February 2014

Campus Fire Safety e-NewZone
Volume 4, Issue 2

Campus Fire Forum 2014 will be in Orlando, November 9 - 14. Don't miss it! If you are interested in being a presenter, please complete the “Call for Speakers” Application by May 1, 2014. 

Check out our event photos from Campus Fire Forum 2013, St. Louis

From The President

As I sat down next to the warmth of the fireplace in my living room to write my column this month, I pondered what to chat with you about. That's just about the time the talking heads on the TV starting throwing around terms like: “Catastrophic,” “Once in a Generation” and “Misery for Millions.” What were they talking about? ... the weather. Specifically, how snow and ice had conspired to once again take much of ...

About The Center for Campus Fire Safety

The Center is the Voice of over 4000 colleges and universities. As nationwide non-profit, membership based, organization devoted to reducing the loss of life from fire at our nation's campuses, we offer an abundance of free resources to help fire and life safety officials working on college campuses and fire departments with responsibility for a college campus/university.

Welcome to all of our New Center Members (month to date)

DeWayne Benson SimplexGrinnell; Thomas Gorman Trademaster, Inc.; Frank Novak Sacred Heart University; Justin Bohlmann Fairview Fire District; Chad Anderson University of California Berkeley; Rey Salinas University of Texas, Dallas; Dennis Holt Clemson University; Samuel Infante Redcliffe Electric LLC; Patrick Earle New Brunswick Fire Department; Ireneo Gappe University of Hawaii; Jim Benford Kettering University; Timothy Diehl City of Rockville; Michael Berry City of Wooster; Ronald Klein Bureau Vanraes; Joanne Lopinsky Centre Region Code Administration; Earl Treadway University of California Fire Prevention Service; Pablo Davis Department of Homeland Security NY; Tim Campbell Clemson University; Jennifer Govostes Hollis Fire Dept; Scott Hallquist Clemson University; Dale Saunders UCI Environmental Health & Safety; Jeremy Williams Virginia Tech Health and Safety; Gary Egge City of Laramie Fire Dept.; Eph Wiker Centre Region Code Administration; Carl Glebowski State of Virginia; Laura Black, Dartmouth

Dear Inspector:

I regularly read your column and recall your frequent mention of portable electric heaters, as recently as the Holiday Edition, and your concern for the fire hazard that they pose. As this brutal winter continues its savage assault, these heating appliances have proliferated throughout our campus ...

When finding the “PERFECT” house: When does the search begin?

Just a few weeks into my daughter’s freshmen year it seemed like all was going well. She was living in a new residence hall with all of the latest fire and security measures a parent could want. Classes were going fine, making new friends, etc. Then, one evening the unexpected phone call...“we found a house to live in next year – all EIGHT of us.” And, “the landlord found us to sign the lease within three days because the house will go fast.”

Webinars & Training Opps

6-Week Webinar Series ... NFPA 25
Back in 2011, I presented articles that discussed two means of safely handling flammable and combustible liquids: safety cans and flammable liquids storage cabinets. In those articles, which mostly reflected the provisions of NFPA 30, Flammable and Combustible Liquids Code, I discussed the basic features of each and how they contribute to fire safety. In this article, I’d like to talk about some simple, basic procedures that you should keep in mind when handling and using flammable and combustible.

907.5.2.3.3 Groups I-1 and R-1, Courtesy of Bruce Johnson, Director of Fire Service Activities/Government Relations

Group I-1 and R-1 dwelling units or sleeping units in accordance with Table 907.5.2.3 shall be provided with a visible alarm notification appliance, activated by both the in-room smoke alarm and the building fire alarm system.

NOTE: ICC Call for Committees ... The International Code Council is seeking volunteers to serve on Code Committees, the Code Correlation Committee and Code Interpretation Committees for the 2015-2017 Code Development Cycle. Both new and veteran committee members must complete an application. Applications for committee service are due by June 2. Click here to apply.

False alarms, MNS to be features of SupDet 2014 ...

To be held at the University of Central Florida in Orlando, Fla., expected to also include engineers and manufacturers. “It’s a networking event as well,” Kimball said. The 18th annual event will feature.

Proposed capital plan contains $18.1M for local projects - Frederick News Post.

ANAPOLIS — The sum of $18.1 million is large enough to support three education building projects, install an emergency notification system at the Maryland School for the Deaf and bring a new dog park to Middletown.

Mark Bagby, Director of Emergency Management at Washington University in St. Louis talks about what to do before the RFP.

Mass notification takes more than technology to be successful. It takes careful planning, a comprehensive emergency communications policy and sophisticated understanding of your intended audience. This is especially true of colleges and universities that have multiple campuses or very diverse populations they need to reach. This is the case at Washington University in St. Louis (WUSTL), where the school recently won an award for its emergency communications solution.

More MNS News and Articles

More MNS News and Articles

Fire Fatality Statistics

The Center for Campus Fire Safety (CCFS) provides basic information about fire fatalities that occurred on a college campus.
information about fire fatalities that occurred on a university or college campus, or that occurred within the town where the campus is located.

**Fatalities Defined | Fatality Statistics**

Center Resources and Activities

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- Membership ... become a member or visit our member website!
- Shopping ... DVD's, Logo items + more. Members login for discounts!

Center Training & Activities

- Webinars  Current Schedule | Download Archived Webinar Presentations (Free to all)
- All Center Activities

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**EveryoneGraduates**

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As I sat down next to the warmth of the fireplace in my living room to write my column this month, I pondered what to chat with you about. That’s just about the time the talking heads on the TV starting throwing around terms like: “Catastrophic”, “Once in a Generation” and “Misery for Millions.” What were they talking about? …. the weather. Specifically, how snow and ice had conspired to once again take much of the country by surprise.

Now I may not be a Nobel Prize winning mathematician, but I can however still find my home on a map, read a calendar and do the math ... 2+2= SNOW! And as much as I am growing to dislike the snow, ice and cold (I think it may be directly proportional to the number of candles on my birthday cake) I know they will come each winter and therefore take step to prepare for its potential effects.

You may be asking yourselves at this point, ‘Where is he heading with this?’ Well, to the issue of planning. Mike Tyson said “Everybody has a plan until they get punched in the face.” And what has surprised me the most is all the chatter about how the south was “caught off guard.” There was a time when I might have been able to once but that excuse, it really does past muster today since this isn’t the first time that snow and ice have hit the south. So as I thought about once again leveraging a lack of planning for severe weather, with planning for a fire event, I realized that I really didn’t have a good way to retell the tale. So instead, I simply share with you my previous missive about planning for a fire event on campus as it appeared in the February 2010. Campus Firezone.

“Snow Cover in 49 States”

That’s the headline of an article in the national media I just finished reading as I sat to write my February message.

Admittedly, this year is unique, (to say the least) and as such, snowfall was not going to be the subject of my column, but I found I couldn’t resist incorporating it. So whether it is our colleagues in the Metro DC area - still digging out of a truly historic snowpack, or those in the south and Gulf states who experienced a couple of days of inconvenience from cool temps and a few inches, to the rest of us in the northern regions who, while somewhat embarrassed with the mere dustings we have seen this winter, have seen our fair share of weather related problems - the key is almost everyone (it’s Hawaii in case you are wondering) is sharing the experience of cold, snow and ice this winter.

However, we all share something else too ... the possibility of fire on campus. And unlike the weather, fire strikes without as much as a hint of warning or prediction. There is not a segment on the evening news giving us the next 72-hour outlook for fire - you don’t hear “we’ll be right back after commercial with
Joe’s Forecast-for-Flameage.

So why my weather analogy? Because in the absence of definitive proof of imminent combustion, we must remain prepared 24/7/365 … and that demands a balanced approach to fire safety. To employ the balanced approach, The Center believes in, and encourages, the aggressive use of those famous 3 Es; Education, Engineering and Enforcement.

Through Education we can modify the “bad” behaviors that lead to ignition of so many fires and often cause a small fire to become a major event. With effective Education, there should be a corresponding diminution in the need to evoke the second side of the triangle, Enforcement. If you experience a big need for Enforcement, then you have a huge need for Education as well - for they should be considered inversely related. This holds true whether the enforcement action is related to a fire causal factor like poor cooking behavior (#1 cause of campus fires) or the lack of inspection/testing/maintenance on fire safety equipment. The reliance on, and need for, Enforcement can be minimized through Education.

While Education and Enforcement are crucial components of the balanced approach, they also have inherent flaws…..human beings. And it is to address these very flaws the third side of the balanced approach triangle exists - that being Engineering. Using all types of codes, equipment and technology …from fire detection and alarms to provide the early and effective warning - to first-aid equipment such as fire extinguishers, hood & duct systems and sprinklers to mitigate the situation while it is still small - to rated construction and separation requirements to provide time to evacuate or restrict spread to other buildings … Engineering provides an added safety factor against the unpredictable fire.

If fires could be predicted, we wouldn’t need the simultaneous application of the three E’s. Instead, we could pick the tool that would be most effective on the threat and apply only it. However, fire isn’t predictable … hey, not even the weather is with any level of reliability this winter … so instead, we must engage our three E’s in a balanced approach if we are to effectively provide for the safety of those we protect. I predict, with reasonable certainty, that Spring will come, maybe not as quick as some of us would like, but I’m fairly confident it will appear. I only wish I could say the same about a fire on your campus. For if I could provide you advance warning of when the fire will strike I would - so in the meantime I encourage you to keep up the good work, remain vigilant and apply the balanced approach.

So there you have it - to succeed against whatever the foe, requires planning. Dwight D. Eisenhower said, “In preparing for battle I have always found that plans are useless, but planning is indispensable.”

I couldn’t agree more Ike.

Paul
FROM THE PRESIDENT

By Paul D. Martin

February 2014

PS: Spring arrives on March 20th!!!

Paul Martin, President

Paul D. Martin is Chief of Inspections and Investigations for the New York State Office of Fire Prevention and Control where he served as a principle architect of New York State’s nationally acclaimed Campus Fire Safety Program.

Under Paul’s leadership, the staff of the Inspections and Investigations Branch is responsible for: fire and life safety inspections in a very diverse collection of facilities throughout New York State, including all colleges and universities; performing fire investigations statewide of fatal, large loss or other significant fires; providing fire safety education and information dissemination intended to elevate the public’s understanding of the danger of fire; and enforcement of the laws and regulations of the state regarding fire safety, including the world’s first standard for reduce ignition propensity cigarettes.

Paul is active in the National Association of State Fire Marshals, where he serves as Vice-Chair of their Model Codes Committee and works on issues associated with fire and life safety for special needs occupancies. Additionally, he serves as co-chair of Prevention, Advocacy, Resource and Data Exchange (PARADE), a program of the United States Fire Administration designed to foster the exchange of fire-related prevention/protection information and resources among Federal, State, and local levels of government.

He serves on the International Building Code - Means of Egress Committee for the International Code Council, where he is active in the development of the Codes promulgated under the auspices of the ICC. Additionally he is a principle member of the NFPA technical committee currently drafting a new standard on Fire Prevention Unit Organization and Deployment.

Paul holds an associate degree in fire science, a bachelor of science in public administration and has an extensive portfolio of professional development education. During his fire service career spanning more than thirty years, Paul has served in multiple line and administration positions and has received several awards of valor, including the 2000 Firehouse Magazine® national grand prize for heroism.

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www.campusfiresafety.org
978.961.0410 | email
Safe Handling of Flammable and Combustible Liquids

Bob Benedetti, Principal Engineer, Flammable Liquids, NFPA

Back in 2011, I presented articles that discussed two means of safely handling flammable and combustible liquids: safety cans and flammable liquids storage cabinets. In those articles, which mostly reflected the provisions of NFPA 30, *Flammable and Combustible Liquids Code*, I discussed the basic features of each and how they contribute to fire safety. In this article, I’d like to talk about some simple, basic procedures that you should keep in mind when handling and using flammable and combustible liquids. We’ll focus on small quantity usage, such as in a laboratory or in a maintenance shop. Please note: most of the following discussion is not based on the requirements of NFPA 30, but, rather, on generally accepted good practice. Also, for laboratories, you should refer to NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals*, for additional guidance.

Handle liquids safely. Flammable or combustible liquids should be kept in sealed containers until needed, either in safety cans or in their tightly-capped original shipping containers. While it is expected that liquids will be handled in open containers — beakers and flasks in the laboratory and small jars or cans in the maintenance shop — this should be done carefully. Mishandling that can lead to a spill and subsequent fire are to be avoided. Shop personnel and laboratory students and instructors should be trained in proper handling techniques. Liquids should not be used in the vicinity of an open flame or sparking equipment.

Moving liquids safely. When liquids are moved from one place to another, for example, from a central storage room to the location where they’ll be used, the containers must be capped or closed. Keeping in mind what was stated in the previous section, NEVER transport liquids in open containers through corridors or other areas where people congregate. If several containers are being moved at one time, consider using a wheeled cart. Special two-wheeled hand carts or “drum buggies”, like the one shown in the first photo, are available for moving drums. One other point: don’t use damaged containers. Plan for this: if a shipping container is damaged or compromised, have the means ready to transfer its contents to a container that is sound.
Bung vents, self-closing faucets, and drum pumps. If dispensing is done directly from a drum, as shown in the second photo, the drum should be fitted with a bung vent and a self-closing faucet. The bung vent prevents vapors from escaping and the faucet prevents spills by providing immediate and complete closure on release of the handle. The photo illustrates three other safety accessories: the faucet is fitted with a flexible spout, which is inserted into the safety can that is being filled; the safety can itself sits on a spill collection can (to capture any drips); and a bond wire connects the drum to the spill can. This ensures that any static electric charge can be drained to ground. (You might recall the previous articles mentioned that safety cans frequently are provided with a bare metal contact point for attaching a bonding clamp and storage cabinets often have connection points for a ground conductor and for bonding cables.)
Bonding and grounding. To be effective, bond wires and connections to ground should be secure and firmly attached. It is best to use braided bare conductor, ¼ in. in size, either copper, bronze, or stainless steel for bonding and grounding cables. Don’t be tempted to use typical insulated solid copper electrical cable. While it is probably immediately at hand, it won’t withstand the rigors of the constant flexing to which it will be subjected. Also, a break in the conductor will not be readily apparent. The clamps at the ends of the bond wires and grounding connectors must be suitable for the purpose. They must have sharp, hardened-steel points that can pierce painted or coated surfaces to the bare metal beneath. Typical alligator clips are not considered adequate. See Annex G of the 2014 edition of NFPA 77, *Recommended Practice on Static Electricity*, for diagrams illustrating the types of clamps that are suitable and for examples of bonding and grounding arrangements. NFPA 77 also provides guidance on testing bonding and grounding connections to ensure continuity and to measure electrical resistance.

Ventilation. In the typical laboratory, ventilation hoods provide effective and reliable capture and control of vapors from flammable and combustible liquids, due to the level of attention they receive to ensure
protection of the person using the hood. In a maintenance shop, general environmental ventilation will likely be sufficient. If there is a dedicated room or area where liquids are dispensed, ventilation should be checked to confirm that it provides at least 1 cfm of exhaust per sq. ft. of floor area (0.3 m³/min/m²), with a minimum of 150 cfm (4 m³/min). This level of ventilation provides six air changes per hour, assuming a 10-foot (3 m) ceiling height and this has historically been considered to be adequate. Exhaust air pick-ups should be positioned within 12 in. (300 mm) of the floor. For liquids that have strong, noxious odors or that present a significant toxicity issue, the assistance of an industrial hygienist is warranted.

Spill Control. Inevitably, a spill will happen. Spill kits that contain an absorbent material (Oil-Dri® is one brand), a broom, a small shovel, and a container into which the spilled material is collected should be close by the areas where they are likely to be needed. Personal protective gear, such as gloves and face shields or goggles, should also be available.

Incompatible materials. Flammable and combustible liquids should be stored away from materials with which they might not be compatible. This includes acids, alkaline materials, and, particularly, oxidizers. Depending on the quantities present, separation can be as simple as not intermixing these materials on the same shelf. Flammable liquids storage cabinets are one means of keeping liquids separated. Where large quantities are involved, separate storage rooms might be warranted. In any event, pay close attention to the Safety Data Sheet (formerly called an MSDS). It will provide valuable information on incompatibilities.

Summary. Flammable and combustible liquids are used just about everywhere and we tend to forget how easily mishandling them can cause a spill or release that then leads to a fire. By following these recommendations, you will pay them the respect to which they are entitled and avoid an accident.
CAMPUS FIRE SAFETY CODE TALK

Campus Fire Safety e-NewZone

The Center for Campus Fire Safety 978.961.0410 SupportTeam@campusfiresafety.org
907.5.2.3.3 Groups I-1 and R-1. Group I-1 and R-1 dwelling units or sleeping units in accordance with Table 907.5.2.3.3 shall be provided with a visible alarm notification appliance, activated by both the in-room smoke alarm and the building fire alarm system.

- Fire alarm systems in Group I-1 and R-1 sleeping accommodations must be equipped with visible alarms to the extent stated in Table 907.6.2.3.3. The visible alarm notification devices in these rooms are to be activated by both the required in-room smoke alarm and the building fire alarm system. All visible alarm notification appliances in a building, however, need not be activated by individual room detectors. It is not a requirement that the accessible sleeping units be provided with visible alarm notification appliances even though some elderly patients or residents may be both mobility and hearing impaired.

- This table specifies the minimum number of sleeping units that are to be equipped with visible and audible alarms. The numbers are based on the total number of sleeping accommodations in the facility. The requirements in this table are intended to be consistent with the ADAAG.

907.5.2.3.4 Group R-2. In Group R-2 occupancies required by Section 907 to have a fire alarm system, all dwelling units and sleeping units shall be provided with the capability to support

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<th>NUMBER OF SLEEPING UNITS</th>
<th>SLEEPING ACCOMMODATIONS WITH VISIBLE ALARMS</th>
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<tbody>
<tr>
<td>6 to 25</td>
<td>2</td>
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<tr>
<td>26 to 50</td>
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<tr>
<td>501 to 1,000</td>
<td>5% of total</td>
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<td>1,001 and over</td>
<td>50 plus 3 for each 100 over 1,000</td>
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visible alarm notification appliances in accordance with Chapter 10 of ICC A117.1. Such capability shall be permitted to include the potential for future interconnection of the building fire alarm system with the unit smoke alarms, replacement of audible appliances with combination audible/visible appliances, or future extension of the existing wiring from the unit smoke alarm locations to required locations for visible appliances.

Group R-2 occupancies with a fire alarm system are required to have the capability to support visual alarm notification appliances in accordance with Chapter 10 of ICC A117.1. This requirement has been in the IBC and the language added in the 2012 edition is intended to provide more specific guidance as to what is meant by “capability.” Note that this requirement includes all dwelling and sleeping units, not just those classified as either Type A or B.

Sections 1006.2 through 1006.4.4 of ICC A117.1 address smoke and fire alarm requirements as they pertain to accessible communication features. More specifically, Section 1006.2 states that when unit smoke detection is provided, it shall provide audible notification in compliance with NFPA 72.

Section 1006.3 is focused upon buildings where fire alarm systems are provided. If a fire alarm system is provided in the building, ICC A117.1 requires that the wiring be extended to a point within the unit in the vicinity of the smoke detection system. Based upon the type of unit and the strategy used by the designer, this location may vary.

Section 1006.4 addresses the visible alarm requirements specifically and has various issues it addresses, as follows:

1. Complies with Section 702 of ICC A117.1, which focuses on the requirements of NFPA 72 and that such notification devices be hardwired.

2. Addresses the fact that all visible notification devices be activated within the unit either when the smoke alarms in the unit activate or when that portion of the building fire alarm system in that portion of the building activate.
3. Allows the same visible notification for the smoke alarms in the unit and the building fire alarm system.

4. Prohibits the use of the visible notification for anything other than the operation of the smoke alarms in the unit or the building fire alarm system.

In terms of the specific capability requirements this section has been clarified to provide direction as to what may be meant by bringing the wiring to the unit. There has been confusion in the past and it has been interpreted that all units are required to be pre-wired for visible appliances, which was not the intent of ICC A117.1. More specifically, now the requirements provide essentially three options for future capability, as follows:

- Potential for future interconnection of the building fire alarm system with the unit smoke alarms.
- Replacement of audible appliance with combination audible/visible appliances.
- Extension of wiring from the unit smoke alarm locations to required locations of visible appliances.

It is important to remember that the location of visible notification devices, if installed, are driven by the requirements of NFPA 72 and may vary the approach taken, based upon the configuration of the space.

907.6 Installation. A fire alarm system shall be installed in accordance with Sections 907.6.1 through 907.6.5.2 and NFPA 72.

- This section specifies the requirements for fire alarm system installation and also references the installation requirements of NFPA 72.

907.6.1 Wiring. Wiring shall comply with the requirements of NFPA 70 and NFPA 72. Wireless protection systems utilizing radio-frequency transmitting devices shall comply with the special requirements for supervision of low-power wireless systems in NFPA 72.

- Wiring for fire alarm systems must be installed so that it is secure and will function reliably in an emergency. The code
requires that the wiring for fire alarm systems meet the requirements of NFPA 70 and NFPA 72. This requirement is in addition to the general requirements for electrical installations set forth in Chapter 27 of the IBC. For reliability, systems that use radio-frequency transmitting devices for signal transmission are required to have supervised transmitting and receiving equipment that conforms to the special requirements contained in NFPA 72. This requirement is in addition to the general requirements for supervision in Section 907.7.5.

907.6.2 Power supply. The primary and secondary power supply for the fire alarm system shall be provided in accordance with NFPA 72.

Exception: Backup power for single-station and multiple station smoke alarms as required in Section 907.2.11.4.

The operation of fire alarm systems is essential to life safety in buildings and must be reliable in the event the normal power supply fails. For proper operation of fire alarm systems, this section requires that the primary and secondary power supplies comply with NFPA 72. This is in addition to the general requirements for electrical installations in Chapter 27 of the IBC. NFPA 72 offers three alternatives for secondary supply: a 24-hour storage battery; storage batteries and a generator or multiple generators.

NFPA 72 requires that the primary and secondary power supplies for remotely located control equipment essential to the system operation must conform to the requirements for primary and secondary power supplies for the main system. Also, NFPA 72 contains requirements for monitoring the integrity of primary power supplies and requires a backup power supply.

907.6.3 Zones. Each floor shall be zoned separately and a zone shall not exceed 22,500 square feet (2090 m²). The length of any zone shall not exceed 300 feet (91 440 mm) in any direction.

Exception: Automatic sprinkler system zones
shall not exceed the area permitted by NFPA 13.

♦ Since the fire alarm system also aids emergency personnel in locating the fire, the system must be zoned to shorten response time to the fire location. Zoning is also critical if the fire alarm system initiates certain other fire protection systems or control features, such as smoke control systems. At a minimum, each floor of a building must constitute one zone of the system. If the floor area exceeds 22,500 square feet (2090 m²), additional zones per floor are required. The maximum length of a zone is 300 feet (91 440 mm).

The exception states that NFPA 13 defines the maximum areas to be protected by one sprinkler system and that the sprinkler system need not be designed to meet the 22,500-square-foot (2090 m²) area limitations for a fire alarm system zone. For example, NFPA 13 permits a sprinkler system riser in a light-hazard occupancy to protect an area of 52,000 square feet (4831 m²) per floor. In accordance with the exception, a single water flow switch, and consequently a single fire alarm system zone, would be acceptable. If other alarm-initiating devices are present on the floor, they would need to be zoned separately to meet the 22,500-square-foot (2098 m²) limitation.

It is not intended that this section apply to sprinkler systems. This section only applies where a fire alarm system is required in accordance with Section 907. Unless the building is categorized as a high rise and must comply with Section 907.7.3.2, the code does not mandate the zoning of sprinkler systems per floor.

With today’s fully addressable fire alarm systems, each detector effectively becomes its own zone. The intent with zoning is to identify and limit the search area for fire alarm systems. Addressable devices will indicate the precise location of the alarm condition, thereby eliminating the need for the zoning contemplated by this section when approved by the fire code official in accordance with Section 104.9.

907.6.3.1 Zoning indicator panel. A zoning indicator panel and the associated controls shall be provided in an approved location. The visual zone indication
shall lock in until the system is reset and shall not be canceled by the operation of an audible alarm-silencing switch.

- The zoning indicator panel, which can be the fire alarm control unit or a separate fire alarm annunciator panel (FAAP), must be installed in a location approved by the fire code official. One of the key considerations in determining panel placement is whether or not the panel is located to permit ready access by emergency responders. Once an alarm-initiating device within a zone has been activated, the annunciation of the zone must lock in until the system is reset.

907.6.3.2 High-rise buildings. In high-rise buildings, a separate zone by floor shall be provided for each of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
4. Other approved types of automatic fire detection devices or suppression systems.

- High-rise buildings must have a separate zone by floor for each indicated type of alarm-initiating device.

Although this feature may be desirable in all buildings, the incremental cost difference is substantially higher in low-rise buildings in which basic fire alarm systems are installed. State-of-the-art fire alarm systems installed in high-rise buildings are addressable and by their nature automatically provide this minimum zoning.

907.6.4 Access. Access shall be provided to each fire alarm device and notification appliance for periodic inspection, maintenance and testing.

- Automatic fire detectors, especially smoke detectors, require periodic cleaning to reduce the likelihood of malfunction. Section 907.9 and NFPA 72 require inspection and testing at regular intervals. Access to perform the required inspections, necessary maintenance and testing is a particularly important consideration for those detectors that are installed within a concealed space, such as an air duct.
907.6.5 Monitoring. Fire alarm systems required by this chapter or by the International Building Code shall be monitored by an approved supervising station in accordance with NFPA 72.

Exception: Monitoring by a supervising station is not required for:

1. Single- and multiple-station smoke alarms required by Section 907.2.11.

2. Smoke detectors in Group I-3 occupancies.

3. Automatic sprinkler systems in one- and two-family dwellings.

Fire alarm systems required by Section 907 or the IBC are required to be electrically supervised by one of the methods prescribed in NFPA 72.

Exception 1 exempts single- and multiple-station smoke alarms from being supervised due to the potential for unwanted false alarms.

Exception 2 recognizes a similar problem in Group I-3 occupancies. Accordingly, due to the concern over unwanted alarms, smoke detectors in Group I-3 occupancies need only sound an approved alarm signal that automatically notifies staff (see Section 907.2.6.3.1). Smoke detectors in such occupancies are typically subject to misuse and abuse, and frequent unwanted alarms would negate the effectiveness of the system.

Exception 3 clarifies that sprinkler systems in one and two-family dwellings are not part of a dedicated fire alarm system and are typically designed in accordance with NFPA 13D, which does not require electrical supervision.

907.6.5.1 Automatic telephone-dialing devices. Automatic telephone-dialing devices used to transmit an emergency alarm shall not be connected to any fire department telephone number unless approved by the fire chief.

Upon initiation of an alarm, supervisory or trouble signal, an automatic telephone-dialing device takes control of the telephone line for the reliability of transmission of all signals. The device, however, must not be connected to the fire department telephone number unless specifically approved by
the fire department because that could disrupt any potential emergency (911) calls. NFPA 72 contains additional guidance on such devices including digital alarm-communicator systems.

907.6.5.2 Termination of monitoring service. Termination of fire alarm monitoring services shall be in accordance with Section 901.9.

♦ This section is simply an editorial cross-reference to highlight Section 901.9, which affects the monitoring requirements of Section 907.6.5 (see commentary, Section 901.9).

Next Month: 907.7 Acceptance tests and completion.
(page 403)
Dear Inspector: I regularly read your column and recall your frequent mention of portable electric heaters, as recently as the Holiday Edition, and your concern for the fire hazard that they pose. As this brutal winter continues its savage assault, these heating appliances have proliferated throughout our campus to the extent that other departments, beyond the health and safety office, are taking notice. However, we all seem powerless to address this situation. Can the Inspector offer any guidance?

Thanks for your question, I always welcome and greatly appreciate questions and comments from our readership.

The situation you describe is very common. Every campus I serve has the same problem. In past years, the problem seemed to peek during the planned energy reduction programs common at winter break. This year, largely because of the record cold temperatures, our faculty and staff have volunteered to assist our facilities management folks in heating their workplaces by bringing in portable heaters of every size and description from home and pacing them wherever they see fit. I have observed multiple appliances in some offices, often in the most precarious positions.

Needless to say, we are looking at a serious risk of fire on every campus that fails to adequately limit and control the use of portable electric heaters, to say nothing of fueled appliances.

First of all, we must alert all campus communities and stakeholders of the clear and present risk of fire that an electric heater presents. Among those risks are:

Contact with combustibles.

Most model codes and manufacturers’ instructions require 36” of space, in all directions, from combustible materials. Observing this separation in cramped cubicles and undersized faculty offices is difficult at best. More commonly than not, I find heaters in virtual direct contact with files, papers, books and clothing—especially under desks. Even when this is not the case, there is always the possibility of an avalanche (check out the history and English
departments) burying the appliance altogether. Keep in mind, many folks, often the same ones that never turn out the lights when leaving their room, neglect to shut off their heating appliances. To the Inspector, this is equal to the threat posed by unattended cooking.

Inappropriate power supply.

Here again, most model codes and manufacturers have very specific requirements: electric heating appliances must be plugged directly into a permanently installed wall receptacle—not into an extension cord and not into a relocatable power tap. Under optimal conditions the resistance and subsequent heat development is too much for portable wiring devices. Yet we routinely find heaters plugged into power strips, which in turn are plugged into other power strips (itself a code violation) and then into an extension cord. Moreover, other appliances, including devices, such as coffee makers, often accompany heaters in the same power tap. This condition is further exasperated by the unreliable quality of the portable wiring devices used. This is a good topic for a separate review, but the simple truth is that most relocatable power taps and surge protectors lack overcurrent protection. Having an inspection label and a lighted switch are not in themselves assurance that the device is code compliant, let alone safe.

Inadequate wiring.

Plugging portable heating appliances directly into permanently installed wall receptacles is imperative, but also no guarantee of safety. Let’s face it, many of our campus buildings have been built and wired in a different era. Some academic and administration buildings were originally designed as residential occupancies. As a result, we are faced with multi-generational wiring, some of it cobbled together in a less than workmanlike manner, to put it mildly. Many of our electrical systems simply cannot safely handle the extra load imposed by unrestricted introduction of heat producing equipment. Of course, tripped breakers often make us aware of this problem. But what about
the reliability of decades old switchgear—can we rely on them to respond to an overload? We certainly cannot when ages ago some hacker replaced a 15 amp breaker with a 20 amp breaker—more common than we care to contemplate. There is only one thing worse than an electric heater igniting a fire in an overstuffed office, and that is an overloaded cable melting inside the wall of a 100 year-old balloon construction historic structure. What campus doesn’t have one or more of these?

I wish that simply outlining the risk of fire presented by portable electric heaters was compelling enough to produce a change in campus policy, or in many cases, to foster the creation of one in the first place. Sadly, this is not the case. Accordingly, I suggest that we make those responsible for keeping our institutions fiscally sound aware of the added cost of running so many extra electric heating devices. Simply calculate the kilowatt-hours consumed by each device and multiply it by your local cost per KWH and then multiply it by the number of devices. I guarantee you that this will get the attention of the vice president of finance and administration, fast!

In the interest of life safety, let us further not hesitate in reminding the more environmentally conscious members of the campus community of the effect that so many portable electric heaters have on the college’s carbon footprint. Do we really wish to endanger the health and welfare of future generations because some thoughtlessly choose to luxuriate in a temperature zone that they would not likely spring for in their own homes?

So if we are fortunate enough to find receptive ears, what next? I say, develop a comprehensive portable electric heater policy and distribute it widely. What might such a policy look like? How about this:

**Portable Electric Heaters.**

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College endeavors to provide all students, faculty and staff with a temperate environment in which to live and work throughout the winter months. Occasionally, we may fall short of maintaining the desired temperature range due to system abnormalities, structural inadequacies, extreme weather conditions or a combination of all three. Should this be the case, we encourage all campus community members to bring this promptly to our attention. We are committed to remedying heating problems in the quickest, safest and most environmentally friendly way possible.

Should we be unable for some reason to affect an expeditious remedy, our facilities management group may provide a campus-issued portable

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electric heating appliance bearing an official campus decal. They will deliver and install the device after having determined adequate wiring and safe placement, well away from possible contact with combustible materials. In some limited circumstances, approval will be given for individuals to supply their own equipment. In these cases, facilities management will determine if the equipment meets all applicable safety standards, evaluate its safe placement and verify adequate electrical supply. At such time, facilities management will affix a permit decal to the device indicating its approval for this particular location.

Permit required.

Under no circumstances will unauthorized heating equipment be allowed on the campus. Any such appliance not bearing the permit decal issued by the facilities group will be subject to confiscation. Additionally, campus supplied equipment and authorized personal equipment are only permitted for use in the designated place and for the duration specified at the time of permit issuance. The college reserves the right to rescind all permits at its discretion and recover all campus property.

Inspection.

College reserves the right to periodically monitor the use of permitted portable electric heating appliances to assure that they are being used in the manner and location as originally approved. At all times, such appliances must be kept 36” away from combustible materials and plugged directly into permanent and approved wall receptacles. If unsafe conditions are found to exist during routine inspections, the college reserves the right to make changes in the installation or rescind the permit.

Cooperation requested.

College attaches utmost priority to the personal safety of everyone on the campus. Compliance with our portable electric heater policy is essential in keeping our community free from the ever-present danger of fire, an occurrence we can never afford.

Partners invited.

College is solidly committed to environmentally sustainable practices. We are always looking for new ways to reduce our global footprint in all that we do each and every day. We invite all campus members to partner with our facilities management group in all of our efforts to provide comfortable living and work spaces.
without harm to our planet.

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: mailto:theinspector@campusfiresafety.org

Ask the Inspector
Now Members can log onto the Member Website and have an online discussion with “The Inspector”.

Simply visit the MEMBER LOGIN section of our public website. Once logged in, look for the Town Hall Discussions and ask “The Inspector”.

Note: The viewpoints expressed in The Inspector are those of the author alone. They are offered to initiate thought and debate, however, they do not necessarily represent the views or opinions of The Center for Campus Fire Safety, its officers, directors or its editorial staff.
When finding the “PERFECT” house: When does the search begin?

Just a few weeks into my daughter’s freshmen year it seemed like all was going well. She was living in a new residence hall with all of the latest fire and security measures a parent could want. Classes were going fine, making new friends, etc. Then, one evening the unexpected phone call...“we found a house to live in next year - all EIGHT of us.” And, “the landlord needs us to sign the lease within three days because the house will go fast.” Did I mention it was only mid-September? Now, I must put on my fire inspector hat, instead of being the understanding Dad.

My experience is not uncommon and I should have expected this. In my mind, the residence hall is like a hotel - why would anyone want to leave? But, many college students are at the time in their life when they are becoming independent and wanting to make decisions on their own. Sometimes they make good decisions, while other times it is part of the learning process and parents need to be involved to assist.

In many communities there is such a demand for Off-Campus Housing that the units are leased at least 10 months in advance. If you don’t act fast you may be forced to accept what is left over. Often times, this deadline is ahead of the date when the on-campus housing options are offered and most colleges don’t guarantee housing for anyone other than first year students.

It is even worse to think that some students sign a lease without first consulting with their parents. Or, parents sign the lease without seeing the place themselves. In my office my staff and I get several calls every September about the house or apartment that a student lives in. The parents are in town for parent’s weekend or another activity, and they are in shock. “How dare you allow my child to live in a place like this” the parent asks? We then follow up with a question, “who signed the lease?”

Many times these complaints are not related to life safety, more the quality of life that one becomes accustomed to. Nonetheless, parents often times find out too late that the property isn’t what they are used to at home. In some cases it may be dangerous and illegal. Hopefully, the municipality where your students live have laws that regulate rental properties and require frequent inspections.

Why is this important to consider?

We know that most (almost all) student fire fatalities occur in Off-Campus housing. Most of these fires occur in communities that are close to campus,
frequented by students and often times in older structures. The buildings may be a house or duplex, apartment buildings, even Greek housing. These buildings in most cases have not been well maintained, and few codes require retroactive requirements of the building infrastructure. While the fire causes in these buildings are very similar to any housing type, the student housing poses additional risks. Unfortunately, the presence of alcohol or drug use is present in most fatal fires. And, in almost every case there is a lack of fire protection systems (including smoke alarms). Or, the fire protection system had been disabled.

In the Off-Campus environment many landlords do a great job maintaining their property and have it ready for occupancy in the fall. But, if the tenants do not report deficiencies and the landlord does not make frequent site visits to monitor the property the “move-in ready” condition may not last and even the nicest homes can be at risk for a fire. Other landlords are not as responsive and only provide the minimum requirements of the law. If there are no laws, the student and parents may be on their own.

It is up to the tenant or in many cases a parent to identify a hazard and report it to the landlord. Then, the landlord needs to take appropriate action. It is important for a tenant to have access to 24-hour maintenance. If the landlord does not make the corrections in a reasonable amount of time you may need to involve the local AHJ. Most times, the university will not have any jurisdiction but may have some resources for you to call.

Some of the basic items to look for regarding safety include:

- Smoke alarms in every bedroom and in the hallway
- Carbon monoxide detector if a solid or fossil fuel is used in the building
- Sprinklers throughout the building
- Building-wide fire alarm system for apartment buildings
- Fire extinguisher in the kitchen
- Deadbolt locks on the bedroom door and the entry door
- Window locks if the sill is within 6 feet of grade

If you get a chance to visit the property, be sure to ask these questions:

- What type of heat is available?
- Is the heat included in the rent?
- When was the furnace last inspected?

Location, location, location!
This is what many landlords will promote. While this can be
• What type of cooking appliances are provided?

Although renter’s insurance is relatively inexpensive, very few tenants have coverage in the event of a loss. Some students are covered by their parent’s homeowner’s, but there are limitations. And the coverage may be different depending if they live on- or off-campus. Some landlords may even require the tenant to have insurance, but most do not.

Social Media as a tool:
Many times I’m asked to make a recommendation for a good landlord, or identify the bad ones. Working in government we are unable to make any such recommendation, so I suggest the student or parents Google™ the landlord or the complex they are considering signing with. Often times they can find out information that otherwise may not be available. They do need to remember that there is no guarantee of the accuracy of this information.

Some other sites, such as Twitter allow you to follow information about a complex, management company or even student organizations. There are many available that you can search for, but here are a few to try:

@movingoffcampus
@studentrenter.com
@CollegeRenterIn

Depending on your job or interest with Off-Campus Housing you may be directly involved in the enforcement of codes, or be able to refer tenants and parents to those that do. Either way, it is important to understand the business side for the landlord as well as the peer pressure the students are under to commit. And, hopefully everyone will be satisfied with their new home.

In my personal case I was lucky. My daughter visited the house and knew that there was no possible way that I’d sign the lease and she has opted for another year in the residence hall. For me, another year of peace of mind knowing she is living in a fire-safe environment.
Tim Knisely

Tim Knisely is on the Board of Directors for The Center and the Senior Fire Inspector for the Centre Region Code Administration in State College, PA. In this position he manages the Existing Structures Division that administers the fire and property maintenance code in all existing commercial and residential rental properties, and coordinates the life safety education for the community including off-campus and Greek housing.

Tim has been active with The Center for Campus Fire Safety since its inception and served as treasurer from 2007 to 2010.

He is a frequent presenter at Campus Fire Forum, an instructor for the Fire-Wise Campus program and served as project manager for Campus Fire Data.
FOR IMMEDIATE RELEASE

Frostburg, Maryland: One Dead in House Fire, Two Injured

February 15, 2014 (1:50pm) ... Update: Newburyport, Massachusetts

According to the Office of News and Media Services, Frostburg State University, President Jonathan Gibralter said the deceased was, as they feared, one of Frostburg’s students. His name was Lateef Gazal, and he was a senior in their Business Administration major. Lateef lived in Bowie and was a member of Delta Sigma Pi, the professional business fraternity; the Marketing Association; and the African Student Association.

Two other people were able to escape the fire. They suffered minor injuries and were transported to Western Maryland Health Center, say fire officials. Another person who lives in the unit was not home at the time of the fire.

According to Fire Fatality Statistics produced by The Center for Campus Fire Safety, this is the 85th fatal fire involving a student that has occurred on a college campus, in Greek housing or in off-campus housing - claiming a total of 122 victims. 72 of these fatal fires have occurred in off-campus housing claiming 103 victims.

February 14, 2014 ... Newburyport, Massachusetts

Tragedy struck the community of Frostburg, Maryland, today when an early morning
fire, occurring at around 5:00 a.m., lead to the death of one person and the injury of two others. The house where the fire occurred, located on the 100 block of Bowery Street in Frostburg, was heavily damaged by the fire; reports state that the second floor collapsed during the fire. Prior to the fire, the house had been renovated as rental housing for college students. It is unknown at this time if the deceased or the injured persons were students at nearby Frostburg State University.

Frostburg State University’s press release, regarding the fire, did not list the name of the departed nor did it state if the departed was a member of their campus community. The University’s press release did state that three individuals were displaced by the fire and are members of their campus community. Frostburg University has provided housing for these displaced students.

The Maryland State Medical Examiner’s Office has not yet released the identity of the deceased, as their investigation into the death is currently ongoing. Further, no cause for the fire has been released at this time. Finally, it is not known if the house had smoke alarms or a residential fire suppression system. As we learn more about this fire, we will continue to update you.

The Center for Campus Fire Safety reflects on this tragedy and also wants to remind everyone of the importance of properly installing and maintaining smoke detectors and other fire prevention equipment, in accordance with prescribed codes and standards. But let’s look beyond requirements and ask ourselves what else we can do to avoid potential loss of life from fire.
• Plan your **escape routes** - Identify windows and doors, know two ways out and determine an escape route **before the fire**. Always choose the safest escape route - the one with the least amount smoke and heat. Be prepared to get low under smoke if necessary.

• Keep **escape routes clear** - do not allow objects to be stored in halls or stairwells. Make sure windows can be **easily opened**.

• **Inspect the exterior door** at bottom of stairwell. It must be able to be opened without a key from the inside. **Door cannot be blocked** by snow, cars or other objects.

• Keep an **emergency escape ladder** on upper floors. Follow manufacturer’s instructions for the safe use of emergency escape ladders. Only purchase emergency escape ladders evaluated by a recognized testing laboratory. Only use the ladder from upper floors in a real emergency.

• **Choose a meeting place in advance** - Pick a highly visible area, a safe distance away from the flames, to meet in case of fire related emergency.

• **Be prepared** - Practice your emergency exit routes with each occupant. Practice crawling low to avoid toxic smoke from a fire. Practice feeling doors for heat before opening. Practice opening windows. Practice using an emergency escape ladder from the first floor.

• Use a portable fire extinguisher **only** if you know how and can do so safely. **Before using a fire extinguisher call 9-1-1 and sound the fire alarm.** Fire extinguishers are useful only for very small fires, like those contained in a small waste basket. If the fire is larger that, exit the building immediately.
To learn more about The Center and its programs, visit www.campusfiresafety.org.

For additional information:
Fire Fatality Statistics and Definition:
http://www.campusfiresafety.org/firefatalitystatistics

Continual e-news - campus fire & safety:
http://www.campusfiresafety.org/News

Campus Fire Safety Resources: http://www.campusfiresafety.org/resources

About The Center for Campus Fire Safety (The Center)
The Center for Campus Fire Safety (The Center) is a non-profit, member focused organization devoted to reducing the loss of life from fire at our nation’s campuses. The mission of The Center for Campus Fire Safety is to serve as an advocate for the promotion of campus fire safety. The Center serves as the focal point for the efforts of a number of organizations and also as a clearinghouse for information relating to campus fire safety. Visit us at www.campusfiresafety.org for more information.

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