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Campus Fire Safety e-NewZone Monthly Newsletter ... August 2014, Volume 4, Issue 8

(Print Pages)



# Campus Fire Forum 2014 Orlando, Florida November 10-13

# FORUM REGISTRATION IS OPEN .... JOIN US IN ORLANDO

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REGISTER



Campus Fire Forum 2014 - Keynote Speaker

We are pleased to introduce our Keynote Speaker, Jenn Abelson, Investigative Reporter for The Boston Globe's Spotlight Team.

Jenn will discuss Shadow Campus ... a nine-month investigation by The Boston Globe's Spotlight Team, that exposed how a collision of greed, neglect, and mismanagement is endangering young people in America's college capital.

### Learn more about Jenn and other presentors

### **CENTER ACTIVITIES -** *a very busy month!*

1) The Center for Campus Fire Safety launches new, interactive website (www.campusfiresafety.org)... MORE

2) New International Code Council (ICC) Work Group (WG) will focus on areas of the I-Codes that impact campus environments.... MORE

3) Election Notices - In accordance with The Center's by-laws, the following Directors have have expressed their desire to seek reelection in November 2014. This will fill the two Director positions advertised last month. **Kevin McSweeney Platform Statement** | **Alan Sactor Platform Statement** 

4) Campus Fire Safety Month - New Haven ... Michael J. Swain, Vice President of The Center will give a 3 hour FireSmart Campus training at the University of New Haven, September 23. This event is made available to the Connecticut campus fire safety community by Egress Marking Systems. Along with Mike, presentations include: Egress Path Marking Lighting the Way to Safety, and An Integrated Multi-Modal

Mass Notification System by SIEMENS. Additional information will follow by email. Registration is free to Connecticut fire, building and campus officials. Meals will be included. **Presentations are approved for continuing education by the State of Connecticut, Department of Administrative Services. REGISTER** 

Note: Limited to 84 Attendees- Registration on a First Come, First Served Basis

By the time this goes to print I will have experienced one of the most seminal points in a father-daughter relationship, that being watching your little girl get married. Spoiler alert --- even this curmudgeon teared up. But as I watched my princess exchange her vows, I wondered – did I adequately prepare her for life in the "real world"? We can ask ourselves the same in our professional roles: are we sufficiently preparing college students to lead a fire safe lifestyle in the real world? ... MORE

The Center is the Voice of over 4000 colleges and universities. As a 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.

#### Leadership Committees Sponsors Advisory **Council Members**

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

Peter Binkley, Exav Systems; George Adcock, Adcock Systems; Scott Adams, University of Tennessee; Kyle Kokoszka, University of Delaware; David Collins, Winston Salem State University; Matt Cusack, Illinois Institute of Technology; Gregory Wooldridge, Eastern Virginia Medical School; Kitty Lynn, University of North Carolina; Elizabeth Conha, CWSI; Michael Browning, Edwards; William Phillips, International Language Centers; Rick Fox, Colorado Mesa University.







### **Off-Campus**, by Tim Knisely

### Laboratory Fires

Fire does not discriminate! These deceptively simple words of the inimitable Chief Gerald Paris, often repeated on these pages, is the watchword of our profession. Fire does not care if we are busy welcoming students back to the campus. Fire does not care if our focus now is on getting in our first round of fire evacuation drills and completing our RA training. Fire is a wily and implacable enemy; it will strike at a time and location for which we are often least prepared. The Inspector, hardly a visionary or seer, nevertheless sees a laboratory fire waiting to happen on a campus near you ... MORE

Do I need Renters Insurance?

Unfortunately, this question isn't asked often enough even though it applies to those living both in a campus-owned residence hall or the off-campus apartment. More times than not, the call home to Mom or Dad asks "do I have renter's insurance?" This phone call follows some sort of unexpected event that not only involves a fire. It could be damage to your personal property from a burglary or vandalism. Or, the call is made response to someone being injured in the student's apartment or the student does something that causes significant damage to the property of others ... MORE



Training Opps

### 4- Fall webinar series: Fire Door and Hardware Code Requirements

#### 4 - 90 minute sessions each week: Wednesday 9/17, 9/24, 10/1 and 10/8 (11AM - 12:30 PM EST)

Cost: Free to Members | \$100. to non members.

The Center for Campus Fire Safety will be hosting a webinar with Lori Greene, Manager of Codes & Resources, Allegion. This 4session webinar based on: International Building Code (IBC), NFPA 101 - The Life Safety Code, NFPA 80 - Standard for Fire Doors and Other Opening Protectives, ICC A117.1 - Standard for Accessible and Usable Buildings and Facilities.

### Info and Registration



depending upon location.

### **Fire Smart Campus Training**

(Formally FireWise Campus) ...

Fire Smart Campus Training is availabe! The Center instructor(s) will come to your campus or town. Price varies

Contact us for info.

### Crowd Manager Training ...

2 hour on line course @ \$19.95 ... Presented by ICC, NAFSM & CCFS, this course provides valid, credible training to those charged with crowd management at facilities including higher education. This meshes with The Center's mission of providing resources to our community. MORE



### **Chubb Loss Control** Universitv

Chubb Offers 30% discount to Members of The Center for Campus Fire Safety or 50% if you are also a Building and Fire Code official or

- Warehouse Fire Protection Part 1 and 2
- Sprinkler Plan Review Part 1 and 2
- Fire Detection •
- Water Supplies & Sprinkler Systems
- Dry Pipe, Deluge & Pre Action Sprinkler Systems
- Automatic Fire Pumps
- Maintaining Water-Based Fire Protection Systems • Part 1 and 2



Codes, Standards & More



**September and October are peak months for fires in college housing**. *NFPA urges students to be mindful of fire safety* 

CTS and more

With the fall school semester around the corner, the **National Fire Protection Association** (NFPA) reminds students to be mindful of fire safety. September and October are peak months for fires in college housing, according to NFPA research, and the **Center for Campus Safety** has marked September as **Campus Fire Safety Month.** "As college students settle into housing in dorms and off-campus apartments, it's important they review fire safety tips to learn how to prevent fires, check smoke alarms and prepare escape plans," said Lorraine Carli, NFPA's vice president of Outreach and Advocacy... **MORE** 

Great "Student" Downloads from NFPA:

## Campus Fire Safety Tip Sheet | New Campus Fire Infographic

#### **Cooking Fire Safety | Smoke Alarms**



SECTION 910 SMOKE AND HEAT VENTS

910.1 General. Where required by this code or otherwise installed, smoke and heat vents or mechanical smoke exhaust systems and draft curtains shall conform to the requirements of this section.

Exceptions:

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.

2. Where areas of buildings are equipped with early suppression fast-response (ESFR) sprinklers, automatic smoke and heat vents shall not be required within these areas... **MORE** 



MEMBER NEWS, MAJOR FIRE LOSS, FIRE INCIDENT NEWS & MASS

### NOTIFICATION INFO

### FIRE NEWS

**Smoking Materials Cause Fire at University of Kansas Fraternity House** ... Just before noon on August 26, 2014, a fire broke out at the Sigma Chi fraternity house, located in the 1400 block of Tennessee Street, Lawrence, KS, near the University of Kansas. The fire was located in a third floor living area, including bedrooms and bathrooms. No students were injured, despite there being over seventy students present in the house at the time of the fire. Two of the students occupying the space in which the fire occurred were in class at the time the fire broke out... MORE

Families call for change to off-campus housing - WKRC TV Cincinnati ... MORE

Dozens of University of Texas Students Displaced After Fire ... MORE

College nightmare: Austin fire leaves University of Texas students homeless ... MORE

Colleges in Boston Required to Release Off-Campus Addresses ... MORE

### Breaking News - Click here to Sign up!

MORE NEWS STORIES .... Hundreds of related stories + ability to search through years of our news archives.

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Member News:

### SimplexGrinnell

Tyco SimplexGrinnell Receives Innovator of the Year Award from Axeda for Advanced Internet-based Fire Alarm Solutions ... **MORE** 



**NEMA Library** ... Life Safety Systems Guides and Manuals Fire Detection, Alerting and Signaling Ideal for Designers, Installers, Code Officials, Owners and Users of Fire and Life Safety Systems ... **MORE** 

#### MASS NOTIFICATION TECHNOLOGY

Rave Mobile Safety to Conduct Webinar on Amendments to Clery Act ...  $\ensuremath{\mathsf{MORE}}$ 

Massachusetts Maritime Academy Integrates On-Campus ATI Mass Notification ... MORE

**More MNS News and Articles** 

Job Opp: None submitted this month

#### Submit Member News or Job Opps

Networking Opp: Our Off Campus Fire & Life Safety Alliance is growing. If you are a member and did NOT receive your invitation to join, contact: supporteam@campusfiresafety.org or click to learn more

New - Website Snippet: Each month we'll point you to a special section of our new website and explain it!

### **EVENTS ON MY CAMPUS:**

### (http://www.campusfiresafety.org/TrainingActivities/EventsonMyCampus.aspx)



For Campus Fire Safety Month .... and all year 'round!

What's Happening on your Campus? Post your event! Share Project Info!

This is a dedicated are on our website where you can post your event!

### Are you organizing a Fire and Life Safety Event? Working on a Large Construction Project on Campus? Did you find a new technology that solves a common problem? Share your info with others online!

Members from other schools or fire departments may be interested in learning what you are doing. They may offer advice, or may want to see how they can visit you to learn more. Industry members may have an idea for your construction project, or your associate from another part of the country may have a solution to a problem. Share the knowledge and mingle online with other members. We'll review and post your information. You can review it using the List or Calendar Viewer.



**Fire Fatality Statistics** 

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

#### **Fire Fatality Statistics**



Center Resources & Activities (... and more)

- Library ... best practices, white papers, technology, codes,++
- Data Collection ... help us collect fire incident data here!
   Membership ... become a member or visit our member website!
- **Shopping** ... DVD's, Logo items + more. Members login for discounts!



Center Honory Lifetime Members ... (Shawn & Al)

### AFTER THE FIRE ...

# Bring the "After The Fire experience" to your campus.

Shawn and AI, Seton Hall burn survivors, are lifetime members ofThe Center for Campus Fire Safety and have been with us for several years now. Many of you have met them at our annual Forum(s). Learn more about their experience and their willingness to



experience and their willingness to speak at your campus.

### MEET SHAWN & AL | PURCHASE AFTER THE FIRE VIDEO

### Thanks to our Annual Sponsors for their support and dedication to campus fire and life safety.

### **CENTER SPONSORS ... All sponsors**

Gold Level: Tyco/SimplexGrinnell

Silver Level: UL, SIEMENS, NFPA, Lexington Insurance, Kidde

Supporter Level: ICC, Honeywell, Keltron, Bullex NEMA, FEMA, Chubb Insurance

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August 2014

# The Center for Campus Fire Safety launches new interactive website

August 18, 2014 ... Newburyport, Massachusetts. The Center for Campus Fire Safety (The Center), a non-profit, membership based, organization devoted to reducing the loss of life from fire at our nation's campuses recently launched its new website designed to create an interactive community experience for members as well as visitors.

Specific areas include:

Home Page: A rotating gallery of our ongoing projects and a listing of the sponsors that support our organization.

Resources: The largest library of Campus Fire Safety materials with information placed into manageable "aisles" making it easier to find items in our extensive bank of resources. Also - we're adding an entirely new Tools section with Presentations, videos and more.

Webinars: Our upcoming webinars will be posted in this section. All webinars are free to members. We also built a webinar-on-demand section so you can re-visit webinar presentations if needed.



Forum 2014: The Forum 2014 section (under Training & Activities) includes the current schedule of speakers and more.

CenterNet: A member-only area that includes a Member Directory, Town Hall Discussion Forum and Community update section where members can post, discuss and generally network with each other.

News: News stories will continue to be added daily and include on and off-campus fire related stories we define as: Breaking News (fatalities), Fire Incidents and Mass Notification news stories. You can also search back into years of archives.

Events on My Campus: What's Happening Around Campus? Share Project Info! Are you organizing a Fire and Life Safety Event? Working on a Large Construction Project on Campus? Did you find a new technology that solves a common problem? Share your info with others on-line! This new "Events on My Campus" section is available to the public as well as members. We are hoping to share "What's Happening" around the world. If you have something going on that you want to share, simply complete the form on-line.

Testimonials: Tell us how we're doing! Send us your testimonial for possible publication.

SupportTeam@campusfiresafety.org Questions/Problems: Please contact SupportTeam@campusfiresafety.org | 978.961.0410 As always, thank you for your continued support.

To learn more about The Center and its programs, visit <u>www.campusfiresafety.org.</u>



### About The Center for Campus Fire Safety (The Center)

The Center for Campus Fire Safety (The Center) is the voice of over 4000 campuses nationwide. It is a non-profit, membership based, organization devoted to reducing the loss of life from fire at our nation's campuses. The Center serves as an advocate for the promotion of campus fire safety.

### **Media Contacts**

The Center for Campus Fire Safety | 978.961.0410 Paul D. Martin, President, <u>pmatin@campusfiresafety.org</u> Cathy Tabor, Director of Marketing Communications, <u>ctabor@campusfiresafety.org</u>



August 2014

# New International Code Council (ICC) Work Group (WG) will focus on areas of the I-Codes that impact campus environments.

The Center for Campus Fire Safety®, (The Center) the nation's sole, non-profit, member-based organization dedicated to campus fire and life safety in the higher education community recently announced the expansion of its Codes Standards and Technical Research Committee to include the ICC Work Group.

The development cycle for the 2018 edition of the I-Codes is underway. The Center's new Work Group is charged with identifying viable changes for the 2018 edition of the I-Codes. Chaired by Richard Roberts, member of The Center, the group will focus on areas that might benefit or otherwise impact fire and life safety in the campus environment such as means of egress, fire suppression, fire alarm, carbon monoxide.

Members of the newly formed work group include:

Richard Roberts, Honeywell, Chair Lawrence Labbe, GA Tech Captain Scott Donovan, Winter Park Fire-Rescue Department Richard Wood, CFPS CBO FM, University of Massachusetts - Lowell Daniel P. Finnegan, SIEMENS



James Tidwell, Tidwell Code Consulting Jody Nolan, RIT William Freer, NYS Office of Fire Prevention & Control Travis Tyler, Univ of Southern California Leo DeBobes, Stonk Brook University Hospital William Koffel, Koffel Associates Inc. William Guffey, University of Maryland

To learn more about The Center and its programs, visit <u>www.campusfiresafety.org.</u>

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### Platform Statement Board of Directors, Center for Campus Fire Safety

It is with great pride and enthusiasm for the past three years, I've served as a Director with the CCFS Board of Directors. I recognized that this "true" non-profit organization which provides fire safety guidance and leadership to member campuses of Higher Learning t both domestic and foreign is authentic and unselfish in carrying out their needed assistance.

I bring 8-years of campus fire safety experience; over 35 years combined fire service with the USAF, State of DE Fire Marshal and as a volunteer fire fighter. My focus throughout my Board of Director service has been resident hall fire safety education/training, Off-campus resident fire safety awareness and improving CCFS ability to provide first-hand campus fire incident reporting and information transfer to our membership. I've also participated in the joint efforts of CCFS and CSHEMA by meeting with the principles to negotiate and secure a MOU between the two pillar organizations with focus on campus safety and health.

The Campus Fire Forum is still the best annual fire safety conference for the vast membership to gather, attend education sessions, network with like minds, and participate with a Town Hall Meeting to get caught up to speed with issues and events occurring on campuses today. I've assisted with the last three CCFS Forums as an instructional speaker, panel speaker and recruiter of sponsors and other speakers.

I pledge to serve this next term with the same vigor and energy as in the past. I truly enjoy working with and for the CCFS Board of Directors. Please accept this as my platform statement to serve again.

Kevin T. McSweeney

### CANDIDATE STATEMENT CENTER FOR CAMPUS FIRE SAFETY – DIRECTOR

### Alan Sactor, CFPS

Office Being Sought: Director

Profile of Qualifications:

- Fire Marshal & Assistant Director, University of Maryland, Department of Environmental Safety
- Twenty-Nine years of experience in the field of campus fire safety
- Invited participant in the First Forum on Campus Fire Safety organized by NFPA and USFA
- Member, NFPA 1037 Technical Committee on Fire Marshal Professional Qualification
- Charter Member/Regular Member, Center for Campus Fire Safety
- Director, Center for Campus Fire Safety Board of Directors
- Chair, Center for Campus Fire Safety Codes, Standards, and Technology Research Committee
- Member, APPA Standards and Codes Council
- Vice Chair, Maryland Fire Marshal's Committee

### Platform:

It has been an honor for me to serve on the Board of Directors. CCFS is a relatively young and definitely growing organization. The Board is a "working board," providing not just leadership, but the ground level service necessary to serve the membership and build the organization and its brand. For me, that's included chairing CCFS committees; delivering presentations and training; attending meetings with various organizations, associations, and government officials; and developing strategic partnerships. It's also included setting up tables, making office supply runs, breaking down displays, and checking conference rooms to make sure all the exits are clear. What I enjoy the most is talking to members and potential members about CCFS and campus fire safety. CCFS members are knowledgeable, dedicated professionals with a passion for what they do. I share the passion.

It has been a real learning experience to work with the other members of the CCFS Board of Directors, our partners, sponsors, Advisory Council – and most importantly our members. The accomplishments of CCFS are a team effort.

I would be honored to serve another term on the CCFS Board of Directors. My goal is to utilize my experience to continually improve and expand the services to the membership, maintain CCFS as a financially and ethically sound non-profit organization, and further the already excellent CCFS reputation as the premier campus fire safety organization.

Thank you for your consideration.



# **FROM THE PRESIDENT** By Paul D. Martin

August 2014

By the time this goes to print I will have experienced one of the most seminal points in a father-daughter relationship, that being watching your little girl get married. Spoiler alert --- even this curmudgeon teared up. But as I watched my princess exchange her vows, I wondered - did I adequately prepare her for life in the "real world"?

We can ask ourselves the same in our professional roles: are we sufficiently preparing college students to lead a fire safe lifestyle in the real world?

If you talk to college students, you quickly discover that independence is the main appeal of "the real world." College students look forward to a time without a syllabus, without homework, without RAs, without the paternalistic advice of professors and administrators. Even though in loco parentis is obsolete on most of America's college

campuses, students resent even the vestiges of parental care. It's a rule on college campuses that you can't like rules, and you can't like regulations or restrictions either.

In "the real world" world, according to students, you're finally on your own. You can't depend on other people to pay your bills or assure your personal safety. You have to do it yourself because there's no safety net. "The real world" is the world of American individualism where the self-made man or woman makes it—or not. It's where college students find out if they've learned enough to earn enough to survive outside the ivory tower. After all, because we have invested so much time, energy and money to make our campus infrastructure as safe from fire as possible; think building construction types, installed systems, rules/policies, inspections - have we not created a kind of artificial fire safety bubble?

Evidence that there may be validity to my bubble question can be seen in the campus related fire fatality statistics; which clearly indicates that the vast majority of the fatal fires occur outside the "bubble"-- in off-campus housing and often with contributing gaps in personal responsibility.

So how do we prepare students for the real world of living fire safe? The real world where not all buildings are equipped with state-of-the-art fire detection and suppression systems, a world where people don't follow basic fire safety practices, nor adhere to basic rules, (IE: fire codes) a world where people simply don't believe that fire will happen to them - only the "other guy."

My dear friend and work colleague Guy Swartwout says "If you want a person to bleed, then you have to hemorrhage." There is much validity to Guy's statement. If we are going to really prepare students to life a more fire safe lifestyle, make



# FROM THE PRESIDENT

By Paul D. Martin August 2014

better housing choices or become advocates for fire and life safety themselves (I never stop dreaming) then we need to be over the top in our messaging. A single brochure, poster, 30 minute lecture or video or mock dorm room burn by themselves is not going to cut it. We need to use every means we have, every delivery mechanism we can leverage, and we must be consistent and never-ending with our messaging. And The Center is here to help you. Tap into the virtual treasure trove of experience and wisdom of our members who are doing great things daily to prepare students on their campus. Feel free to use and retool the materials that exist in our library (and we would be thrilled if you would "pay it forward" and share yours with others). And take part in the many ways The Center offer to advance your knowledge and wisdom. We are all working together on this common quest and while the following quote may be with a source, it is nevertheless clearly

appropriate: "It is a fact that in the right formation, the lifting power of many wings can achieve twice the distance of any bird flying alone." ~Author Unknown

So I end back where I began. As my daughter and her beloved turned and walked down the aisle toward me as husband and wife for the first time, I knew she was going to be okay because I had used everything I had , every angle I could find, and put my heart and soul into preparing to let her go into the "real world".

### Paul

PS: For those of you who know my daughter's new husband know I have an "insurance plan" as she is now in some <u>big</u> protective hands.

### 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



# FROM THE PRESIDENT

By Paul D. Martin August 2014

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<sup>®</sup> national grand prize for heroism.



Published by The Center for Campus Fire Safety.

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### THE INSPECTOR By Phil Chandler August 2014

Fire does not discriminate! These deceptively simple words of the inimitable Chief Gerald Paris, often repeated on these pages, is the watchword of our profession. Fire does not care if we are busy welcoming students back to the campus. Fire does not care if our focus now is on getting in our first round of fire evacuation drills and completing

our RA training. Fire is a wily and implacable enemy; it will strike at a time and location for which we are often least prepared. The Inspector, hardly a visionary or seer, nevertheless sees a laboratory fire waiting to happen on a campus near you.

There are colleges with robust environmental safety departments, some with specialized laboratory experts on board. There are also plenty of schools that as of yet, lack the resources to mount a dedicated response to laboratory hazards, relying solely on department chairs and faculty to assure safety and compliance with the myriad rules and regulations for the storage, handling and dispensing of hazardous materials. Regardless of where on the above spectrum your institution falls, The Inspector bets that awareness of the fire potential in every



laboratory and the preparedness of faculty, staff and students to appropriately respond to a fire in a laboratory is not a top priority.

To be sure, protecting students, faculty and graduate researchers from the exposure to and ingestion of toxic substances is a full time job. So too does protecting the air we breathe and the water we drink from contamination caused by improper handling of laboratory chemicals matter a whole lot, to all of us. But, for the Inspector, and I trust for you, the reader, we are also charged with added responsibilities as outlined in the preamble to the International Fire Code:

The purpose of this code [and hence the mission of those enforcing this code] is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire and explosion or dangerous conditions in new and existing buildings, structures and premises and to provide safety to firefighters and emergency responders during emergency operations IFC 2009 101.3).



# **OFF-CAMPUS** By Tim Knisely

By I Im Knisel August 2014

# Do I Need Renter's Insurance?

Unfortunately, this question isn't asked often enough even though it applies to those living both in a campus-owned residence hall or the offcampus apartment. More times than not, the call home to Mom or Dad asks "do I have renter's insurance?" This phone call follows some sort of unexpected event that not only involves a fire. It could be damage to your personal property from a burglary or vandalism. Or, the call is made response to someone being injured in the student's apartment or the student does something that causes significant damage to the property of others.

For example, a student was spending the night at

a friend's apartment and placed a clothes hanger on the sprinkler, breaking the link and causing significant damage to the floors below. He said he wasn't worried because he was covered by his parent's homeowners insurance. That may have been true had he been in his on-campus residence hall.

Another time the students host a large party in their house or apartment overloading the structural elements of the house causing significant damage to the structure and risking a potential catastrophe should a portion of the floors collapse. Can you imagine the liability and costs to not only repair the building, but cover the medical costs should the worst happen?

A student's personal possessions can also be damaged if the fire or flooding occurs elsewhere in the building. Consider a fire in the floor below that causes damage to the possessions of those living above, your student. Chances are the tenant that is responsible for the fire is uninsured, or under-insured leaving you with few resources to recover your student's losses. If the fire is caused by a system in the building (university owned or owned by the landlord) the owner's insurance will not cover the possessions of the tenants in most cases.

Homeowner's insurance policies that parents may provide coverage to students away at college but there are limitations. Many will cover the loss if



**OFF-CAMPUS** 

By Tim Knisely August 2014

the student lives oncampus, but not if they live off-campus. Some homeowner's policies may also provide liability coverage to the student if an accident would occur. If there is coverage it is important to know the limits of this protection. Either way, it is important for parents to determine what their homeowner's insurance covers in advance.

Renter's insurance is relatively inexpensive with low deductibles. Take the time to ask the right questions and have the right coverage before it is too late and your student has already exceeded the deductible.

### **Download Presentation:**

A Letter Home

### **CLICK HERE**

from the Boulder FD /

University of Colorado

### 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.



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### **THE INSPECTOR** By Phil Chandler

August 2014

Without recourse to statistics, in which I place little faith, college laboratories present a clear and constant danger of fire, explosion and dangerous conditions equal or greater to any other campus venue. Cooking and arson may account for greater numbers of campus fires, yet the half-dozen or so laboratory fires that I have investigated, account for more injuries. Yet how often can we fire safety specialists get in front of science faculty, staff and students with the most basic fire safety training?

The IFC requires fire safety training for all occupancies, including laboratories:

Employees shall be apprised of the fire hazards of the materials and processes to which they are exposed. Each employee shall be instructed in the proper procedures for preventing fires in the conduct of their duties (406.3.1). And consider the following:

Persons responsible for the operation of areas in which hazardous materials are stored. dispensed, handled or used shall be familiar with the chemical nature of the materials, and the appropriate mitigating actions necessary in the event of a fire, leak or spill. Responsible persons shall be designated and trained to be liaison personnel for the fire department. These persons shall aid the fire department in preplanning emergency responses and identification of the locations where hazardous materials are located, and shall have access to Material safety Data sheets and be knowledgeable in the site emergency response procedures (407.4).

Folks, this level of training is not happening! Consider the following images:





These laboratory conditions, all too common, under the supervision and control of eminent professors, suggest that whatever training and education they received specific to their field of expertise, it is inadequate and unreliable as a first defense against fire explosion or other threat to public safety.

I have had little formal chemistry education, but surely can identify an accident waiting to happen. When I enter a laboratory and am greeted by an overwhelming and unmistakable odor of



# **THE INSPECTOR** By Phil Chandler

August 2014

volatile organic compounds, I know something is amiss. When students and faculty cannot readily identify the contents of unlabeled containers, I feel less safe. When unknown substances are venting freely into the atmosphere, I am convinced that a fire and explosion is a real possibility.

Equally alarming as the deplorable laboratory conditions we often find, in struggling community colleges and the largest of universities alike, is the deer-in-the-headlights stare I get when I ask a basic question: What do you do if the experiment you or your lab partner is working on ignites? Like that of the general student population, the response is the same: Stop, drop and roll! The best and brightest of our future scientists have not had a serious discussion of fire and response to it since elementary school. Sad, but true.

I am a huge proponent of teaching R.A.C.E. to every campus community—I firmly believe this is a Code requirement for laboratory faculty, staff and graduate researchers (also, in most cases, employees) as implied by the above captioned IFC sections and additionally the following:

Employees shall be familiarized with the fire alarm and evacuation signals, their **assigned duties in the event of an alarm or emergency**, evacuation routes, areas of refuge, exterior assembly areas and procedures for evacuation (406.3.2).

Is it too much to ask of laboratory personnel that in the event of fire, they will respond as follows?

<u>Relocate.</u> Inform everybody of the emergency and move them away from the danger—out of the lab.

<u>A</u>larm. Activate the fire alarm if not already activated, thus summoning the fire department and starting a general evacuation.

<u>Contain</u>. If nothing else, close the door. Stop the spread of smoke and fire, while buying time for others to safely evacuate.

Extinguish. Under the right conditions: fire still in incipient stage of development; appropriate portable fire extinguisher for the hazard readily available: individual is familiar with the use of a portable extinguisher and is comfortable using one in this instance. Applying this first-aid to fire conditions will generally mitigate the danger-at least enough to cover an escape. At the very least, shut off the power or flow of fuel if applicable.

Or, alternatively:

**Evacuate.** Many authorities discourage occupant extinguishment of incipient fires. They argue that evacuation trumps all else. Buildings can be replaced; people cannot.



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Clearly, we have our work cut out for us. We must train our science community to partner with us in preventing fires and other laboratory emergencies from happening in the first place. And when those efforts fail, as they are wont to do from time to time, we must train all stakeholders how to effectively and safely mitigate the danger.

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: <u>mailto:theinspector@cam</u> <u>pusfiresafety.org</u> Ask the Inspector Now Members can log onto the Member Website and have an online discussion with "The Inspector".

Simply visit the <u>MEMBER</u> <u>LOGIN</u> 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.



Published by The Center for Campus Fire Safety.

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For immediate release

### September and October are peak months for fires in college housing NFPA urges students to be mindful of fire safety

August 13, 2014 – With the fall school semester around the corner, the <u>National Fire Protection</u> <u>Association</u> (NFPA) reminds students to be mindful of fire safety. September and October are peak months for fires in college housing, according to NFPA research, and the <u>Center for Campus Safety</u> has marked September as <u>Campus Fire Safety Month</u>.

"As college students settle into housing in dorms and off-campus apartments, it's important they review fire safety tips to learn how to prevent fires, check smoke alarms and prepare escape plans," said Lorraine Carli, NFPA's vice president of Outreach and Advocacy.

NFPA's report, "<u>Structure Fires in Dormitories, Fraternities, Sororities and Barracks</u>" notes that U.S. fire departments responded to an estimated average of 3,810 structure fires in college housing between 2007 and 2011. Roughly 70 percent of fires began in the kitchen or cooking area, and cooking equipment caused about three-quarters of these fires. Seven percent of fires started in the bedroom, but were responsible for 27 percent of injuries and 21 percent of property damage. The report also states that fires are most common in the evening hours between 5 p.m. and 11 p.m., and on weekends.

"Most cooking fires happen when a hot stove is left unattended. By staying in the kitchen and being alert while preparing meals, students can reduce their risk of starting a fire," added Carli. "Being sure that smoke alarms are working, and practicing a fire escape plan are also vital to reducing injuries and loss of life."

"Working Smoke Alarms Save Lives: Test Yours Every Month!" is the theme for <u>Fire Prevention Week</u> <u>2014</u>, NFPA's annual awareness campaign held this year on October 5 – 11. The Fire Prevention Week website provides information and resources that can help students learn and spread the word about fire safety.

The following are additional fire safety tips from NFPA that can help college students living in on- or offcampus housing:

-MORE-

# Campus Campus Fire Safety

College students living away from home should take a few minutes to make sure they are living in a fire-safe environment. Educating students on what they can do to stay safe during the school year is important and often overlooked.

### SAFETY TIPS

- >>> Look for fully sprinklered housing when choosing a dorm or off-campus housing.
- ))) Make sure you can hear the building alarm system when you are in your dorm room.
- If you live in a dormitory, make sure your sleeping room has a smoke alarm, or your dormitory suite has a smoke alarm in each living area as well as the sleeping room. For the best protection, all smoke alarms in the dormitory suite should be interconnected so that when one sounds, they all sound.
- If you live in an apartment or house, make sure smoke alarms are installed in each sleeping room, outside every sleeping area, and on each level of the apartment unit or house. For the best protection, all smoke alarms in the apartment unit or house should be interconnected so that when one sounds, they all sound.
- >>> Test all smoke alarms at least monthly.
- >>> Never remove batteries or disable the alarm.
- Dearn your building's evacuation plan and practice all drills as if they were the real thing.
- If you live off campus, have a fire escape plan with two ways out of every room.
- >>>> When the smoke alarm or fire alarm sounds, get out of the building quickly and stay out.
- Cook only when you are alert, not sleepy or drowsy from medicine or alcohol.
- >>>> Check with your local fire department for any restrictions before using a barbeque grill, fire pit, or chimenea.
- Deck your school's rules before using electrical appliances in your room.



# **Smoking** Sense

If you smoke, smoke outside and only where it is permitted, Use sturdy, deep, non-tip ashtrays. Don't smoke in bed or when you've been drinking or are drowsy.



# FACT

- Fires in dormitories are more common during the evening hours, between 5–11 pm, and on weekends.
- Roughly five out of six fires in dormitories are started by cooking

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# **Cooking** Safety

Cooking brings family and friends together, provides an outlet for creativity and can be relaxing. But did you know that cooking fires are the number one cause of home fires and home injuries? By following a few safety tips you can prevent these fires.

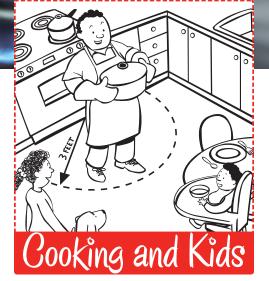
### "COOK WITH CAUTION"

- Be on alert! If you are sleepy or have consumed alcohol don't use the stove or stovetop.
- Stay in the kitchen while you are frying, grilling, or broiling food. If you leave the kitchen for even a short period of time, turn off the stove.
- If you are simmering, baking, roasting, or boiling food, check it regularly, remain in the home while food is cooking, and use a timer to remind you that you are cooking.

### IF YOU HAVE A COOKING FIRE...

- >>> Just get out! When you leave, close the door behind you to help contain the fire.
- >>> Call **9-1-1** or the local emergency number after you leave.
- ))) If you try to fight the fire, be sure others are getting out and you have a clear way out.
- >>> For an oven fire turn off the heat and keep the door closed.





Have a "kid-free zone" of at least 3 feet around the stove and areas where hot food or drink is prepared or carried.

# FACTS

- The leading cause of fires in the kitchen is unattended cooking.
- () Most cooking fires in the home involve the stovetop.



www.nfpa.org/education

### SMOKE ALARMS ARE A KEY PART

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of a home fire escape plan. When there is a fire, smoke spreads fast. Working smoke alarms give you early warning so you can get outside quickly.

### **SAFETY TIPS**

- ))) Install smoke alarms inside and outside each bedroom and sleeping area. Install alarms on every level of the home. Install alarms in the basement.
- ))) Large homes may need extra smoke alarms.
- ))) It is best to use interconnected smoke alarms. When one smoke alarm sounds they all sound.
- ))) Test all smoke alarms at least once a month. Press the test button to be sure the alarm is working.
- ))) There are two kinds of alarms. Ionization smoke alarms are quicker to warn about flaming fires. Photoelectric alarms are guicker to warn about smoldering fires. It is best to use both types of alarms in the home.
- ))) A smoke alarm should be on the ceiling or high on a wall. Keep smoke alarms away from the kitchen to reduce false alarms. They should be at least 10 feet (3 meters) from the stove.
- >>> People who are hard-of-hearing or deaf can use special alarms. These alarms have strobe lights and bed shakers.
- ))) Replace all smoke alarms when they are 10 years old.

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### **FACTS**

(!) Smoke alarms should be installed inside every bedroom, outside each sleeping area and on every level. Smoke alarms should be connected so when one sounds, they all sound. Most homes do not have this level of protection.

(!) Roughly 2 out of 3 fire deaths happen in homes with no smoke alarms or the alarms are not working.





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### SECTION 910

### SMOKE AND HEAT VENTS

910.1 General. Where required by this code or otherwise installed, smoke and heat vents or mechanical smoke exhaust systems and draft curtains shall conform to the requirements of this section.

### **Exceptions:**

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.

2. Where areas of buildings are equipped with early suppression fast-response (ESFR) sprinklers, automatic smoke and heat vents shall not be required within these areas.

◆Smoke and heat vents must be provided in buildings, structures or portions thereof where required by Section 910.2. It should be noted that Chapter 32 would also be applicable (see commentary, Section 910.2.2). The systems must be designed, installed, maintained and operated in accordance with the provisions of this section.

The purpose of smoke and heat vents has historically been related to the needs of fire fighters. More specifically, smoke and heat vents, when activated, have the potential effect of lifting the height of the smoke layer and providing more tenable conditions to undertake fire-fighting activities. Other potential benefits include a decrease in property damage and the creation of more tenable conditions for occupants.

The purpose of draft

curtains, as addressed in Section 910.3.5, is both to contain the smoke in certain areas and potentially increase the speed in the activation of the smoke and heat vents.

Exception 1 recognizes the "building-within-abuilding" nature of typical frozen food warehouses. As such, smoke from a fire within a freezer would be contained within the freezer, thus negating the usefulness of smoke and heat vents at the roof level.

Exception 2 recognizes the negative effect that smoke and heat vents can have on the operation of early suppression fast response (ESFR) sprinklers.

Those negative effects include diverting heat away from the sprinklers, which could delay their activation or result in the activation of more



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sprinklers in areas away from the source of the fire, which may overwhelm the system. This section coordinates with the ESFR exception for draft curtains in Section 910.3.5. Both smoke and heat vents and draft curtains have a negative effect on ESFR sprinkler systems.

The intent of the code change that added this exception was to not require smoke and heat vents when ESFR sprinklers were used. The term "required" was used versus "prohibited" in an attempt to allow the installation of manual smoke and heat venting in some cases. Note j in Table 3206.2 correlates with this exception but has a slightly different applicability. First, Note j only applies to high-piled storage. Second, the footnote does not differentiate between

automatic or manual smoke and heat vents; it simply does not require them when an ESFR system is used.

910.2 Where required. Smoke and heat vents shall be installed in the roofs of buildings or portions thereof occupied for the uses set forth in Sections 910.2.1 and 910.2.2.

Exception: In occupied portions of a building where the upper surface of the story is not a roof assembly, mechanical smoke exhaust in accordance with Section 910.4 shall be an acceptable alternative.

Smoke and heat vents are required in buildings, but only by the provisions of Sections 910.2.1 and 910.2.2. It should be noted that smoke and heat vents are typically only of use in a single story or the top story of a

building; therefore, the exception recognizes that in stories of buildings that do not have a roof should be able to use mechanical smoke exhaust. Note that in previous editions of the code the requirements were simply limited to one-story buildings. The current requirements are more restrictive since multistory buildings need to address smoke and heat venting as well. The firesafety concerns that this section provides for should not be limited to one story buildings. The need for smoke and heat venting is more critical in multi-story buildings due to increased travel distances to an exit discharge and the additional time it takes firefighting crews to reach an area of high-pile combustible storage located above or below grade plane level within a building.



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Section 910.2.1 addresses Group F-1 or S-1 occupancies over 50,000 square feet (4656 m2) of undivided area (regardless of high-piled storage).

Section 910.2.2 addresses high-piled storage areas as required by Section 2306.7.

910.2.1 Group F-1 or S-1. Buildings and portions thereof used as a Group F-1 or S-1 occupancy having more than 50,000 square feet (4645 m2) of undivided area.

Exception: Group S-1 aircraft repair hangars.

◆ Large-area buildings with moderate to heavy fire loads present special challenges to the fire department in disposing of the smoke generated in a fire. In order to provide the fire department with the ability to rapidly and efficiently dispose of smoke in large-area Groups F-1 and S-1 buildings exceeding 50,000 square feet (4645 m2) in undivided area without the exposure of personnel to the dangers associated with cutting ventilation holes in the roof, smoke and heat vents (or, alternatively, mechanical smoke removal facilities) must be provided.

In order to subdivide a more than 50,000squarefoot (4645 m2) undivided area as one method of avoiding the use of smoke and heat vents, the dividing element would only need to be a partition constructed of materials equivalent to the construction of a draft curtain but that would extend from floor to ceiling in the space being separated. A fire barrier, smoke barrier, fire partition or smoke partition would be more

than what is required and would therefore be an acceptable method of dividing the area.

This requirement is independent of the requirements related to high-piled storage in Section 910.2.2. Smoke and heat vent area requirements in Table 910.3 tend to be more restrictive for high-piled storage. High-piled storage is not occupancy specific.

910.2.2 High-piled combustible storage. Buildings and portions thereof containing highpiled combustible stock or rack storage in any occupancy group when required by Section 3206.7.

 This section alerts the code user to the specific highpiled combustible storage requirements contained in Chapter 32. High-piled storage,



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whether solid piled, palletized or in racks, in excess of 12 feet (3658 mm) in height [6 feet (1829 mm) for high-hazard commodities] requires specific consideration, including fire protection design features and smoke and heat vents in order to be adequately protected. Not all high-piled storage will require the use of smoke and heat vents and draft curtains. In fact, if the high-piled storage is properly sprinklered (in accordance with Chapter 32 and NFPA 13), draft curtains are not required (see commentary, Chapter 32 and Table 3206.2 ). In addition, where ESFR sprinklers are used smoke and heat venting is not required. See Section 910.1, Exception 2 and Note j to Table 3206.2.

910.3 Design and installation. The design and installation of smoke and heat vents and draft curtains shall be as specified in Sections 910.3.1 through 910.3.5.2 and Table 910.3.

◆Careful design and installation of smoke and heat vents is vital to their efficient operation in case of fire. The design criteria for these fire protection tools are organized for convenience and ready reference in Table 910.3, which is referenced by this section. TABLE 910.3. See page 9-119.

♦ When smoke and heat vents and draft curtains are required, Table 910.3 identifies the required vent area in terms of ratio of vent area to floor area and draft curtain area and depth requirements. The table is essentially divided into two parts. The first part is for Group F-1 and S-2 occupancies, while the second portion is for highpiled combustible storage (organized by commodity type).

In applying the provisions of the table, note that the term "high hazard" is only referring to the highpiled storage commodity type, not the occupancy group classification (see Section 3203.6). Smoke and heat venting requirements for high-piled storage are not occupancy specific and originate from Chapter 32. The focus is upon the commodity classification, configuration and the size of the high-piled storage area. Chapter 32 only requires smoke and heat venting and draft curtains for larger storage areas and areas that do not utilize ESFR sprinklers. The required vent areas vary based upon the commodity classification (I through IV or high hazard) and height of storage. The higher the storage, the higher the potential for a larger fire. Two options ("Option 1"



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and "Option 2") are given for commodity classifications I through IV and high hazard. The only significance to these options is that one option allows a lower venttofloor area ratio if a deeper draft curtain is chosen, simply providing some credit for the fact that the deeper draft curtains are more likely to contain more smoke than a shorter draft curtain: thus, the area contained by the draft curtains also varies. If draft curtains are not required by Table 3206.2, then these options are not necessary and the lower vent/area ratio can be used. Note c specifically allows the use of the lower vent to floor ratio (Option 1) where smoke and heat vents are required and draft curtains are not. Note d simply explains what "H" stands for as used in column 3, row 1. The last column of the table

provides the maximum distance from walls or draft curtains that a smoke and heat vent can be located when the vent is adjacent to a wall or draft curtain.

This would not apply to vents located in the middle of a curtained area. Footnote b addresses how this is to be measured.

910.3.1 Design. Smoke and heat vents shall be listed and labeled to indicate compliance with UL 793.

910.3.2 Vent operation. Smoke and heat vents shall be capable of being operated by approved automatic and manual means. Automatic operation of smoke and heat vents shall conform to the provisions of Sections 910.3.2.1 through 910.3.2.3.

• Since vents are used as

a component of an active venting system, the releasing device is required to be automatic, such as a fusible link. The next several subsections of this section provide requirements for automatic activation of smoke and heat vents. The fusible link ratings are prescribed for nonsprinklered buildings but the strategy will vary in sprinklered buildings.

In addition to automatic operation of the vents, a manual means of operating them by the fire department during fire suppression operations must also be provided. It should be remembered that one of the main reasons smoke and heat vents were initially introduced was to reduce the need for fire fighters to have to ventilate the fire by getting on the roof of the burning building, often having to traverse



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large expanses of roof in order to get to the area over the fire and breaching the roof manually. Accordingly, the mechanisms for release and the needs of the fire department should be carefully

910.3.2.1 Gravityoperated drop out vents. Automatic smoke and heat vents containing heatsensitive glazing designed to shrink and drop out of the vent opening when exposed to fire shall fully open within 5 minutes

exposed to a simulated fire represented by a time-temperature gradient that reaches an air temperature of 500°F (260°C) within 5 minutes.

 This section establishes minimum performance

**TABLE 910.3** REQUIREMENTS FOR DRAFT CURTAINS AND SMOKE AND HEAT VENTS<sup>3</sup>

REQUIREMENTS FOR DRAFT CORTAINS AND SMORE AND TEXT VENTS								
OCCUPANCY GROUP AND COMMODITY CLASSIFICATION	DESIGNATED STORAGE HEIGHT (feet)	MINIMUM DRAFT CURTAIN DEPTH (feet)	MAXIMUM AREA FORMED BY DRAFT CURTAINS (square feet)	VENT-AREA- TO FLOOR- AREA RATIO <sup>6</sup>	MAXIMUM SPACING OF VENT CENTERS (feet)	MAXIMUM DISTANCE FROM VENTS TO WALL OR DRAFT CURTAIN <sup>b</sup> (feet)		
Group F-1 and S-1	—	$0.2 \times H^d$ but $\geq 4$	50,000	1:100	120	60		
High-piled storage (see Section 910.2.2) Class I-IV Commodities (Option 1)	≤ 20	6	10,000	1:100	100	60		
	> 20 ≤ 40	6	8,000	1:75	100	55		
High-piled storage (see Section 910.2.2) Class I-IV Commodities (Option 2)	≤ 20	4	3,000	1:75	100	55		
	> 20 ≤ 40	4	3,000	1:50	100	50		
High-piled storage (see Section 910.2.2) High-hazard Commodi- ties (Option 1)	≤ 20	6	6,000	1:50	100	50		
	> 20 ≤ 30	6	6,000	1:40	90	45		
High-piled storage (see Section 910.2.2) High-hazard Commodi- ties (Option 2)	≤ 20	4	4,000	1:50	100	50		
	> 20 ≤ 30	4	2,000	1:30	75	40		

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m<sup>2</sup>.

a. Additional requirements for rack storage heights in excess of those indicated shall be in accordance with Chapter 32. For solid-piled storage heights in excess of those indicated, an approved engineered design shall be used. b. Vents adjacent to walls or draft curtains shall be located within a horizontal distance not greater than the maximum distance specified in this column as

measured perpendicular to the wall or draft curtain that forms the perimeter of the draft curtained area.

c. Where draft curtains are not required, the vent area to floor area ratio shall be calculated based on a minimum draft curtain depth of 6 feet (Option 1).

d. "H" is the height of the vent, in feet, above the floor.

considered.

after the vent cavity is

criteria for drop-out



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vents, which include a nonmetallic, clear or opaque glazing element designed to shrink from its frame and fall away when exposed to heat from a fire. Such vent design must be capable of completely opening the roof vent within 5 minutes of exposure to a simulated fire represented by a time temperature gradient that reaches an air temperature of 500°F (260°C) within 5 minutes. Drop-out vents tested in accordance with UL 793 must begin to operate at a maximum temperature of 286°F (141°C) in order to be labeled.

910.3.2.2 Sprinklered buildings. Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed to operate automatically.

Where smoke and heat

vents are installed in sprinklered buildings, their operation must be automatic and coordinated with the operation of the sprinkler system. Caution should be exercised in the design of smoke and heat vents and the required draft curtains so that the draft curtains do not interfere with the operation of the automatic sprinklers, since locating a draft curtain too close to a sprinkler head could prevent proper water distribution over the fire. Additionally, draft curtains will contain smoke and hot gases and can direct them away from the area where the fire is actually burning, thus activating sprinklers in the wrong area. This has the potential of overwhelming the sprinkler system.

More specifically, the fusible link operating

temperatures should be coordinated with sprinkler head operating temperatures. The premature operation of a vent-opening mechanism could retard the operation of higher temperaturerated sprinkler heads by dissipating the level of heat needed to make the fusible link of the sprinkler(s) operate.

Delaying the operation of sprinklers can have the negative effect of causing an excessive number of sprinklers to operate, including some located outside the immediate area of fire danger. Concern over this issue has increased with the introduction of new sprinkler technology, such as the use of ESFR sprinklers, which are designed to act quickly to apply larger volumes of water to extinguish rather than simply control the fire. For that reason, ESFR



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sprinklers are specifically exempted in Section 910.1 from the smoke and heat vent requirements.

910.3.2.3 Nonsprinklered buildings. Where installed in buildings not equipped with an approved automatic sprinkler system, smoke and heat vents shall operate automatically by actuation of a heatresponsive device rated at between 100°F (56°C) and 220°F (122°C) above ambient.

Exception: Gravityoperated drop out vents complying with Section 910.3.2.1.

 Where smoke and heat vents are installed in buildings that are not equipped with an automatic sprinkler system, their operation must be automatic, with their operating elements set at between 100°F and 220°F (38°C and 104°C) above the ambient temperature of the area in which they are installed. Smoke and heat vents in nonsprinklered buildings do not have concerns with sprinkler interaction; therefore, the operation is specifically prescribed. The exception indicates that gravity-operated drop-out vents are not subject to this requirement because of their higher required operating temperatures and unique design.

910.3.3 Vent dimensions. The effective venting area shall not be less than 16 square feet (1.5 m2) with no dimension less than 4 feet (1219 mm), excluding ribs or gutters having a total width not exceeding 6 inches (152 mm).

 This section prescribes the minimum clear area required for each individual smoke and heat vent, exclusive of any obstructions (see Figure 910.3.4).

The design of the aggregate vent area actually needed is based, in part, on the area defined by the draft curtains and the depth of the curtained area, the objective of the design being to prevent either smoke from spilling out of the curtained area or the smoke interface from interfering with egress visibility. It has also been argued that draft curtains are intended to speed the operation of the smoke and heat vents by keeping the smoke in a smaller area.

910.3.4 Vent locations. Smoke and heat vents shall be located 20 feet (6096 mm) or more from adjacent lot lines and fire walls and 10 feet (3048 mm) or more from fire barriers.



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Vents shall be uniformly located within the roof in the areas of the building where the vents are required to be installed by Section 910.2, with consideration given to roof pitch, draft curtain location, sprinkler location and structural members.

This section has two functions, the first being a focus on hazards to adjacent buildings and the second being proper function of smoke and heat vents through proper placement.

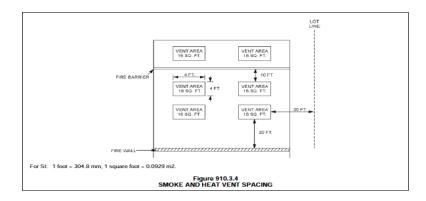
In terms of adjacent properties, this section requires a minimum distance to lot lines and fire walls and then a minimum distance to fire barriers. The first set of distances focuses upon separate buildings and exposures, whereas the distance to fire barriers is less restrictive since it focuses upon different uses and occupancies within the same building (see Figure 910.3.4).

To enhance vent performance within the area containing the smoke and heat vents, such vents need to be uniformly spaced. Consideration of issues such as sprinkler location and roof pitch are also essential to proper vent location.

910.3.5 Draft curtains. Where required by Table 910.3, draft curtains shall be installed on the underside of the roof in accordance with this section. Exception: Where areas of buildings are equipped with ESFR sprinklers, draft curtains shall not be provided within these areas. Draft curtains shall only be provided at the separation between the ESFR sprinklers and the non-ESFR sprinklers.

Draft curtains

 (sometimes termed
 "curtain boards") are
 required to be installed in
 conjunction with smoke
 and heat vents in
 accordance with Table
 910.3 and as required by
 Section 413 of the IBC and
 Chapter 32. They are
 installed within and at the





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perimeter of a protected area to restrict smoke and heat movement beyond the area of fire origin or the protected area and enhance smoke and heat removal through the roof vents. Table 3206.2 does not require draft curtains in sprinklered buildings. Instead, only smoke and heat vents are required in certain cases (larger areas of high-piled storage). The extent of the protection is addressed in Chapter 32. If draft curtains are required by Chapter 32, they need only extend 15 feet (4572 mm) beyond the highpiled storage area.

This section also contains an exception for draft curtains when ESFR sprinklers are used. This exception would only apply to Group S-1 and F-1 occupancies as required in Section 910.2.1 because as noted, Chapter 23 only requires draft curtains in unsprinklered buildings (see commentary, Table 3206.2). It should be noted that draft curtains are required between areas containing ESFR sprinklers and areas containing standard response sprinklers.

910.3.5.1 Construction. Draft curtains shall be constructed of sheet metal, lath and plaster, gypsum board or other approved materials that provide equivalent performance to resist the passage of smoke. Joints and connections shall be smoke tight.

In order not to contribute to the fire load of a building and to increase the likelihood that draft curtains will remain intact under fire conditions, they must be constructed of noncombustible materials or an approved equivalent (see the commentary to Section 703.5 of the IBC for further information on noncombustibility), but are not required to possess a fire-resistance rating.

Draft curtains need only be capable of resisting the passage of smoke.

910.3.5.2 Location and depth. The location and minimum depth of draft curtains shall be in accordance with Table 910.3.

• The requirements for depth and location of draft curtains are provided in Table 910.3 based on the occupancy being Group S-1 or F-1 or, in the case of highpiled storage, the commodity classification of the stored materials and the height of the storage. Highpiled storage areas would only be subject to these requirements when a building exceeds a certain minimum high-piled



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storage area threshold and not sprinklered.

See the commentary to Table 910.3 for an explanation of how the options presented in the table should be applied.

910.4 Mechanical smoke exhaust. Where approved by the fire code official, engineered mechanical smoke exhaust shall be an acceptable alternative to smoke and heat vents.

 This section recognizes that providing a mechanical smoke exhaust system may, under certain circumstances, be more desirable, practical or efficient than installing automatic smoke and heat roof vents. The intent of Sections 910.4.1 through 910.4.6 is to create a mechanical system that performs at least as efficiently as smoke and heat vents designed in accordance with Section 910.3. Installation of an

alternative mechanical smoke exhaust system is subject to the specific approval of the building official and fire code official so that the design can be reviewed and the operational sequence and control information can be shared with the fire department. Note that this smoke exhaust system is not considered a smoke control system. As discussed earlier, Section 910 is focused upon the needs of fire fighters in fighting a fire and the overhaul after the fire is extinguished.

Section 909 addresses smoke control systems that focus upon tenable conditions for evacuation. Smoke control more specifically looks at the fire hazard and provides a system focused upon achieving certain life safety goals. The smoke exhaust system in this section is simply exhausting smoke at a rate that is not linked to a particular fire size.

910.4.1 Location. Exhaust fans shall be uniformly spaced within each draftcurtained area and the maximum distance between fans shall not be greater than 100 feet (30 480 mm).

 One or more smoke exhaust fans must be provided in each area defined by draft curtains, and when more than one fan is provided in a curtained area the fans must be spaced uniformly within that area, no more than 100 feet (30 480 mm) apart. Locating fans in this manner will enhance the uniform removal of smoke from curtained areas and reduce the likelihood of smoke spillage under the draft curtains. If draft curtains are not required, the fans simply need to meet the



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maximum separation distances and be uniformly distributed.

910.4.2 Size. Fans shall have a maximum individual capacity of 30,000 cfm (14.2 m3/s). The aggregate capacity of smoke exhaust fans shall be determined by the equation:

C = A Å~ 300 (Equation 9-4) where:

C = Capacity of mechanical ventilation required, in cubic feet per minute (m3/s).

A = Area of roof vents provided in square feet (m2) in accordance with Table 910.3.

 The intent of the sizing requirements of this section is to provide a smoke exhaust rate at least equivalent to the venting capacity provided by roof vents. The exhaust rate required by this section, based on Equation 9-10, is equivalent to 300 cubic feet per minute per square foot (153 m3 /s · m2 ) of the roof vent area required by Table 910.3, with no single fan exceeding a 30,000 cfm (14.2 m3 /s) rate.

For example, a Group F-1 factory with maximumsized draftcurtained areas of 50,000 square feet (4545 m2) would be required to have a total vent area of 500 square feet (46 m2) in each curtained area in accordance with Table 910.3. The mechanical exhaust rate required based on Equation 9-4 would then be  $500 \times 300 =$ 150,000 cfm (70.8 m3 /s), which could be supplied by five 30,000 cfm (14.2 m3 /s) fans spaced in accordance with Section 910.4.1 in each curtained area.

910.4.3 Operation.

Mechanical smoke exhaust fans shall be automatically activated by the automatic sprinkler system or by heat detectors having operating characteristics equivalent to those described in Section 910.3.2. Individual manual controls for each fan unit shall also be provided.

 The activation of the mechanical smoke exhaust system must be capable of being accomplished by actuation of the automatic sprinkler system or, in nonsprinklered buildings, by heat detectors with a temperature rating of between 100 and 220°F (38 and 104°C) as required for smoke vents in Section 910.3.2.3 and manual controls. The manual control is for fire department use to increase the reliability of the system and to allow the fire department to



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activate the exhaust system to assist in the removal of smoke during or after a fire. Since manual control of the system is primarily for fire department use, the location of the controls should be subject to approval by the fire department. While not specifically stated in this section, a manual fire alarm system, if provided, can be more prone to intentional false activations; therefore, activation of the smoke exhaust system should not be allowed by this means. In addition, such systems should not be operated by the activation of smoke detection because the system may be activated before the sprinklers operate, which could be detrimental to the success of the sprinklers in suppressing the fire.

910.4.4 Wiring and control. Wiring for

operation and control of smoke exhaust fans shall be connected ahead of the main disconnect and protected against exposure to temperatures in excess of 1,000°F (538°C) for a period of not less than 15 minutes. Controls shall be located so as to be immediately accessible to the fire service from the exterior of the building and protected against interior fire exposure by not less than 1-hour fire barriers constructed in accordance with Section 707 of the International Building Code or horizontal assemblies constructed in accordance with Section 711 of the International Building Code, or both.

 Unless the mechanical smoke exhaust system also functions as a component of a smoke control system, standby power is not specifically required (see

commentary, Sections 909.11 and 2702 of the IBC). In order to provide an enhanced level of operational reliability, this section requires that the power supply to smoke exhaust fans must be provided from a circuit connected on the supply side (i.e., ahead of) the building's main electrical service disconnecting means. Note that this is one of the sources of standby power recognized by NFPA 70 Section 701.11(E).

Such a circuit connected "ahead of the main" must still have its own approved overcurrent protection.

This section also requires that the wiring for smoke exhaust fans be thermally protected in a manner approved by the building official that will protect the wiring from heat damage in the event of an



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interior fire. This protection could be provided by an approved wiring material listed for the temperature application, by physical protection with approved materials or assemblies or by installation outside of the building.

Since smoke exhaust systems are a vital firefighting tool, their operating controls are also required to be protected from interior fire exposure by 1-hour fire barriers constructed in accordance with Section 707 of the IBC or horizontal assemblies constructed in accordance with Section 711 of the IBC or both. Exterior access to the controls allows fire department personnel to promptly operate the system from a protected area without entering the building. Controls should also be clearly identified in an

approved, permanent manner.

910.4.5 Supply air. Supply air for exhaust fans shall be provided at or near the floor level and shall be sized to provide a minimum of 50 percent of required exhaust. Openings for supply air shall be uniformly distributed around the periphery of the area served.

♦ The introduction of makeup air is critical to the proper operation of all exhaust systems. Too little makeup air will cause a negative pressure to develop in the area being exhausted, thereby reducing the exhaust flow.

This section requires that makeup air be introduced to the area equipped with a mechanical smoke exhaust system in order to maintain the required exhaust flow. Since the system can only exhaust as much air as is introduced into the area, and this section allows mechanical or gravity makeup air openings to provide only 50 percent of the required makeup air, this section allows the designer to rely upon infiltration air to provide up to the remaining 50 percent of the design makeup air required to allow the system to perform. Although not specifically stated in this section, where a mechanical makeup air source is utilized, it should be electrically interlocked and controlled by a single start switch, such that makeup air is always being supplied when the smoke exhaust system is in operation.

The even distribution of makeup air is important because if too much air is coming from one particular direction, it has



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the potential to vary the dynamics of the fire and the ability of the system to capture the smoke.

910.4.6 Interlocks. On combination comfort airhandling/smoke removal systems or independent comfort air-handling systems, fans shall be controlled to shut down in accordance with the approved smoke control sequence.

 This section was created to reduce the likelihood that the HVAC system will interfere with the proper function of the smoke exhaust system. It is important to emphasize that the system described in Section 910.4 is a smoke exhaust system and not a smoke control system; therefore, the actual fire performance is not as clearly understood. The concern is that HVAC systems should not work against the intended

operation of the smoke exhaust system. In some case, the system may be a combination system where shutdown is not necessary or appropriate. It really depends on how the smoke exhaust system has been designed.

910.5 Maintenance. Smoke and heat vents and mechanical smoke exhaust systems shall be maintained in an operative condition in accordance with NFPA 204. Fusible links shall be promptly replaced whenever fused, damaged or painted.

Smoke and heat vents and mechanical smoke exhaust systems shall not be modified.

 This section requires smoke and heat vents to be maintained in operating condition in accordance with NFPA 204. Maintenance provisions for these

systems are included within Section 910 to provide clarity for the end-user of the code. This section incorporates NFPA 204 as the referenced standard for the maintenance of smoke and heat vents and mechanical smoke exhaust systems. Routine inspection, testing and maintenance of these devices is essential since these devices are typically only found in the largest commercial structures, and the amount of fire loading is usually very high (i.e., high-piled combustible storage). Ensuring that these devices are inspected, tested and maintained in proper working order by the building's owner has positive effects on firefighter safety. These benefits include:

• Easy identification of the location of the fire within the structure.



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• Release of excess heat	mitigating effect on	911
within the structure.	damage to the structure	EXPLOSION CONTROL
• Decreasing fire severity.	and/or its contents should a fire occur. These	(page 436)
<ul> <li>Increased visibility for</li> </ul>	benefits include	
fire fighters within the	decreased likelihood of	
structure.	structural failure from	
• Reduction of toxic products of combustion within the structure.	heat retained within the structure and reduced damage to the structure and stored materials from	
Additionally, the	smoke.	
maintenance of these devices will have a	Next Month SECTION	



The International Code Council, a membership association dedicated to building safety and fire prevention, develops the codes used to construct residential and commercial buildings, including homes and schools. Most U.S. cities, counties and states that adopt codes choose the International Codes developed by the International Code Council.





FOR IMMEDIATE RELEASE

# Smoking Materials Cause Fire at University of Kansas Fraternity House

Newburyport, Massachusetts - August 27, 2014

Just before noon on August 26, 2014, a fire broke out at the Sigma Chi fraternity house, located in the 1400 block of Tennessee Street, Lawrence, KS, near the University of Kansas. The fire was located in a third floor living area, including bedrooms and bathrooms. No students were injured, despite there being over seventy students present in the house at the time of the fire. Two of the students occupying the space in which the fire occurred were in class at the time the fire broke out.

Over thirty firefighters responded to the blaze, and controlled the fire within sixty minutes. Fire crews continued to work the scene for over three hours, performing overhaul and

eliminating hot spots. Lawrence Fire Department **Division Chief Shaun Coffey** stated that the fire did not appear to be suspicious, but that an investigation as to the cause of the fire was underway. Fire Officials later report that the cause of this fire was the improper disposal of smoking materials. This is the second fire in this house in two years, although the first occurred on August 22, 2012, it was related to ongoing construction to the



Media credit: <u>Mike Yoder</u>

building's exterior. There were no injuries reported with the initial fire, in 2012.

Other Greek organizations have offered assistance with housing the students who live in the affected area, as they are likely to be displaced as a result of this fire. Luckily, no one was injured in this fire, however.



CCFS reflects on this incident and 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.

- If you need to smoke, **smoke outside**; be sure to **fully extinguish all smoking materials**. Leave the smoking materials outside; **never bring smoking materials indoors**.
- Keep a portable fire extinguisher on every floor and be sure it is fully charged. A fire extinguisher is useful for fires smaller than a wastebasket. Before using a fire extinguisher call 9-1-1 and sound the fire alarm. If a small incipient fire cannot be controlled, or if it becomes larger than a wastebasket, exit the building immediately.
- Plan your **escape routes** Identify windows, and doors, know two ways out and determine an escape route **before the fire**.
- Keep an **emergency escape ladder** on upper floors plan a safe escape route for windows.
- Keep escape routes clear do not allow objects to be stored in halls or stairwells.
- 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.
- **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 doors. Practice opening windows and using an emergency escape ladder.

"The Center for Campus Fire Safety also wants to point out the necessity of fire sprinkler systems", said Paul D. Martin, President of The Center for Campus Fire Safety. "To have residence halls without fire sprinklers today should be unacceptable to parents" said Martin. Fire Sprinklers protect people and structures. Most people don't realize that 8 out of 10 fire deaths occur at night when everyone is asleep. Fires are also fast; they can go from a tiny flame to total destruction in as little as three minutes. Fire sprinklers can suppress and often extinguish a fire before the fire department arrives, providing additional time to escape.



86 fatal fires have been documented that occurred on a college campus, in Greek housing or in off-campus housing within 3-miles of the campus - claiming a total of 123 victims.

- » 73 fires have occurred in off-campus housing claiming 104 victims
- » 7 fires have occurred in on-campus building or residence halls claiming 9 victims
- » 6 fires have occurred in Greek housing claiming 10 victims

CCFS has been documenting specific campus related fires deaths since Year 2000. Current and more detailed statistics, along with the definition of how we define "campus related fires" are always posted on the website, along with a host of fire safety resources and tips for fire safety professionals as well as students in both universities and off-campus housing. One of the resources includes a daily and ongoing listing of other fire incidents in the higher education arena.

To learn more about CCFS and its programs, visit <u>www.campusfiresafety.org.</u>

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: <u>http://www.campusfiresafety.org/resources</u>



### About The Center for Campus Fire Safety (CCFS)

The Center for Campus Fire Safety (CCFS) 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. CCFS 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 <a href="https://www.campusfiresafety.org">www.campusfiresafety.org</a> for more information.

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