the ability to choose any provider to test your system. And, given that the fire-alarm community is a relatively small one, the odds are that the provider you choose employs someone who used to work for a company that sold your particular model of fire-alarm panel.

Next to inspection, testing, and maintenance, recordkeeping is one of the most critical proactive elements. By keeping a log at your panel, as described in NPFA 72, you will have a running history of your system's operability and care, and will be able to identify trends indicating that an upgrade or replacement is in your future.

FIRE PREVENTION

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By: Troy Haase
Division Chief of Fire Prevention



How to Ensure Fire-Alarm System Reliability, continued...

Be Aware

Now you know what kind of building you have and what its fire-alarm needs are, and you have a first-rate testing and maintenance program in place. You're all set to sit back and let it just do its job, but what if its job description changes? It doesn't happen often, but changes in state and federal laws can have far-reaching effects on the make-up of a fire-alarm system. A prime example of this is the Americans with Disabilities Act (ADA) of 1990. Its passage had a dramatic effect on the fire-alarm industry with respect to visual-notification appliances ("strobes"). Almost overnight, newly installed fire-alarm systems changed dramatically in terms of the number of notification devices required; this applied to additions to existing fire-alarm systems as well.

Most commercial buildings have more than one tenant, and tenant turnover is a fact of life. What happens when a new tenant moves in? Typically, the space is modified to suit the new occupant's needs, usually requiring all the features of the upgraded space to meet the newest municipality codes. Knowledge of changes to the codes that affect your fire-alarm system can help you better prepare and budget for the possible cost increases associated with them.

The entity most knowledgeable about the changes in the laws and codes that will affect you is your local fire authority - the person that inspects your system. You should get to know your fire inspector, both to show your interest in your system and to have access to a fire-alarm expert; however, while you and the fire official share some common goals, there will be occasions where your interests may differ. This is why it is important that you are knowledgeable about the codes that affect you as well. Laws and codes can be confusing, even to a code official, and what is being requested of you in good faith may not actually be required.



Prime examples of such a contentious issue would be requests for a tenant improvement or a simple fire-alarm panel upgrade, triggering a requirement to have your entire system upgraded to meet the present-day codes. For example, if you have a system that was installed before 1990, there would be a significant increase in the number of visual-notification devices required. It is important to note that the two major code bodies (ICC and NFPA) do not presently have any verbiage requiring a complete upgrade to a system that is fully functional; however, there are local municipalities that have enacted laws requiring a system to be upgraded when a specific percentage of a building undergoes renovation or when a cumulative percentage of the building is renovated over time. Once again, it is important to be knowledgeable about and aware of your local requirements.



In addition, there may be circumstances in which you do not feel comfortable relying on your local code official for assistance. The situation may be a disagreement with the code official over what the code requires (as in the earlier example) or simply a matter in which the local authority cannot legally be involved (e.g. the design of a fire-alarm system or a legal case). You do not have to rely solely on the local authority to interpret the requirements for your system. Just as you would not necessarily go to court without a lawyer, there will be occasions where you will not want to enter into a change in your fire-alarm system without some professional help.

Depending on your location, you may have many local fire-alarm resources. There are, of course, fire-protection engineers who can assist in researching your local codes and represent your interests to the local fire authority, as well as provide legal design documents to submit to the local authority. But, if you simply have a question about the code, your fire-alarm service provider is required to be licensed and knowledgeable about the applicable codes.

FIRE PREVENTION

That's what it's all about!

**By: Troy Haase
Division Chief of Fire Prevention**



How to Ensure Fire-Alarm System Reliability, continued...

Be Realistic

As mentioned earlier, you will eventually have to (and, in some cases, should want to) upgrade your fire-alarm system. Even if your system has had little or no problems over the course of its lifetime, one of two things eventually happens: 1) the system and its parts are discontinued and replacement parts become difficult to acquire, possibly resulting in an inoperable system, or 2) significant changes in the codes and your risk in not upgrading outweigh the cost of an upgrade. In addition, advancements in technology may also drive a desire to upgrade.

On average, a properly installed and maintained fire-alarm system should easily last 15 to 20 years. At the very least, you should be able to get 10 years of service out of your fire-alarm system before replacement parts ever become an issue: This is a worst-case situation where your "new" fire-alarm panel is almost immediately discontinued (a situation not necessarily within your control when you buy an existing building). The point is that, depending on how long you are going to be involved with owning, managing, or maintaining a building, you need to be cognizant of the fact that you may be faced with this scenario someday.

When a significant change in the laws or codes occurs, take steps to determine the true impact to your fire-alarm system. Does it affect you if you aren't making any change to your system? Even if you aren't required to comply with the change, are the risks associated with not complying significant enough for you to take the steps required for an upgrade sooner rather than later? If your building has periodic tenant changeover, then the cost of compliance can be done in stages (and some of that burden can possibly be shared with a new tenant); however, when public or core areas need to be addressed, a fire-protection expert can help determine the best course of action, assist in preparing design documents, and possibly even install and commission the new upgrade.

If you know about your local fire-code requirements and your system's capabilities; are proactive in system inspection, testing, and maintenance; have an open dialogue with your local fire official and fire-alarm service provider so that you can be aware of the changes in the codes that affect your system and liability; and have realistic expectations as to the longevity of your present system, you'll be able to get the maximum use out of your investment with the least amount of complications.

The Future

Fire-alarm system technology is constantly being improved. Even with a relatively young system, newer technology may improve life safety and allow integration with your existing system. Until the late 1980s, fire-alarm systems consisted of hard-wired "zones." With the advent of "addressable" technology (where each initiating device is independently monitored and identified), the ability to locate fires increased dramatically. Improvements on this technology have included the ability to monitor the sensitivity or accuracy of a device and allow pinpoint maintenance for "dirty" detectors, as well as cut down on service costs by identifying the specific device or circuit that is defective or non-functioning. Today, there are initiating devices that have multiple means of detecting smoke or fire that are consolidated into a single unit. They can sense smoke, heat, carbon monoxide, and even have "fingerprints" of what the mixture of these components would be in a real fire.



A vast amount of research has also been done in the past few years with video detection of fire and smoke. This type of technology relies heavily on software algorithms and is being touted as potentially superior to existing detection because, in many cases, smoke or fire may be seen before a traditional detector can react. This type of detection is also capable of being integrated with existing closed-circuit television (CCTV) security systems - the major benefit being that you can augment your existing fire detection without disturbing your building's infrastructure. Whether this new technology can improve your building's safety or not, it is important to know that your next fire-alarm system may look nothing like your last.

*Michael J. Knoras, Jr., Buildings, "How to Ensure Fire-Alarm System Reliability", Web February 6, 2020,
www.buildings.com*

Ice Thickness Safety Chart

Ice safety tips for walking, fishing, driving and more

- Check the ice thickness before you go on it.
- Four inches is the minimum ice thickness for walking.
- Always go with a partner

Ice safety before you head outside

- Get an ice update. Contact your state's Department of Natural Resources or a local bait shop for the latest ice reports. Then, compare them to an ice thickness chart.
- Pack a pair of ice picks. Attach these to a long cord. Screwdrivers work, too. If you fall into the water, you can pull yourself out using the picks. Tip: Use a wood-handled ice pick. If it falls into the water, it will not sink as quickly as a metal-handled pick.
- Bring a lifejacket. If you break through while walking on ice, a life jacket can provide flotation and protection against hypothermia. Do not wear a flotation device when traveling in an enclosed vehicle.
- Wear brightly-colored clothing. Bright colors make you easier to spot against the white snow and ice.

Ice Thickness Guidelines Safe ice depths



Note: These rough guidelines apply only to new, clear ice.

"General Ice Thickness Guidelines." Ice Safety: General Ice Thickness Guidelines. Minnesota DNR. Minnesota Department of Natural Resources, n.d. Web. 19 Dec. 2016.



Tips while you're on the ice

- Walk with a partner. Stay several feet apart. If one person falls into the water, the other can call for help.
- Test ice thickness every 150 feet. Ice thickness can vary dramatically, even in small areas. Test the ice thickness frequently to avoid thin ice.
- Be prepared to bail. When driving on the ice, have an escape plan. Unbuckle your seatbelt and roll down your window all the way for an easier escape.
- Park vehicles a safe distance apart. Vehicles should be parked at least 50 feet apart. Drill a hole near each vehicle. If water starts to flow from the hole, vehicles should be moved because it means the ice is sinking.
- Move vehicles every two hours. Moving vehicles helps to prevent undue stress on the ice.

PEER FITNESS TIPS

By: Peer Fitness Trainer
Jack Prall

Breakfast or Exercise: Which should come first?



According to a new study published in the *Journal of Clinical Endocrinology and Metabolism*, changing the timing of when you eat and exercise may help you better control your blood sugar levels.

The six-week study, which involved 30 men classified as having obesity or overweight and compared results from two intervention groups (who ate breakfast before or after exercise) and a control group (who made no lifestyle changes), found that people who performed exercise before breakfast burned double the amount of fat than the group who exercised after breakfast.

The researchers concluded that increased fat use is mainly due to lower insulin levels during exercise when people have fasted overnight, which means that they can use more of the fat from their fat tissue and the fat within their muscles as a fuel. While the initial study involved only men, future studies will look to translate these findings for different groups including women.

"Our results suggest that changing the timing of when you eat in relation to when you exercise can bring about profound and positive changes to your overall health," says Dr. Javier Gonzalez of the Department for Health at the University of Bath. "We found that the men in the study who exercised before breakfast burned double the amount of fat than the group who exercised after. Importantly, whilst this didn't have any effect on weight loss, it did dramatically improve their overall health."

Building on emerging evidence that the timing of meals in relation to exercise can shift how effective exercise is, the team behind this study focused on the impact on the fat stores in muscles for individuals who either worked out before or after eating and the effect this had on insulin response to feeding.

"The group who exercised before breakfast increased their ability to respond to insulin," continues Dr. Gonzalez, "which is all the more remarkable given that both exercise groups lost a similar amount of weight and both gained a similar amount of fitness. The only difference was the timing of the food intake."

PEER FITNESS TIPS

By: Peer Fitness Trainer
Jack Prall

Breakfast or Exercise: Which should come first?, continued...

Over the six-week trial, the scientists found that the muscles from the group who exercised before breakfast were more responsive to insulin compared to the group who exercised after breakfast, in spite of identical training sessions and matched food intake. The muscles from those who exercised before breakfast also showed greater increases in key proteins, specifically those involved in transporting glucose from the blood-stream to the muscles.

Remarkably, in terms of the insulin response to feeding after the six-week study, the group that exercised after breakfast were in fact no better off than the control group.

"This work suggests that performing exercise in the overnight-fasted state can increase the health benefits of exercise for individuals, without changing the intensity, duration or perception of their effort," explains coauthor, Dr Gareth Wallis of the University of Birmingham. "We now need to explore the longer-term effects of this type of exercise and whether women benefit in the same way as men."

What Does the Research Mean to Health and Exercise Professionals?

While it is outside your scope of practice to recommend specific meal-timing strategies, you can provide your clients with the information and sources of research they need to make informed decisions about things that affect their health and well-being. Knowledge is power, particularly when it comes to making choices about what to eat and when. Of course, even the most effective meal-timing strategies won't work for weight loss if an individual is consistently overconsuming calories. Encourage your clients to thoughtfully consider what they consume and when, and to identify which patterns and habits help them feel most healthy and energetic. Ultimately, these are the strategies that will prevail and produce the greatest benefits over time.

"Being more mindful about the food we eat and the timing of intake creates awareness and is often the first step toward other health-related behavior changes," explains Chris Gagliardi, ACE Certified Personal Trainer and Health Coach. "Even if the target behavior is not achieved right away, identifying realistic strategies by thoughtfully considering what and when you eat can be a starting point for those preparing to take the next step."

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