

THE CENTER FOR

Campus Fire Safety

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Campus

The Official Newsletter of the Center for Campus Fire Safety

FireZone

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Campus Fire Safety Issues See Action in D.C.

Campus Fire Safety Month

WASHINGTON D.C. - The U.S. Senate unanimously agreed to Senate Resolution 105, recognizing September as Campus Fire Safety Month. Introduced by Senator Joe Biden (D-DE), co-chair of the Congressional Fire Services Caucus, this resolution will be instrumental in helping to raise the awareness of the importance of fire safety at campuses across the nation.

- See more news from D.C. on page 9-



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"Authors Wanted"

We are looking for articles and stories concerning Campus Fire Safety; News Training, and Education. We would love to publish your work. Please See page 7 for more information.



"The Inspector"

by Philip Chandler



My father never tired of saying, "You've got to have something to fall back on." This is sage advice for life in general; it is certainly so for fire-safety professionals in particular. It goes with out saying that our primary job is to prevent fires in the first place. We do so through education efforts aimed at curbing the risky behaviors of our students while sharpening their survival skills. We also prevent fires through vigilant building inspections, making sure that heat and fuel sources keep their distance. But the truth is, despite our best efforts, fire happens. And when it does, we need to have something to fall back on. We need to

have evacuation training in place, we need to have viable means of egress, we need to have effective compartmentalization, we need to have functioning fire suppression equipment, and most importantly of all, we need to have early detection and warning of a fire. In other words: our smoke and heat detectors, our horns and strobes, our pull-stations, our transmission equipment and our monitoring stations need to function flawlessly in every location, every time, even when the lights go out. A failure of a fire alarm, detection and communication system is an invitation to disaster! Accordingly, proper inspec-

tion testing and maintenance of these systems and devices is an absolute imperative.

By proper, I mean according to acceptable and recognized standards. For most of the country, NFPA 72, *National Fire Alarm Code*, is the officially sanctioned gold standard. Therein is contained the minimum requirements for the scope of work, the needed methodology, the task frequency and the technical competency needed to reasonably assure that the damn thing is going to work. Anything less than close adherence to all of this standard's provisions is unacceptable.

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"The Campus Fire News Wire"

This page is only a snapshot of what is happening on college campuses around the country.

What you're reading is a brief overview of campus news stories we have information on.

If you would like to see the entire news article we have listed or view additional news stories not published in this section, please visit:

CampusFireSafety.com
click on: "News Wire".

Note: Dates published here are approximate based on when we receive the news story.

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June 1, 2007

Truman State University
Kirksville, MO

A fire destroyed the Catholic Newman Center. Officials believe the fire started after lightning hit the building.

University of Iowa
Iowa City, IA

There were no injuries or major damage when a fire broke out in the University power plan this afternoon.

June 4, 2007

University of Vermont
Burlington, VT

A fire that erupted in a University of Vermont geology lab on Monday was accidental. Monday's fire was confined to the third floor lab. Water from sprinklers and what was used by firefighters damaged parts of the first and second floors of the building. The lab contained chemicals believed to be acids and firefighters who

responded experienced burning eyes and skin. Fourteen firefighters were treated at Fletcher Allen Health Care and released later that day.

June 10, 2007

Landmark College
Putney, VT

A fire crew responded to a fire alarm in a campus dormitory. Officials concluded the alarm went off because someone was smoking marijuana. The student now faces drug charges.

June 13, 2007

University of Central Florida
Seminole County, FL

Fire destroyed nearly twelve units of an off campus apartment complex resulting in more than thirty college students losing their homes. The cause of the fire is still under investigation.

Jacksonville State University
Jacksonville, AL

University officials expelled a student who is accused of setting a dormitory fire in early May.

June 17, 2007

University of California
Riverside, CA

The university's commencement ceremony was cancelled after two homemade fire bombs were found on campus. The bombs were described as plastic bottles that possibly contained an accelerant.

Columbia College
Chicago, IL

No one was injured when a fire broke out on the roof of a Columbia College building in the Loop Monday afternoon. Roofers were having some type of problem and believed to be the reason for the fire. Firefighters extinguished the fire

June 20, 2007

Delaware State University

Dover, DE

A minor chemical explosion slightly injured two students Monday and forced dozens of others from a science building. One student suffered cuts on the arm from a shattered beaker and the other suffered "a chemical-type burn or abrasion" on an arm. The explosion occurred after acetone and ethanol were mixed with nitric acid. Acetone is a widely used solvent; ethanol is a type of alcohol. Events leading up to the explosion appeared to have violated basic laboratory safety rules.

June 27, 2007

Southern Illinois University

Carbondale, IL

A ballast in a fluorescent light in the main campus switch room burnt up resulting in a fire alarm sounding. This event caused the Student Union to be evacuated.



June 22, 2007

Denison University
Granville, OH

Twelve bottle bombs were found at a Biological Reserve near the university. No one has been charged.

Catch the rest of last month's news, and all of this month's on our website!

C-News Sponsors



Corner o d e



Chapter 4 of the IFC and IFC COMMENTARY — Emergency Planning and Preparedness

As many of you start looking at and updating your campus emergency plans, we have chosen to bring you parts of International Fire Code (IFC) chapter 4 and it's commentary to assist you in maintaining a safe campus.

SECTION 403 PUBLIC ASSEMBLAGES AND EVENTS

403.1 General. When, in the opinion of the fire code official, it is essential for public safety in a place of assembly or any other place where people congregate, because of the number of persons, or the nature of the performance, exhibition, display, contest or activity, the owner, agent or lessee shall provide one or more fire watch personnel, as required and approved, to remain on duty during the times such places are open to the public, or when such activity is being conducted. The fire watch personnel shall keep diligent watch for fires, obstructions to means of egress and other hazards during the time such place is open to the public or such activity is being conducted and take prompt measures for remediation of hazards, extinguishment of fires that occur and assist in the evacuation of the public from the structures.

_Even though Chapter 24 requires standby personnel in tents and membrane structures because of the inherently higher life safety risks associated with such occupancies, this section gives the fire code official the authority to require fire-watch personnel in indoor or outdoor Group A occupancies or other venues where people congregate when the nature of the performance, exhibition, display, contest or activity is such that the presence of fire-watch personnel are essential to public safety (see commentary, Section 202, to the definition of "Fire watch").

403.1.1 Public safety plan. In other than Group A or E occupancies, where the fire code official determines that an indoor or outdoor gathering of persons has an adverse impact on public safety through diminished access to buildings, structures, fire hydrants and fire apparatus access roads or here such gatherings adversely affect public safety services of any kind, the fire code official shall have the authority to order the development of, or prescribe a plan for, the provision of an approved level of public safety.

_This section notes that these provisions are not for Group A and E occupancies, which are dealt with more specifically elsewhere in this chapter. This section is important because it provides the fire code official the authority to require the development of or to prescribe a specific plan for large gatherings. Such gatherings could include outdoor festivals, demonstrations or receptions. If such assemblies include the use of tents and canopies, Chapter 24 would also apply. Again, the primary aim of this section is to address the fact that these large gatherings may hamper the ability of the fire department and other emergency responders to access and protect buildings and building occupants.

403.1.2 Contents. The public safety plan, where required by Section 403.1.1, shall address such items as emergency vehicle ingress and egress, fire protection, emergency medical services, public assembly areas and the directing of attendees and vehicles (including the parking of vehicles), vendor and food concession distribution, and the need for the presence of law enforcement, and fire and emergency medical services personnel at the event.

_As further guidance, this section provides some specific issues to be addressed that include items such as the direction of traffic; vendor and food concession distribution and the need for law enforcement and medical services.

- Code Corner Continued on page 10 -

The Training Zone

Lesson 1 - Learning objective: The student shall be able to explain the difference between power-limited and nonpower-limited fire alarm circuits.

While NFPA 72, *National Fire Alarm Code*® establishes standards for the design, installation and maintenance of fire detection and alarm systems, it is NFPA 70, *National Electrical Code*® (NEC), that prescribes the rules for point-to-point wiring in a fire protection signaling system. Article 760 provides detailed requirements for wire types permitted in fire alarm systems, and Article 770 provides rules for optical fiber cables.

NEC Article 760 applies to all the wiring between the “load side of the overcurrent protection device (circuit breaker) or the power-limited supply (battery) and all connected equipment.”

There are two types of fire alarm system circuits: power-limited and nonpower-limited. The purpose for identifying the different circuits is to specify the appropriately rated wire, as well as provide protection so high voltage conductors are not inadvertently connected to low voltage ones. The result could be an accidental electrocution or destruction of the fire alarm system.

Power-Limited Fire Alarm (PLFA) Circuits. A power-limited fire alarm circuit is one that is inherently unable to exceed maximum voltages, or is equipped with a power-limiting source (transformer or battery) and a circuit breaker. Generally, these operate in the 24-volt direct current range, although they may employ higher voltages.

Nonpower-Limited Fire Alarm (NPLFA) Circuits. Nonpower-limited fire alarm circuits cannot operate at more than 600 volts, and there is no other power or current limitation for these systems. Usually these are used in 120-volt alternating current (AC) systems which have been rendered generally obsolete by the advent of low-voltage, direct current (DC) systems.

For additional information, refer to NFPA 70, *National Electrical Code*™, Article 760; or NFPA 72, *National Fire Alarm Code*®.

Lesson 2 - Learning objective: The student will be able to explain the difference between residential sprinklers and one designed for property protection

People often assume that because a building is equipped with automatic fire sprinklers they are designed for all hazards. Sprinklers designed for property protection have different operating characteristics from those designed for life safety.

Sprinklers intended for property protection must meet

the performance standards established in Underwriters Laboratories (UL) Standard 199 “Automatic Sprinklers for Fire Protection Service.” Their discharge pattern is designed for fire control or suppression by wetting adjacent combustibles to keep the fire from spreading or, in the case of Early Suppression Fast Response (ESFR) sprinklers discharging an adequate volume and pressure to extinguish a fire before it spreads.

Sprinklers meeting UL Standard 199 can be used in systems designed in accordance with NFPA 13 or 13-R for those spaces not normally considered “residential,” such as storage, equipment, or mechanical rooms.

Sprinklers for life safety must meet the stringent requirements of UL Standard 1626, “Residential Sprinklers for Fire Protection Service.” While they also are considered to be fire control mode sprinklers, their discharge pattern and Response Time Index (RTI), make them suitable for installation in NFPA 13-R and 13-D design residential occupancies. Listed residential sprinklers are designed to prevent flash-over in the room of origin, to give occupants adequate time to escape. They are designed to wet the walls and ceilings of the enclosure, help keep carbon monoxide levels low, and maintain a tenable environment. Although they can be successful at controlling property fires, they are not designed to do that.

Fire inspectors may encounter sprinklers installed in the “incorrect” environment. When that occurs, inspectors should notify the property owner to have the appropriate sprinkler protection installed.

For additional information, refer to: www.ul.com, NFPA 13, NFPA 13-R, and 13-D,



<http://www.usfa.dhs.gov/nfa/coffee-break/>

Sponsorship opportunities exist for the Training section of Campus FireZone.

Please contact Vice-President Paul Martin at pmartin@campusfire.org for more information



Viewer Mail

No viewer mail for this month. Please take a minute and send us a question, story, or something interesting happening and we will try to publish your request. Please see page 7 for information

Announcement Sponsors



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Announcements



Center for Campus Fire Safety Unveils Project “FireWise Campus”

AMHERST, MA - The Center for Campus Fire Safety is using a \$386,000 grant from the U.S. Department of Homeland Security’s Fire Prevention and Safety (FP&S) Grants Program to deliver important training and materials to campus fire safety officers across the nation. This special project, named “FireWise Campus” will provide for ten FREE regional training seminars across the country. The classes, “*Developing an Effective Campus Fire Safety Education Program*” are intended to provide information, ideas and resources to those individuals who have a responsibility to provide fire safety training to college students.

Much more information about the project, including how to apply, can be found on a new website dedicated to this exciting project: www.firewisecampus.org

From The President

Mike Halligan

Summer is finally upon us and I hope that means a vacation is in your future sooner, rather than later.

With the departure of the majority of our students comes the usual period of intense inspection, testing and maintenance of our campuses. Whether it be painting, replacing carpet, fixing broken window or doors, everyone in the facilities department will likely be working nonstop over the next couple of months. This month’s issue of Campus FireZone focuses on the inspection, testing and maintenance of fire protection systems. These actions are not just a required to comply with various codes or regulations; they are required to ensure that these vital fire and life safety devices function when needed – whether it be at 2:00AM in the middle of December or 7:00pm tonight.

I encourage you to review the information in this issue of in hopes that it provides you additional insight as to the importance of, and some specifics of, routine preventive maintenance

And as Monty Python used to say, “... and now for something completely different.” As of July 1st all of the Center's sponsors are back for another year. The support they give both financially and through “in-kind” donations make the Center's operations possible. This directly benefits everyone who uses the tools on our website, attends a seminar or the annual Campus Fire Forum in November. Their support allows the Center to distribute most materials free of charge (including this newsletter) and allows representatives of the Center to speak at many meetings around the country delivering the message of fire safety right to your campus community. With their support you can do your job better and students, staff and faculty on campus and in our community are better protected from the impacts a fire can have.

On behalf of all of the professionals involved in keeping our universities, colleges and communities safe from fire – thanks from myself and the entire Board of the Center for Campus Fire Safety.

Mike

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This is a free newsletter - Pass it along!

Authors/Stories Wanted! To submit; Job Openings, Announcements, News Stories, Training Articles, Viewer Mail, Editorials, and other correspondence; please give us a call or send an e-mail to: FireZone@CampusFireSafety.com

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Legislative Update



Listed below are several key pieces of legislation related to campus fire safety that have been introduced in the U.S. Congress. Bills highlighted in red are those for which the Board of Directors of the Center for Campus Fire Safety has formally endorsed. We encourage you to contact your US senators and representatives and express your support as well. Remember the key to success in the legislative arena— "the squeaky wheel gets the grease."

S. 354/H.R. 592 "The Campus Fire Safety Right to Know Act" - To provide for disclosure of fire safety standards and measures with respect to campus buildings, other for other purposes.

H.R. 643 "The College Fire Prevention Act" - To establish a demonstration incentive program within the Department of Education to promote installation of fire sprinkler systems, or other fire suppression or prevention technologies, in qualified student housing and dormitories, and for other purposes.

S. 582/H.R. 1742 "Fire Sprinkler Incentive Act of 2007" - To amend the Internal Revenue Code of 1986 to classify automatic fire sprinkler systems as 5-year property for purposes of depreciation.

S. Res. 105/H. Res. 95 Resolutions expressing the sense of the Senate/House of Representatives supporting the goals and ideals of Campus Fire Safety Month

H.R. 1409 "College Life Safety and Fire Prevention Act" - To establish a demonstration incentive program within the Department of Education to promote installation of fire alarm detection systems, or other fire prevention technologies, in qualified student housing, dormitories, and other university buildings, and for other purposes.

For more information on these and other bills in Congress visit: THOMAS at www.thomas.loc.gov THOMAS was launched by the Library of Congress during the 104th Congress to make federal legislative information freely available to the public.

- *The Inspector Continued from Page 1* -

If a college claims to be doing their own ITM, I ask to see their copy of NFPA 72. If they don't have one on the shelf or otherwise available, are not fully conversant on all of its particulars, and for that matter, can't document the qualifications of those putting their mitts on the hardware, in my book they are nowhere in regards to life safety. These institutions are often the ones that utterly floor me with something to this effect: "Of course we know it works; we're always having false alarms." My response to them is unambiguous: These schools are going to make a change. Until such time as they can train or hire competent staff to inspect, test and maintain their fire detection systems, they are going to out-source this task and show me the contract. In my state, only a licensed contractor will do. Further, I demand, as does the fire code and NFPA 72, records of every time someone touches the system. And these records better be complete, accurate, signed and dated. As true with all aspects of emergency services, so it is true with life-safety systems: The job is not done until the paperwork is completed. And for that matter in regards to ITM: If it's not documented, it didn't happen.

Inspection? That means eyeballing every system component at the specified frequency. Apart from the very particular requirements detailed in NFPA 72, during a visual inspection one must at the very least confirm that all the equipment is in fact present, not ripped off the wall by a student seeking a souvenir. Additionally, one must make sure that all the devices are free of obvious damage, defects and are not in any other way rendered inoperable by covers, obstructions and the like. Even where the standard may require only an annual inspection, it behooves us to make more frequent rounds. How many times have we found smoke detectors covered by trades people, not to mention those in dorm rooms and apartments covered with plastic bags, socks, you name it. There is more. A visual inspection tour is not just intended to survey the hardware. It is also important to note changes in the activities occurring in the protected premises. Perhaps the room that was an office last year now houses the ceramics kiln. What was an appropriate level of protection is now inappropriate. After all, let's not forget how eagerly and effectively all departments communicate changes in their operations!

Speaking of inspections, I have one of my own requirements: To simply take a glance at the alarm panel when passing by. It always blows my mind when I'm out and about on a campus and I'm the only one noting trouble messages on the display and the only one asking why. Security officers, trades people, cleaners, vice presidents, a whole lot of people are way too complacent about what in truth amounts to an impaired life-safety system! Without investigation there is often no way of knowing if the problem is a loose tamper switch on the panel cover or a complete loss of communication with the monitoring station. Without investigation, there is no way of knowing if the system will do what it is intended to do, save lives! In NFPA 72-2002, trouble signals are deemed so significant as to require fire department notification, initiation of maintenance within four hours and when the trouble persists for more than four hours, notification of the authority having jurisdiction. No more systems impaired seemingly forever!

Inspection is done with the eyes alone; testing is done with instruments, hands and all the senses. Simply looking at an alarm system will not tell us if smoke will indeed enter a detector chamber, initiate an alarm signal, transmit the signal, sound the horns and flash the strobes. We will need a sound meter to tell us if the audible devices are loud enough to be heard in the shower and a voltmeter to tell us if the battery and charger voltage is adequate to assure uninterrupted protection during a power outage. There is no guess work in testing. Every function and every value is to be verified, recorded, and compared against both the referenced standards and the OEM's specifications. Testing is not a job for amateurs. Testing is rocket science! Or it should be when one contemplates what's riding on these efforts.

Nor is testing something to be done when time and budget permit; testing must be conducted according to the frequencies outlined in NFPA 72. These frequencies are not arbitrary. They have been developed based on careful analysis of hardware reliability and performance, balancing costs and benefits in development of a workable schedule. Recently, a governmental advisory committee in New York reviewed research into the correlation between system testing and performance. The numbers are eye opening. Consider the following: A properly installed fire alarm and detection system routinely tested on a six month basis received a score of 96.2% in reliability; tested on a twelve month basis, 86%; on a twenty-four month basis, 73%. What performance level do you feel comfortable with?

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- The Inspector Continued from Page 8-

Inspection and testing are absolute necessities. But the truth be known, they don't mean *bupkiss* without maintenance. We don't talk about ITM for nothing! Inspection, testing and maintenance are indivisible! What good is uncovering deficiencies in our life-safety systems if we are not prepared to remedy them? No good; it is negligence! If the moral imperative is not enough motivation, consider the liability of inaction. My inspection practice is to follow the paper trail. If I find that the batteries failed their last test, I look for the documentation of their replacement. The same is true for every negative finding. Too often repairs are postponed for monetary reasons. Deferred maintenance might be acceptable elsewhere on the campus, but not when it comes to life-safety. As far as I'm concerned, these funds need to come off the top; the rest can wait.

Sometimes failure to affect needed repairs is due to nothing more than oversight. Shame, shame! How would any of us feel about one of our loved ones falling through the cracks? For some colleges there is an easy fix: combine the ITM in one contract by pre-authorizing the repair and replacement of defective equipment when first discovered. Not only will this lessen the chance of error, but will lessen the duration of impairment, a good thing. Keep in mind the old adage: A security system is only as good as its weakest link.

So far we have only scratched the surface of the ITM of fire alarm and detection equipment. Volumes are indeed written on the subject and we all need to crack them open from time to time. This is a rapidly expanding field and we cannot afford to slouch. Believe me when I say I'm no techno-geek. Yet even I cannot deny the awesome benefits to life-safety afforded by technology. We have no excuse not to constantly be upgrading the level of protection available to us. We have even less excuse being anything less than ever-vigilant in preserving the level of protection we do have.

Philip Chandler is a long time firefighter and a fulltime government fire marshal working extensively in the college environment – from large public university centers to small private colleges. His primary responsibilities include code enforcement and education. Phil welcomes your comments, thoughts and opinions (whether in agreement or opposition) to his viewpoints. He may be reached at: theinspector@campusfire.org.

- legislative news from D.C. continued from page 1 -

In a statement discussing the loss of college students to fire, Senator Biden said, "The real travesty is that, with increased and diligent awareness techniques, many of those lives could have been saved. We must do all we can to ensure that our students are learning and living in the safest environment possible; this resolution takes us one step closer to that goal." In the House of Representatives, H. Res. 95, introduced by Congresswoman Stephanie Tubbs-Jones (D-OH) similarly expresses the sense of the House supporting to the goals and ideals of Campus Fire Safety Month. Having not yet been agreed to by the House, we urge you to contact your member of congress and ask them to commit their support to H. Res. 95.

The Campus Fire Safety Right-to-Know Act (S 354/HR 592)

It is in the Senate again that we saw action. The bill, introduced by Senator Frank R. [Lautenberg \(D-NJ\)](#) is seeing active discussion and analysis by the Health, Education, Labor and Pension (HELP) committee.

The Center for Campus Fire Safety has been communicating with Senator Lautenberg's staff and as expected in the legislative process, the bill needed to be amended before it would considered further. Anticipation is that the Bill will actually become part of the Higher Education Reauthorization Act, which should facilitate its move through the full Senate.

The Center will be actively monitoring this legislation, and will keep it you updated. In the meantime, we encourage you to contact your elected officials and let them know that campus fire safety issues are important to you and that you support H. Res. 95 and S. 354.

- Code Corner Continued from page 4 -



SECTION 404 FIRE SAFETY AND EVACUATION PLANS

404.1 General. Fire safety and evacuation plans shall comply with the requirements of this section.

404.2 Where required. An approved fire safety and evacuation plan shall be prepared and maintained for the following occupancies and buildings.

1. Group A, other than Group A occupancies used exclusively for purposes of religious worship that have an occupant load less than 2,000.
2. Group E.
3. Group H.
4. Group I.
5. Group R-1.
6. Group R-4.
7. High-rise buildings.
8. Group M buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
9. Covered malls exceeding 50,000 square feet (4645 m²) in aggregate floor area.
10. Underground buildings.
11. Buildings with an atrium and having an occupancy in Group A, E or M.



The list provided notes when plans and procedures need to be developed. As discussed earlier, the occupancies and uses addressed by this chapter were chosen based on the density and location of occupants, the layout of the building or simply the limitations of the occupants during an emergency. **404.3 Contents.** Fire safety and evacuation plan contents shall be in accordance with Sections 404.3.1 and 404.3.2.

The two primary plans required by Section 404.3 are a fire evacuation plan and a fire safety plan. The fire evacuation plan focuses primarily on the procedures for the evacuation of the occupants in an emergency. The fire safety plan focuses on the overall understanding of the fire protection package of the building as it pertains to the layout of the building, the contents of the building, the means of egress system, the fire hazards and the identification of key contacts during an emergency.

404.3.1 Fire evacuation plans. Fire evacuation plans shall include the following:

1. Emergency egress or escape routes and whether evacuation of the building is to be complete or, where approved, by selected floors or areas only.
2. Procedures for employees who must remain to operate critical equipment before evacuating.
3. Procedures for accounting for employees and occupants after evacuation has been completed.
4. Identification and assignment of personnel responsible for rescue or emergency medical aid.
5. The preferred and any alternative means of notifying occupants of a fire or emergency.
6. The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.
7. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.
8. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.

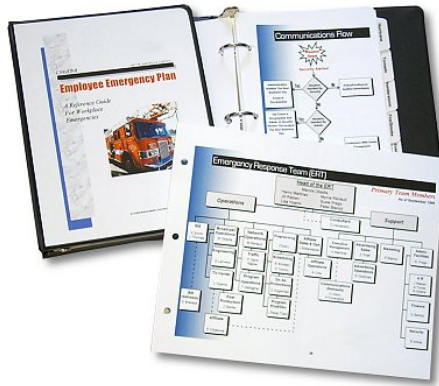
The primary focus of evacuation plans is to prepare for and define the roles for evacuation and relocation of occupants during an emergency. The fire evacuation plan is important for both the emergency responders and the building or facility occupants. It focuses the occupants' activities on facilitating a smoother evacuation or relocation process and provides the fire department with critical information on the building and the location of the occupants. Keep in mind that these requirements apply to all occupancies listed in Section 404.2. The occupancy- and use-specific requirements are located within Section 408; therefore, the requirements listed here are general and will vary based on many factors, such as the occupants' mobility and familiarity with the building.

- Code Corner Continued on page 11 -



404.3.2 Fire safety plans. Fire safety plans shall include the following:

1. The procedure for reporting a fire or other emergency.
2. The life safety strategy and procedures for notifying, relocating, or evacuating occupants.
3. Site plans indicating the following:
 - 3.1. The occupancy assembly point.
 - 3.2. The locations of fire hydrants.
 - 3.3. The normal routes of fire department vehicle access.
4. Floor plans identifying the locations of the following:
 - 4.1. Exits.
 - 4.2. Primary evacuation routes.
 - 4.3. Secondary evacuation routes.
 - 4.4. Accessible egress routes.
 - 4.5. Areas of refuge.
 - 4.6. Manual fire alarm boxes.
 - 4.7. Portable fire extinguishers.
 - 4.8. Occupant-use hose stations.
 - 4.9. Fire alarm annunciators and controls.
5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.
6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.
7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.



_This section requires an overall fire safety plan with emphasis on the building and building site layout and hazards. More specifically, information such as the evacuation and relocation aspects of the building layout needs to be clarified; the list of specific hazards associated with normal use of the building needs to be noted and fire department access road locations need to be provided. This plan also includes identification of the specific personnel who are charged with managing the fire protection systems and equipment and with fire prevention duties, such as controlling combustibles on site. Having specific personnel assigned will work to increase the likelihood of these actions occurring. The requirements of this plan provide the building owner and occupants a better understanding of how to react in an emergency and how to decrease the likelihood of an emergency occurring. Additionally, this report assists emergency responders during periodic inspections and evaluations of the plans and, more importantly, when responding to an emergency. Generally, buildings that have fairly rigid and well-maintained plans and procedures in place reduce not only the likelihood and magnitude of an incident within the jurisdiction but also the burden to emergency responders.

404.4 Maintenance. Fire safety and evacuation plans shall be reviewed or updated annually or as necessitated by changes in staff assignments, occupancy, or the physical arrangement of the building.

_In order to be of optimum value to a facility, plans must accurately reflect building conditions. Plans must be reviewed annually or when building changes affecting the instructions or procedures in the fire safety or emergency evacuation plan occur. Such a review should prompt an immediate revision and redistribution of the plan to all concerned parties, including emergency response personnel.

404.5 Availability. Fire safety and evacuation plans shall be available in the workplace for reference and review by employees, and copies shall be furnished to the fire code official for review upon request.

_This essentially requires that these plans be easily accessible to building occupants and the fire code official. If the plans are difficult to access, they are less likely to be updated when necessary and are more likely to be lost or forgotten. This places a burden on the emergency responders when planning methods of response, and puts the occupants of the building at a higher risk during an emergency. Having the documents readily available makes review and use for training occupants more likely.

CFZ, CCFS and CFS would like to remind you to check with your local "Authority Having Jurisdiction (AHJ)" for questions and opinions concerning your local Fire and Building Codes. The information contained in this article is supplied as a courtesy by the International Code Council (ICC) and is based on the International Fire and Building Codes and their respective commentaries. Your local codes or ordinances may vary.

Career Connection



Hazardous Materials Specialist (3074BR) Environmental Health and Instructional Safety California State University, Fullerton

The Department of Environmental Health and Instructional Safety at California State University in Fullerton California is seeking an Administrative Analyst/Specialist Exempt I who will serve as the university's Hazardous Materials Specialist. This position is under the general supervision of the Environmental Compliance Manager, encompassing the University's compliance programs in: health & safety, hazardous materials/waste, biological, radiation, medical waste, storm water, and air quality. This position provides support in the collection, segregation and disposal of hazardous, medical, biohazardous, radioactive, universal and electronic waste (collectively called hazardous waste)

Essential Qualifications: Equivalent to a Bachelor's degree in Chemistry, Environmental Health, or a related scientific discipline. Related experience can be substituted for education. Experience coordinating and implementing hazardous materials/waste compliance programs. Proficient in using a PC and MS Office (Word, Excel, PowerPoint, etc.). Strong verbal and written communication skills. Ability to communicate with a diverse campus community.

Preferred Qualifications: Has experience or knowledge of state and federal laws governing hazardous materials and hazardous waste including use, storage, safe handling procedures, and appropriate personal protective equipment. Experience or knowledge of segregation and packaging of waste. Familiarity with ionizing and non-ionizing radiation and lab practices needed to administer the regulatory and operational portion of the Radiation Safety Program. Experience or knowledge in a variety of laboratory practices.

Special Working Conditions: Works in laboratories, the University's Hazardous Waste Facility, and other campus work locations where a variety of hazardous, extremely hazardous, radioactive, and bio-hazardous materials are present.

Licenses/Certifications: Current 40 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) certification preferred but will be provided as a requirement for the position. Valid Driver's License required. First Aid/CPR training preferred or will be provided to the employee.

Salary Range: \$3,717 - \$5,066(service maximum)/\$5,577(range maximum) per month.

Application: Cal State Fullerton uses an on-line application procedure, for more details about the position and to apply, go to our Human Resources website at: <http://hr.fullerton.edu/jobs> and refer to **Job# 3074BR Hazardous Materials Specialist**. The application deadline is **July 26, 2007**.

All applications must be submitted through the HR website to be considered for this position. For specific questions or additional information about this position and duties, contact Scott Bourdon, Department of Environmental Health and Instructional Safety, P.O. Box 6806, Fullerton, CA 92834-6806. Phone (714) 278-3083; e-mail sbourdon@fullerton.edu

Do you have a career opening or job posting? We will list your information here free of charge. Please see page 7 for submittal information



False Fire Alarms



For many fire departments false fire alarms have become a nuisance and have led to changes in response policies due to the number of alarms. The response may limit the number of units on the initial alarm, only the first due engine responds with lights and sirens, or none of the units respond with lights and sirens. Once the crews arrive on the scene of the alarm, there is typically an investigation on the cause of the alarm and if necessary the fire is extinguished. Many times, the cause is undetermined or unfounded and the system is reset and the companies return back to quarters. With false alarms, many communities begin to penalize building owners when the department has responded to a predetermined amount of false alarms. Many times the owner will have the alarm system serviced or may elect to change the procedures for the alarm company in a non approved fashion.

A fire alarm system that has been designed, installed, and maintained will provide a system that is not prone to false alarms. Properly designed fire alarm systems begin with the building owner or architect soliciting for an alarm company to design and install a fire alarm system. The designer should show competencies in design of fire alarm systems and have credentials for the design. Credentials may come in the form of National Institute for Certification in Engineering Technologies (NICET), Professional Engineer, local or state certification as an alarm company. Proper credentials ensure that the designer has a background in commercial fire alarm applications. The fire prevention bureau has more control of fire alarms that are installed in the commercial setting over residential systems. The influence on fire alarms in the residential setting are typically through education of home owners as compared to enforcement powers in commercial buildings.

Because there are differences in the requirements found in model building and life safety codes, the designer must be capable in understanding code requirements and equipment specifications. The first exposure a municipality has to a fire alarm system is the plan review process. A complete plan review is the foundation for the overall performance in the system. The fire prevention bureau should be trained in fire alarm plan review and the requirements of the system. Basic fire alarm submittals should include:

- ◆ Scope of work including construction type and use group classification
- ◆ Construction drawings commonly referred to as shop drawings which include the use of the room, and location of all alarm devices with wiring locations.
- ◆ Fire alarm control equipment including manufacture information
- ◆ Line or riser diagram which indicates all of the devices on a single sheet of paper
- ◆ Power connections including secondary power
- ◆ Voltage drop calculations including cable (wiring) size based on the shop drawings or riser diagram
- ◆ Battery calculations
- ◆ Annunciation of the alarm system or zone nomenclature
- ◆ Details on the ceiling height and construction
- ◆ Any interface to other fire safety functions
- ◆ Copy of the preliminary record of completion



These items are the foundation for a basic alarm system design. Contractors who struggle to provide this documentation at plan review may provide an inferior system or lack the skills necessary in proper system design. The plan reviewer will look for code compliance on the documents utilizing the adopted fire code which typically references National Fire Protection Association (NFPA) 72, *National Fire Alarm Code*. This standard is the basis for "application, installation, location, performance, inspection, testing, and maintenance of fire alarm systems, fire warning equipment and emergency warning equipment, and their components" (Scope of NFPA 72). The plan reviewer shall ensure code compliance and if the documents do not meet the requirements of the jurisdiction the plans should be returned to the contractor for corrections.

After the plan review process the contractor will begin work on the fire alarm system. Communities vary on the inspection requirements which may include a rough wiring inspection, device placement, and system operations test. During the wiring inspection the inspector shall ensure the proper size wiring has been installed by the plan review and voltage drop calculations.



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The wire is located in the proper conduit or wire chase and is properly secured. The manufacture of the wire may have special provisions on the listing of the wire including the wire must not be painted. The inspector can review this information on the catalog cut sheet submitted at the time of the plan review.

Near the end of a project is when a system acceptance test is conducted. It is recommended that the alarm company provide two technicians at time of final testing and fire prevention staff should work closely with other inspectors in the community. This could include electrical, building, or mechanical inspectors. One technician will be located at the fire alarm control panel and the other will activate the devices as necessary in accordance with NFPA 72 which outlines the testing requirements of alarm devices. Manufacture installation instructions can also provide specific details on acceptance testing of devices. The final acceptance should test all devices to ensure the component produces the desired results. This includes proper addressing of the devices on the control panel, proper type of alarm signal (alarm, supervisory, or trouble). The contractor should also provide training to the owner on the alarm system which includes a copy of the construction documents (as-builts or record drawings), complete record of completion, copy of any software for the control system, and maintenance schedule.



Maintenance of an alarm system is critical for the performance of the system. NFPA 72 outlines the minimum requirements of inspection and maintenance of systems and the responsibility typically lies with the building occupant or owner. Inspectors who conduct "annual" fire inspections should ensure the business owner is educated on the importance of proper fire alarm system maintenance and during the course of a year. Fire prevention staff and operations staff should work together when false alarms occur. The company and officer should investigate fire alarms to determine the cause of the alarm. The findings should be reported in the reporting software of system utilized by the department. When multiple responses to an occupancy occur, communication should take place between operational personnel and fire prevention personnel for follow-up.

Fire alarm systems are a great tool for notifying fire department resources about a fire, system activation, or alarm condition. Unfortunately, too many false alarms have allowed fire department staff to lower their guard. By ensuring proper design, installation, and maintenance of a system, fire prevention staff can help reduce the number of false alarms our companies respond to. Companies which respond to fire alarms that are false can assist fire prevention bureau by investigating the alarm and providing follow-up information to fire prevention.



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Share Your Knowledge, Experience or Programs

The Center for Campus Fire Safety is still accepting proposals for presentations at Forum 9.

Campus Fire Forum is the premier event dedicated solely to college fire safety. If you are interested in being considered as a presenter, please submit a written proposal quickly, the prospective speakers list is growing.

You can submit your proposals online to Michael Swain at: mjswain@campusfire.org or by mail:
Mike Swain, PO Box 2358, Amherst MA. 01004-2358.

You can also reach Mike by email if you have any questions.