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Campus Fire Safety

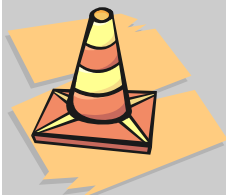
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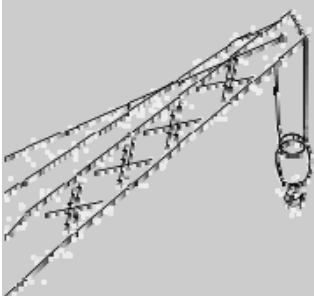
The Official Newsletter of the Center for Campus Fire Safety

FireZone

PUBLISHED BY: **CAMPUS**firesafety.com



Summer
Construction
Edition



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A Statement Regarding The Center for Campus Fire Safety and *Campus FireWatch*

AMHERST, MA - In an effort to help avoid any confusion on the part of the many people, organizations and businesses the Center for Campus Fire Safety has relationships with, the Board of Directors wishes to make the following statement:

"The Center for Campus Fire Safety is in no manner affiliated with *Campus FireWatch*. *Campus FireWatch* is a subscription based publication - a wholly owned, private endeavor of former director Ed Comeau. It is not a part of the Center for Campus Fire Safety in any fashion. The Board of Directors and staff wish Ed all the best as he develops his private interests."

The Center For Campus Fire Safety remains the only active, singularly focused and registered 501 (c) non-profit organization serving as America's advocate for fire safe campuses'



“The Inspector”

by Philip Chandler



We all know one true thing about campus life safety: students do the damndest things. Consequently, we are always struggling to keep up with the latest *mishagas*. We spend our days and frequently our nights, snuffing out candles, uncovering smoke detectors, removing halogen floor lamps, undraping tapestries and on and on. No one can deny that keeping our customers, the students, safe, is our job one and that the primary arena of our efforts is the residential occupancy. But as I have stated previously on these pages, the fire next time may catch us off guard if we ignore all the other sites on the campus. We have chatted about laboratories, power plants, grounds garages and the like. Most, even if reluctantly, agree that all of the

preceding locations present their own unique set of fire hazards and are worthy of some of our attention. Well folks, it's time to raise the bar. What's really got me going this month? On-campus construction.

Talk about a can of worms! Whether it's the new building going up or one of the many summer rehab projects, or for that matter, even small day-to-day activities, those entrusted with health and safety on the campus are frequently not at all involved in the project. I have frequently heard "what goes on behind the gates is none of my business, or so I've been told." Or "that's the president's pet project, I best not mess with it." Well guess what: you ignore construction, alterations

and, for that matter, demolition, at your own peril. And that peril may be, at the very least, the loss of a certain well known posterior part of the anatomy if things go wrong. In the worst case, the loss of lives of students, faculty, staff, or outside contract laborers, is a real possibility. The construction site on the campus presents a huge amalgam of fire risks. Unfortunately these risks are rarely detected because they are often "off limits" to watchful eyes. A fire or explosion in a building under construction at the far end of the campus is dangerous enough, but how many projects either directly abut occupied structures, or for that matter are in occupied structures?



“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.

**Real Time Campus News -
24 hours a day**

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CampusFireSafety.com

**Click on:
News Wire**

May 1, 2007

West Virginia University
Morgantown, WV

The Morgantown Police Department is investigating the cause of a brush fire behind a campus dormitory. One fraternity, Sigma Chi, has been charged with a firework violation which could be relevant to the case.

Pacific University
Forest Grove, OR

An arson investigation is underway after fire ripped through an academic building that housed the College of Optometry and a public eye clinic. No one was injured. The building sustained minor smoke and fire damage.

Green Mountain College
Poultney, VT

Fire broke out in a campus dormitory and an academic building. Vermont State Police are currently investigating these intentionally set fires. Both buildings were evacuated for several hours; however, damage to the buildings is minimal.

Framingham State College
Framingham, MA

The discovery of a 7.62 mm rifle outside of a campus dormitory led to an investigation by campus police. Nothing suspicious turned up.

May 4, 2007

Jackson State University
Jackson, MS

A campus dormitory was evacuated after two residents started a fire in a restroom trashcan. There were neither injuries nor significant damage. The fire has been ruled arson, and two students are in police custody.

Vanguard University
Costa Mesa, CA

Fire ripped through the third floor of a campus dormitory and caused water damage on floors below. Flames were put out by the indoor sprinkler system before firefighters arrived.

May 7, 2007

University of Mass.
Amherst, MA

An off campus fire displaced 23 people from eight apartments. Most of the 23 people were University of Massachusetts students. Two firefighters and one police officer were injured. Damage to the property

is estimated at \$150,000.

University of South Carolina
Columbia, SC

Maintenance repairs caused the evacuation of a campus building. No injuries have been reported. Damage is estimated at \$75,000.

Towson University
Baltimore, MD

A deliberately set fire in a campus dormitory caused the evacuation of the dorm’s residents.

May 9, 2007

North Carolina Central University
Durham, NC

A dorm at North Carolina Central University is not up to code when it comes to safety. Several complaints including those relating to Fire Alarm and Sprinkler Systems were reported.

May 11, 2007

Alabama A&M
Normal, AL

Campus police are investigating a dormitory fire that started in a bathroom garbage can. One student was treated for smoke inhalation.



News – Cont.

St. Augustine's College Raleigh, NC

The college now has a policy to fine every student in a dormitory where there is a false fire alarm in an effort to help reduce the false alarms.

Norwich University Northfield, VT

A deliberately set dormitory fire caused thousands of dollars in damage to student property. No one was injured.

May 14, 2007

University of Wisconsin – La Crosse La Crosse, WI

Nine off-campus students were evacuated from their apartment after an early morning fire. The fire was caused by a spark from a bathroom ceiling fan. The building has severe smoke, fire and water damage. The residents of the apartment were cited for inoperative smoke alarms.

Tri-State University Angola, IN

The Sigma Phi Delta fraternity house caught fire after several members were lighting fireworks in the basement of the house. Damage to the fraternity house is estimated at \$115,000.

May 15, 2007

Grand View College Des Moines, IA

Four drunken students sprayed fire extinguishers in the hallways of a campus dormitory.

May 17, 2007

University of California – Riverside Riverside, CA

Nearly 400 students were evacuated from a campus dormitory after a fire broke out in a stairwell. No injuries were reported. The building suffered minor smoke damage.

May 21, 2007

Drexel University Philadelphia, PA

Two people were injured after a fire ripped through an off-campus apartment near campus.

May 23, 2007

Jackson State University Jackson, MS

Jackson State University officials are awaiting final results of an investigation into a recent fire at a JSU dorm before scheduling a hearing for two students accused of arson.

May 24, 2007

West Virginia University Morgantown, WV

The Morgantown Fire Department has shut down four WVU Fraternity houses within the last month due to fire code violations.

May 29, 2007

University of Vermont Burlington, VT

A chemical fire in a campus laboratory sent fifteen firefighters to the hospital as a precaution.

*Catch
the rest
of this
month's
news
on our
website!*



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Chapter 14 of the IFC and IFC COMMENTARY — Fire Safety During Construction and Demolition

SECTION 1408

OWNER'S RESPONSIBILITY FOR FIRE PROTECTION

1408.1 Program superintendent. The owner shall designate a person to be the Fire Prevention Program Superintendent who shall be responsible for the fire prevention program and ensure that it is carried out through completion of the project. The fire prevention program superintendent shall have the authority to enforce the provisions of this chapter and other provisions as necessary to secure the intent of this chapter. Where guard service is provided, the superintendent shall be responsible for the guard service.

- *Each project must have a fire prevention program superintendent who is in charge of all fire safety efforts such as prefire planning, on-the-job training of personnel, guard service and the other areas covered in Sections 1408.1 through 1408.7. This person acts on behalf of the fire code official and can enforce the provisions of Chapter 14*

1408.2 Prefire plans. The fire prevention program superintendent shall develop and maintain an approved prefire plan in cooperation with the fire chief. The fire chief and the fire code official shall be notified of changes affecting the utilization of information contained in such prefire plans.

- *Prefire plans are developed by the fire prevention program superintendent to assist the site personnel reacting to a fire. This plan must be coordinated with the local fire chief and the fire code official. Changes in building operations or equipment that could affect or change the fire department's ground attack of a fire must be reported to the fire department responder immediately. For example, if an additional 1,000 gallon (3785 L) propane tank is located alongside an existing tank, the responder needs to know about this situation.*

1408.3 Training. Training of responsible personnel in the use of fire protection equipment shall be the responsibility of the fire prevention program superintendent.

- *The fire responder is expected to know what fire-fighting and fire protection equipment is on the site and how to operate it. The fire prevention program superintendent is responsible for training the job site personnel in the proper use of hand-held fire extinguishers, hose lines, fire alarms and sprinkler systems.*

1408.4 Fire protection devices. The fire prevention program superintendent shall determine that all fire protection equipment is maintained and serviced in accordance with this code. The quantity and type of fire protection equipment shall be approved.

- *Fire protection and detection equipment must be maintained during construction and demolition. The fire prevention program superintendent must decide what is required to enforce maintenance as required by the code. Approval of the equipment and its maintenance is not, however, transferred to the fire prevention program superintendent, but remains with the fire code official. -*

- Code Corner Continued on page 12 -

The Training Zone

Fire Safety Professionals need to be familiar with lightweight materials and construction techniques.

Modern design, construction, and wood products present new opportunities for builders and the fire service alike.

To help the fire service learn more about these products and their behavior during fires, the American Forest & Paper Association (AF&PA) and U.S. Fire Administration (USFA) today announce the launch of a comprehensive Web-based educational program designed to enhance firefighter awareness of lightweight construction components.

“Firefighter safety and building construction are important issues for the fire service today,”- said Charlie Dickinson, acting U.S. Fire Administrator. “Education is critical for firefighters operating at incidents to understand how modern building products perform in fires.”

Engineered wood products (trusses, glue-laminated beams, structural composite lumber, structural insulated panels, and wood structural panels) are replacing dimensional lumber in many applications.

From The President - Mike Halligan

Exams are finished, students have moved off campus, your commute to work just got a little easier and parking is plentiful. While the majority of your students have disappeared, they have been replaced in part by construction workers. The summer construction season is one of the riskiest times in the life of a building. Projects that are on tight deadlines can quickly be thrown off schedule by even small fires. Take the time now to review with campus shops and outside contractors basic fire safety guidelines to be followed during construction.

Review basic precautions against fire. Smoking is not permitted inside any building. Disposal of combustible debris should take place on a daily or more frequent basis and at no time should debris or construction materials be placed even temporarily in egress routes. Cutting and welding operations must follow your campus hot works guide. Temporary electrical connections must comply with your electrical code.

As a representative of the campus you have certain fire protection responsibilities. Specifically, if any portion of the fire protection system is going to be impaired, you must notify building occupants and give them alternative means to be notified of a

Lumber, plywood, and other wood-based materials, including the components of I-joists and trusses, exhibit a relatively narrow flame spread range. Flame spread rates for engineered wood products such as laminated veneer lumber, parallel strand lumber, and laminated strand lumber are within the same range as solid wood materials. Differences result from factors such as density, thickness, surface characteristics, and coatings or other chemicals applied, if any. Typically, at thicknesses greater than 1/4 inch, flame spread is almost independent of material thickness.

The Web-based training program, found at <http://www.usfa.dhs.gov/fireservice/research/safety/construction.shtm>, was developed as an AF&PA/USFA cooperative agreement with the assistance of several State and local training organizations. FireFrame, an interactive tool that explains building construction methods, also is included on the site.



fire safety issue in their building. If means of egress will be altered, again you have a mandated responsibility to provide occupants with safe and reliable alternative egress routes.

Most individuals I have talked with rely on attendance at weekly project meetings followed up with site reviews to determine if fire safety guides are being followed on the construction site. It is important to periodically walk each project.

From week to week each project could see significant changes in construction area or operations. For example, temporarily relocated workstations will most likely have some form of temporary power provided to them. Check to see that cords aren't daisy chained together or the work stations are placed in front of fire extinguisher cabinets. Again, weekly visits to the site will quickly find these issues and corrective actions can be put in place.

Career Connection



Executive Director of Health and Safety

The University of Wisconsin-Stout invites applications and nominations for the position of Executive Director of Health and Safety.

Responsibilities: The Executive Director of Health and Safety reports to the Vice Chancellor for Administrative and Student Life Services (ASLS). This position is responsible for the campus wide planning of emergency response and continuity of operations along with the overall management of these plans. The position provides daily leadership and strategic direction of the Health and Safety Unit. The executive director is also responsible for creating collaborative working relationships within the university and Menomonie communities. The Health and Safety Unit includes: Campus Emergency Management, Police and Parking Services, Safety and Risk Management, and Student Health Services.

Qualifications: The ideal candidate will be a proven leader with experience communicating with internal and external departments and entities. A successful candidate will have demonstrated abilities with organization and management of Emergency Response or Continuity of Operations (COOP) planning; knowledge of appropriate federal, state and local regulations; proven experience with planning and development of services, programs and facilities; demonstrated ethical values; experience with financial reporting systems; and the ability to develop and maintain collaborative relationships. In addition to the qualifications listed above, a bachelor's degree with six or more years of progressive related management experience is required.

Required Qualifications:

- Bachelor's Degree.
- Six or more years of progressive related management experience.

Preferred Qualifications:

- Master's Degree.
- Experience with organization and management of Emergency Response or Continuity of Operations (COOP) planning.
- Work experience in a higher education setting.
- Experience with financial reporting systems.
- Working knowledge of local, state, and federal regulations.
- Experience working with governmental agencies.

How to Apply: Screening of applications will begin June 18, 2007. Qualified applicants should submit a letter of interest describing how they meet the qualifications; resume; and the names, telephone numbers and e-mail addresses of at least three current references to:

Kristi Lund
110 Merle M. Price Commons, 1110 S. Broadway Street
Menomonie, WI 54751
lundkri@uwstout.edu



Viewer Mail

We continue to receive accolades in response to the grant announcement by the Center for Campus Fire Safety. We have received the following congratulations:

Congratulations! I was proud to be a part of the program at Univ. of Maryland last month. Certainly a needed and worthy cause.

Charlie Core, Fire Safety Engineer, Old Dominion University

Please pass my congratulations along to everyone at CCFS!

Chris Hasbrook, Vice Pres. & General Manager, Global Fire and Security Sector, Underwriters Laboratories

Here is a reader who has a question. Please contact her if you can help.*

Hi there, I have a question: Can we store temporary compressed gas tanks in the hall way secured to the wall? We have tanks stored in the walk way for easy access for the delivery. Tanks are then moved to different lab locations for use. We always have empty and full tanks lined up on the wall safely secured. Does this pose any hazard?

Thanks a lot.

Shanti Jonchhe,
Safety Coordinator
jonchhes@alfred.edu

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Announcement Sponsors



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Announcements



Center for Campus Fire Safety Receives Grant

AMHERST, MA - The Center for Campus Fire Safety has been awarded a \$386,000 grant from the U.S. Department of Homeland Security through the Fire Prevention and Safety (FP&S) grants program to deliver important training and materials to campus fire safety officers across the nation. The grant provides the Center with the resources required to conduct and deliver our regional training seminar, "Developing an Effective Campus Fire Safety Education Program".

For more information visit the Center's website at <http://www.campusfire.org>

This announcement was published in the May, 2007 issue, but with the importance of the issue and the increase in readership, we felt it was important to further get the information out.

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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.

What are the elements of fire risk on construction sites? The list is long, but worthy of repetition. Consider the following for starters: open burning, cutting and welding, LP-gas heaters, waste disposal, temporary wiring, flammable liquids, flammable gasses, refueling, temporary lighting, applied roofing and even internal combustion engines. Add to the mix, impaired fire detection systems, impaired fire suppression systems, compromised egress systems, reduced fire department access, and limited telephone service. Would we tolerate the confluence of these factors for one minute in buildings under our direct supervision? If not, why ignore them because they are next door or upstairs? Remember, "Fire does not discriminate." It matters not whether the fire started on the other side of the gate where they wear hardhats; it's coming your way.

One good place to start in preventing or minimizing fire damage during construction, demolition and alteration is the recommendations found in the highly regarded and frequently referenced standard, NFPA 241 *Safeguarding Construction, Alteration, and Demolition Operations*. For clarity, allow me to quote Section 1.3.4: "A fire safety program shall be included in all construction, alteration, or demolition contracts, and the right of the owner to administer and enforce this program shall be established, even if the building is entirely under the jurisdiction of the contractor." The owner in our case is the university or college. Lest there be any ambiguity, the institution has a huge responsibility here to manage and assure fire safety. In New York State, this standard is the law!

This powerful standard further informs us as to how to assure a fire-safe work zone. "The owner shall designate a person who shall be responsible for the fire prevention program and who shall ensure that it is carried out to completion." (7.2.1) Again this is wild! This is telling schools that may not even have anybody dedicated to fire safety, not even in the residence halls, to get one and give this individual authority over the fire-safe conduct of construction, demolition and alterations!

And what are the key components of such a fire prevention program? To name just a few: good housekeeping, protection of exposures from fire, maintenance of fire detection and suppression systems as practicable, maintenance of adequate means of egress for contiguous existing structures, and development of a prefire plan coordinated with the local fire department. Another key component enumerated in NFPA 241 is the supervision of the installation of new fire protection systems. This one can really save the school money while helping assure the highest level of fire protection in the finished project. The time to find out that sprinkler heads are installed improperly, for instance, is when the mechanic is still on the premises and the plumbing still exposed; not two years later when the inspector makes the discovery. Heads positioned to closely to obstructions that limit proper stream development seem quite common and easily avoided with a little oversight.

Last but not least of required components of construction fire prevention efforts, worthy of mention by itself, is management of all hot work on the campus, whether in the construction of the new ten story science building or construction of the recycling shed lavatory. Hot work means: "Any work involving burning, welding or similar operations that is capable of initiating fires or explosions, including cutting, welding, thermit welding, brazing, soldering, grinding, thermal spraying, thawing pipe, torch applied roofing, or any other similar activity." (3.3.1) The fire prevention program manager mentioned above is required to administer a comprehensive hot work program with all of the required details enumerated in NFPA 51B *Standard for Fire Protection During Welding, Cutting, and other Hot Work*. Yes, this means that even replacing a drinking fountain knocked off the wall in a residence hall during the weekend partying is a construction project needing the approval and supervision of the fire prevention program manager when hot work is employed. Gulp!

"Phil," some of you are wondering, "what's got you cranked?" "What's with all the referenced standards and legalese?" For starters, last week I encountered construction underway in the main dining hall of a well known college. In one half of the building, separated by plywood and plastic sheeting from the other half where students were having lunch, a lone worker was arc-welding a roof joist. The sparks were landing on the combustible plastic sheeting, and from there cascading into the basement warehouse, landing on pallets of corrugated cardboard boxes of cooking oil and the like. There was no fire watch posted and there was not one fire extinguisher in sight. The fire detection system was disabled. Special non-combustible blankets (too few) that were on site, were not in use. Further, two of the four required exits from the dining hall were simply boarded up by the contractor. One additional one was locked, leaving only one for 700 students!

As scary as the above scenario is, what is most disturbing of all is that it was I, who by chance - during a routine annual inspection, who discovered what was going on. This project had been going on for weeks before my arrival, yet not one person, not from the building department, not from the fire department, not from the architect's office and not from the college felt it was their job to ascertain if the most rudimentary fire safety concerns were addressed!

It's not really that the college administration does not care about life safety; they do. Their notion of fire safety is just not developed enough to accommodate the importance of having an individual or for that matter, an entire department dedicated to fire safety. There is no substitute. Accordingly the beauty of the referenced standards and similar language in other model codes is apparent. We have in black and white the imperative of having a clearly defined fire prevention function in force for a large array of activities that occur on the campus, albeit centered on construction. It is my fervent hope that once required, a fire prevention program, under the leadership of a fire prevention program manager, will expand to take on all the duties we all know to be so very important.

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.

Construction Site Fire Safety







Summer is upon us, and for many, the departed students will be replaced with orange construction fence and barrels, trucks, cranes, steel, wood and trades people. Fire can break out quickly and easily on almost any construction site. In fact, it is reported that there are approximately 11 construction related fires every day. So as you read this publication, there will probably be a fire on a construction site somewhere. Not only can people be killed or injured, but fires may also be financially devastating to those involved.

This article sets out some basic measures for construction fire safety and is aimed mainly at those managing and working on smaller sites where risks are relatively low. (But it should not be assumed that risks are low merely because a site is small.) There are many codes, rules and regulations that are intended to help prevent fires or minimize their damage, should they occur. These include the International Fire Code, Occupational Safety and Health Administration (OSHA) regulations and National Fire Protection Association standards. And before you say “the IFC or NFPA is not applicable on my campus” consider this: While they may not legally be enforceable, they outline nationally accepted best practices and therefore have often been given a quasi-legal status by courts.

Erecting a simple steel framed building in the middle of a field will only require simple precautions because fire risks are low. Higher risk work, such as refurbishing floors in an occupied office building or constructing a new lab wing in the research science center, will need significantly more precautions because of the higher risk of fire occurring and the greater the difficulties of escaping it.

Prevent Fire from Occurring

Most construction fires have simple causes and can be prevented by employing simple precautions. The following are particularly important:

-  *Make sure that flammable gases and liquids are properly stored. LPG should be stored outside buildings in well ventilated and secure areas. Flammable materials such as solvents and adhesives should be stored in lockable steel containers. LPG supplies should be turned off at the cylinder when not in use. This is particularly important during off hours. Serious explosions have occurred after site storage containers have gradually filled with gas because an LPG heater was not turned off. Make sure that LPG equipment and fittings are properly maintained. Damaged hoses and fittings or makeshift connections are extremely dangerous because they can easily lead to leaks in tough construction site conditions. If there is any suspicion that gas is leaking, stop using it and check.*
-  *Institute and enforce clear rules for all forms of hot work.*
-  *Formal permit-to-work systems are often appropriate. In particular, make sure extinguishers are at hand and that sparks or heat cannot set fire to surrounding materials. After the work has finished (usually an hour later) check the worksite to make sure that there is no smoldering;*
-  *Make sure rubbish is cleared away promptly and regularly, avoid unnecessary stockpiling of combustible materials and store what is necessary, away from ignition sources.*
-  *Consider special precautions in areas where flammable atmospheres may develop, such as the use of volatile solvents or adhesives in enclosed areas.*
-  *Establish firm rules about smoking on the job site, and make sure everyone abides by them.*

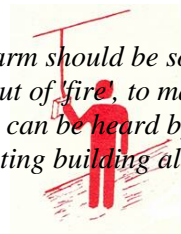
Site rules for preventing fire are useless unless they are followed. Employers and construction managers should monitor their worksites and take appropriate action when breaches are found.

Fires can grow extremely rapidly. If a construction fire occurs, the primary aim is to ensure that those on site reach safety as soon as possible. Delay can be fatal.

Site staff may need to fight a fire to enable their escape, but tackling larger fires is the fire department's job.

Sound the alarm!

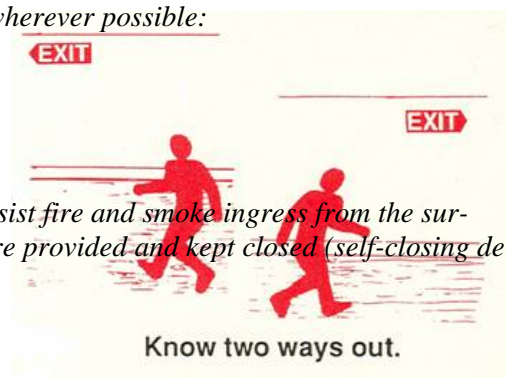
If fire breaks out, the alarm should be sounded as soon as the first person discovers it. The type of alarm needed can range from a simple shout of fire, to manual bells or klaxons or to sophisticated automatic systems. Whatever system is chosen make sure that it can be heard by everyone working on site over normal background noise and will work when needed. (Check that existing building alarm systems have not been disconnected if you rely on them during refurbishment work.)



Means of escape

Construction sites can pose particular problems because the routes in and out may be incomplete and obstructions may be present. Open sites usually offer plentiful means of escape and special arrangements are unlikely to be necessary. In enclosed buildings, people can easily become trapped, especially where they are working above or below ground level. In such cases means of escape need careful consideration. Make sure that wherever possible:

- ◆ *There are at least two escape routes in different directions.*
- ◆ *Travel distances to safety are reduced to a minimum.*
- ◆ *Enclosed escape routes, for example corridors or stairwells, can resist fire and smoke ingress from the surrounding site. Where fire doors are needed for this, make sure they are provided and kept closed (self-closing devices should be fitted to doors on enclosed escape routes.)*
- ◆ *Escape routes and emergency exits are clearly signed.*
- ◆ *Escape routes and exits are kept clear.*
- ◆ *Emergency exits should never be locked when people are on the site.*
- ◆ *Emergency lighting is installed if necessary to enable escape. This is especially important in enclosed stairways in multi-story structures which will be in total darkness if the normal lighting fails during a fire.*
- ◆ *Assembly points where everyone can gather and be accounted for are identified .*



Firefighting equipment

The equipment needed depends on the risk of fire occurring and the likely consequences if it does. It can range from a single extinguisher on small low-risk sites to complex fixed installations on large and high-risk sites. Whatever equipment is needed make sure that:

- ◆ *The equipment is located where it is really needed and is easily accessible.*
- ◆ *The location of fire-fighting equipment and how to use it is clearly presented to workers.*
- ◆ *The right types of extinguishers are provided for the type of fire that could occur.*
- ◆ *Fire-fighting equipment should be checked regularly by a competent person.*



- Construction Continued from page 10 -

Emergency Plans

The purpose of emergency plans is to ensure that everyone on site reaches safety if there is a fire. Small and low-risk sites only require very simple plans, but higher risk sites will need more careful and detailed consideration. An emergency plan should:

- ◆ Be developed and communicated to everyone before work starts.
- ◆ Be up to date and appropriate for the circumstances concerned.
- ◆ Make it clear who does what during a fire.
- ◆ Be clearly displayed where everyone on site will see them, for example at fire points, site entrances or break areas.



Project managers need to make sure that everyone on their sites knows what to do, that regular checks are made to ensure that fire precautions are in place. Campus fire professionals should also provide their experience and expertise in working to ensure that any construction on campus, be it internal work performed by an campus operated trades shop or the building of a new residence hall, is undertaken in a fire safety manner.

- Code Corner Continued from page 4 -

1408.5 Hot work operations. The superintendent shall be responsible for supervising the permit system for hot work operations in accordance with Chapter 26.

- This issue is also discussed in the commentary to Section 1404.6. Chapter 26 contains an in-depth treatment of hot work, especially Section 2603.3, which deals with hot work permits. The fire prevention program superintendent issues the permits to coordinate a response if a fire should occur in the known hot work permit area.



1408.6 Impairment of fire protection systems. Impairments to any fire protection system shall be in accordance with Section 901.

- Section 901.7 specifically deals with systems out of service because of planned, emergency or accidental impairment. During demolition, portions of the equipment must be kept in service as long as possible. Likewise, equipment on a construction site must keep pace with the new work and be kept in service as much as possible, especially at the end of the work day.

1408.7 Temporary covering of fire protection devices. Coverings placed on or over fire protection devices to protect them from damage during construction processes shall be immediately removed upon the completion of the construction processes in the room or area in which the devices are installed.

- Fire protection devices must be kept in service as much as possible during construction. An example would be that paper or plastic bags must be removed from the sprinkler heads as soon as the painting of the sprinkler piping or the adjacent ceiling is completed. Additional information can be obtained from standards such as NFPA 13 and NFPA 72.

SECTION 1410

ACCESS FOR FIRE FIGHTING

1410.1 Required access. Approved vehicle access for fire fighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet (30 480 mm) of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available.

- Fire-fighting vehicle access is the means by which fire fighters gain access to the construction or demolition site and building for fire suppression and rescue operations until the permanent fire apparatus access roads are constructed. Such access is an integral component of the fire prevention program. The site superintendent or other person responsible for construction and demolition operations is responsible for maintaining and policing fire-fighter access routes, as provided in Section 1408. Fire apparatus must be able to get within 100 feet (30 480 mm) of any installed fire department connection supplying water to temporary or permanent fire protection systems over roads that will support the weight of the heaviest vehicle that might respond. The weight requirements are available from the local fire department. All-weather surfaces are required because the responding fire department should not waste time moving snow or trying to get out of mud

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.

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Mike Swain, PO Box 2358, Amherst MA. 01004-2358.

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