

July 2010

BOAT News

a publication by the BUILDING OFFICIALS ASSOCIATION OF TEXAS



PRESIDENT'S MESSAGE

Summer is upon us, and triple digits are here for a while. This is the busiest time of the year, and many of us will be vacationing—I hope you have safe travels. As the summer progresses, we will be further developing our BOAT codes and standards training sessions. We are partnering with TDLR to bring regional accessibility academies to various remote areas of the state. These two-day sessions will provide the necessary ADA training to ensure all of our municipalities are abreast of the current requirements. We have recently concluded our second chapter codes and standards training seminar, which was held in West Texas with great success. Our first session, which was held in Hewitt, had 80 participants over a two-day period. The second session had 48 students from more than 26 different counties. These training sessions, tailored to our local chapter needs, covered a variety of topics like IRC, IBC, energy, etc. We have some upcoming sessions scheduled for Corpus Christi and El Paso. Some of our chapters have additional training scheduled; please check the BOAT Web site for these seminars.

Another summertime favorite is swimming. As more and more households install new pools, we need to be more vigilant. Check out our article on swimming pool safety and the importance of prevention. Let's make sure our Texas communities are safe and our inspectors are aware of the federal requirements for pool safety.

I would also like to reiterate that if you are reading this newsletter and finding it useful, please take a moment and share your experience and knowledge with your peers and e-mail us an article to be included in our next newsletter. Remember, this is OUR organization, and the strength of our numbers, as well as the diversity of our experience, creates a premier organization. We need active participation from all to continue to grow and succeed. Thank you, and have a fantastic, safe summer!

Scott A. McDonald, CBO
President

Building Officials Association of Texas
1821 Rutherford Lane, Suite 400
Austin, Texas 78754-5128
512.231.7400 www.boatx.org

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HELPING TO CREATE A MORE SUSTAINABLE TEXAS

The building industry is evolving, and that means traditional building methods are giving way to more sustainable options. At the same time, the North Central Texas corridor is growing at a rate that hasn't been seen in a century. The expanding DART light rail system continues to spur new mixed-use and high-density development. All of this growth translates into demand for more sustainable living and work environments.

In response to this demand, the International Construction Code (ICC) and its industry sponsors have recently unveiled the Public Version 1.0 of the International Green Construction Code (IGCC) to help municipalities and governments around the globe create more sustainable environments for their regions—and that includes Texas.



The ICC developed this document with the support of cooperating sponsors—the American Institute of Architects (AIA) and ASTM International—and the code has been recently augmented by ANSI/ASHRAE/USGBC/IES Standard 189.1 (which, in a nutshell, provides the standard for designing, building, and operating green buildings). The IGCC was created with the expectation that communities across our nation could use it as a resource tool in updating existing codes or drafting new codes to reduce energy usage, as well as minimizing the carbon footprint of thousands of commercial building projects.

As the chairperson of the IGCC's drafting committee, I believe it was important to stay focused on our goal of creating a building code that is usable, adoptable, and ultimately enforceable. We considered what I like to call "different shades of green," which means that the code could be adapted for the unique needs and priorities of adopting communities. The adoption of the IGCC in North Texas would fulfill the long-term goal of helping to make our region more sustainable.

Here is what is in the IGCC: site development and land use, including preservation of natural and material resources; indoor air quality and energy-efficient appliances; renewable energy systems; water resource conservation; rainwater collection and distribution systems; and the recovery of used water (gray water). The IGCC emphasizes building performance, including system performance verification and owner education, to ensure the best energy-efficient practices.

The IGCC has created a single code that can be applied globally, and its flexibility eliminates the need for "homegrown codes." It will not replace existing codes but will act as a complementary offering to the codes that currently exist. As communities across our region grow, I hope that the IGCC is adopted and adapted to meet the needs of North Central Texas; we could all enjoy a more sustainable future because of it.

By Ravi Shah, International Code Council board member and Director of Urban Development, City of Carrollton

Building Officials Association of Texas
1821 Rutherford Lane, Suite 400
Austin, Texas 78754-5128
512.231.7400 www.boatx.org



POOL SAFETY

We Need to Discuss this Information with Our KIDS and Grandkids Annually!

The following information is from the Drowning Prevention page of www.PoolSafety.gov:



Backyard and community pools are popular with children and adults of all ages, but owning or operating one is a major responsibility. Take every step possible to prevent unintended injuries in and around pools and spas.

Learn about the hazard of drain entrapment and what to look for at pools and spas your family frequents. Individuals in the 5-9-year-old category had the highest frequency of entrapment reports.

Safety Tips

Supervise children at all times around pools and spas. Adults should keep a constant eye on all kids in the water. Emphasize the need for constant supervision to babysitters.

Install a four-sided barrier, such as a fence with self-closing gates completely surrounding the pool. If the house forms the fourth side of the barrier, install alarms on doors leading to the pool area to prevent children from wandering into the pool or spa. Also install safety covers and perimeter or in-water alarms as additional layers of protection.

Learn to swim and teach your children to swim. Many organizations provide swimming lessons.

Know how to respond:

- Get training in basic water rescue skills, first aid, and CPR.
- Have rescue and first aid equipment available at the pool.
- Keep a phone at the pool.

We must continually emphasize the importance of safety over and over, at all times, with our kids and their friends and families. We all know that it only takes a split second for a life-changing or altering event to take place.

We must be reminded of the Virginia Graeme Baker Pool and Spa Safety Act, as well.



POOL SAFETY (Continued)

States and Local Entities and the Virginia Graeme Baker Pool and Spa Safety Act

The P&SSAct was written so the federal requirements outlined in the law would serve as a minimum standard. States and counties are permitted to be more restrictive as long as such restriction does not hinder the intent of the P&SSAct or make complying with the federal requirements difficult or impossible.

For example, drain disablement is one of five options for a secondary anti-entrapment system, though States are permitted to limit these options or even specify which of the options listed under Section 1404(c)(1)(A)(ii)(I)-(VI) of the P&SSAct are permissible.

CPSC is looking to states and counties, including state and local health departments, to assist with the enforcement of the Act. Both the CPSC and state attorneys general are empowered to enforce the P&SSAct and by working together, bringing pools and spas into compliance will be more efficient and successful.

State Swimming Pool Safety Grant Program

Whereas the federal P&SSAct applies to all public pools, Sections 1405 and 1406 encourage state and local entities to enact legislation requiring residential pools to have barriers and other mechanisms to prevent the high number of children's drownings and submersion injuries annually in the U.S.

Sections 1405 and 1406 of the P&SSAct define minimum requirements for a grant program for eligible states. The CPSC and CDC (Centers for Disease Control and Prevention) have announced that the P&SSAct's State Grant program is now accepting applications. The CDC is administering the grant process, and a funding announcement for the program is available here. The Minimum Eligibility Criteria for the States to Apply for a VGB Grant requires states to have a statute calling for all pools and spas to be equipped with barriers and entrapment prevention devices. Two documents are available for assisting states in applying for a grant. These are:

1. Technical Guidance, Section 1406 of the Act: <http://www.poolsafety.gov/grant.pdf>; and
2. Model Legislation: <http://www.poolsafety.gov/modelvgb.pdf>

For additional information, see Sections 1405 and 1406 of the P&SSAct.

Information and Education Program

CPSC Staff are using recently appropriated funds to expand ongoing information and education programs to work with interested stakeholders at the state and local level and drowning prevention organizations.

For More Information:

- Virginia Graeme Baker Pool and Spa Safety Act
- CPSC Staff Guidelines
- Letters from CPSC's General Counsel's Office
- Pools, Spas and Everyone's Safety: Layers of protection and the Virginia Graeme Baker Pool and Spa Safety Act [PDF]



POOL SAFETY (Continued)

- CPSC Staff Draft Technical Guidance on Section 1406 on Minimum State Requirements for Grant Program Public Comment Period
- Draft Guidance Document [PDF]

I encourage and challenge all departments to require that residential pools follow the same guidelines that are required by commercial pools and spas. Provide the information to the homeowners, and add the requirements to your final inspection and back door alarm specifications. Everything we do is to save the lives of others. Let us be the voice of the children.

Kurt Kasson, CBO, Building Official, City of Euless

IT'S SWIMMING POOL TIME AGAIN: ARE YOU SAFE?

Swimming Injury Statistics

John R. Brown, MCP, CFM, Chief Building Official, City of West University Place

Drowning Statistics

- Each day in the United States, nine people drown.
- For each death caused by drowning, there are 1-4 nonfatal submersion accidents serious enough for the victim to be hospitalized.
- Drowning is the second leading cause of accidental injury-related death among children ages 1 to 14.
- Drowning is the leading cause of accidental injury-related death among children ages 1 to 4.
- Male children have a drowning rate more than two times that of female children. However, females having a bathtub drowning rate twice that of males.
- Among children ages 1 to 4 years, most drownings occur in residential swimming pools.
- Four-sided fencing that isolates the pool from the house and the yard has shown to decrease the number of drowning injuries anywhere from 50 to 90 percent.
- More than half of drownings among infants (under age 1) occur in bathtubs, buckets, or toilets.
- Nonfatal drownings can result in brain damage that may result in long-term disabilities including memory problems, learning disabilities, and permanent loss of basic functioning.
- Roughly 5,000 children 14 years and under go to the hospital because of accidental drowning-related incidents each year; 15 percent die, and about 20 percent suffer from permanent neurological disability.
- Seventy-seven percent of those involved in a home-drowning accident had only been missing for five minutes or less when found in the swimming pool; 70 percent weren't expected to be in or near the pool at that time.
- The most common place for a 1-4-year-old child to drown is in a home swimming pool.
- **In nearly 9 out of 10 child-drowning deaths, a parent or caregiver claimed to be watching the child.**

I hope this scared you a little bit; it did me. I have a two-year-old living next door who loves my pool.



IT'S SWIMMING POOL TIME AGAIN: ARE YOU SAFE? (Continued)

Swimming Pool Safety Tips

- Never leave children unobserved around water. Adult supervision is recommended.
- Install a phone by the pool or keep a cordless phone nearby so that you can immediately call 9-1-1 in case of an emergency.
- Learn CPR and insist that babysitters, grandparents, and others who care for your child know CPR as well.
- Post CPR instructions and 9-1-1 or your local emergency number near the pool.
- Enclose the pool on all sides with a self-locking, self-closing fence with vertical bars. Openings in the fence should be no more than four inches wide.
- Never leave furniture near the fence that could enable climbing over the fence.
- Always keep basic lifesaving equipment by the pool and know how to use it. Pole, rope, and personal flotation devices are suggested.
- Keep toys away from the pool when it is not in use. Toys can attract children to the water.
- Pool covers should be completely removed before using the pool.
- If a child is missing, make sure to check the pool first. Seconds count in drowning accidents.



What Can You Do?

As a Code Official or Inspector:

- ✓ Follow the adopted code in your community. The International Residential Code has Appendix G, which is the Swimming Pool Code for one- and two-family dwellings. If during the code adoption process your city did not specifically adopt the appendices, they are not enforceable, and this oversight should be corrected as soon as possible. In the interim, you can enforce Chapter 31 of the International Building Code section 3109.4 for Residential Pools and Spas.
- ✓ Should you have a "public pool," look to the IBC Chapter 31 and the Texas Department of Health "Standards for Swimming Pools and Spas" for enforcement and code requirements.

As a Homeowner:

- ✓ Check your pool access gates to be sure they lock when you open to a 45 degree angle and release. The latch should be 54 inches above the ground, minimum.
- ✓ Gates should open away from the pool area; kids are creative and persistent, and it is much more difficult for them to open it and pull it toward them at the same time.
- ✓ Make sure that if any door opens directly to your pool, you have a door alarm installed. Can this be your normal house security alarm? NO! I know they can be annoying; however, if you have the products that have a "code allowed delay/by-pass button," you should have the one that allows passage going IN or OUT of the door. This way you just need to get in the habit of closing the door and pushing the by-pass button, THUS no alarm sound.

Bottom line is no one has ever said, "I must have been too safe because nothing bad happened," only "I wish I had"



The City of West University Place
A Neighborhood City

Swimming Pool/Spa

Condition of Permit

I, _____, the owner
Print Name

of _____ acknowledge that
Address

before any water is placed in the swimming pool/spa for which a permit is being applied for, all code required enclosure requirements (fencing, gates, latches, any required door alarms and pool/spa equipment stub-outs) will be installed and approved by city of West University Place, via city inspection.

Date: _____
Owner's Signature (same as printed above)

Date: _____
Pool /Spa Contractor's Signature (Same as Permittee on Application)



HOW TO MANAGE PEOPLE EFFECTIVELY

The biggest mistake managers make, regardless of experience level, is to think they need to have all the answers. Managing people effectively means motivating and engaging them so they feel valued and important.

The best way to really engage employees is to ask them for their input to problem-solving. You can pat them on the back for a job well done and give them clear direction, but if you never ask them for their advice or suggestions, they will never feel fully engaged.

The key to effective people management is to realize that managers must be facilitators, catalysts, brokers, and coaches, as well as decision-makers. Less effective managers make the mistake of seeing their role too narrowly. They focus only on the role of decision-maker, which is why they think they need to solve all work problems personally. Ineffective managers base their whole identity and confidence on their ability to provide better answers or solutions than anyone else.



Tips for Effective People Management

- Know how your team members differ. Ask them to describe their ideal manager to find out which ones simply want to be told what to do and which ones like to have a say in how things are done.
- Those who simply want clear direction and admire a firm but fair, decisive manager can be treated accordingly.
- For those who want involvement, ask them more questions. Make them come to you with options for solutions, not just problems.
- Ask more questions generally, not to gather facts, but to find out what they think.
- Manage expectations by making all your sub-roles clear. Sell them on the benefits of your taking a more facilitative role. The main benefits are to engage them and foster broader ownership, as well as serving as a means of developing them.
- Hold regular one-to-one meetings where you ask them what went well and what didn't since your last meeting. Push them to think of at least three things they did that they are pleased about. When you move on to what hasn't gone well, use questions to draw ideas for improvement out of them. Use praise for good work, as appropriate.
- Think strategically about which decisions you need to make and which you need to draw out of others.
- Delegate real developmental challenges, not just the stuff you don't want to do.

Conclusion

To manage people effectively, you need to broaden your role to include coaching, facilitating, and being a catalyst while still flexing your style for the needs of different team members.

Chris Haver, CBO, Building Official, City of College Station

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WHY ATTEND CODE HEARINGS?

Jim Olk, CBO, Building Official, City of Farmers Branch

How many times have you been asked why a specific code section was in the code or had to explain why the code reads the way it does? I know there are times when I look at the code and wonder, "How did we get this convoluted language in the code?" To me, what helps the most in answering these types of questions is understanding how the code is developed and understanding the intent of the code. Probably the most powerful provision in each of the codes is the section that states: "The building official is hereby authorized and directed to enforce the provisions of this code. The building official shall have the authority to render interpretation of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code..." This provision tells me that we have the obligation to not only know the provisions of the code, but also to understand the intent of the code. I truly believe that if we don't understand the intent of the code, we aren't really providing quality service to our communities.

So how do we really get that understanding of the intent and purpose of the code?

Attending code development hearings is probably the best way to get a complete understanding of why (the intent) the code reads the way it does. When you take the time to sit and listen to the testimony (both for and against) a code change, you gain an understanding of the code and its intent that cannot be obtained anywhere else. There is not a class given by BOAT, ICC, or any other agency that offers both sides of an issue as in-depth as you will find at code development hearings, and none of them can provide you with the understanding of the intent of the code that you gain from listening to the testimony at the code hearings.

This year from May 15-23, Texas building professionals were offered some of the best code education possible as ICC held the Final Action Hearings here in Dallas. Normally, the final action hearings are not as encompassing as the regular code development hearings, but they usually have the more

contested code changes debated and the code officials get to decide what ends up in the code.

For me, the really disappointing part of attending the final action hearings was looking at the number of code officials who didn't attend the hearings to have a voice in what goes into the code and missed out on the educational opportunity. As I sat through the code hearing, I had to agree with one of the proponents of a code change who stated it was a "sad state of affairs" to have the more contentious code changes voted on by less than 100 code officials. What was worse, on Saturday and Sunday, the voting code officials didn't total 50, and I couldn't find 6 from Texas.



Here we are...the code hearings were in our back yard, and most of us didn't take the time to attend even one day. This was a free education time, and you even receive CEUs for attending. There are hundreds if not thousands of building officials, building inspectors, plumbing inspectors, mechanical inspectors, electrical inspectors, fire officials, etc., within driving range of Dallas, but one of the biggest voting blocks that I saw was from Oklahoma. On Saturday, they had 12 plumbing and mechanical officials there, and

when they voted together, they easily influenced the vote to decide what did or did not make it into the code.

I'm not sure who to blame for our (Texas code officials') poor showing. Did BOAT not do a good job of getting the word out about the hearings? Did the local chapters not do a good job of generating interest in attending the code hearings? Is the economy so bad that we couldn't afford the time away from the office? The good news is that we will get another opportunity next year, since ICC will bring the code development hearings back to Dallas next spring. I want to encourage each of you to take advantage of having the code development hearings here in Texas. Make arrangements to attend; even if it is a half-day, it is well worth your time and effort. And for those of you who might need financial assistance, watch the BOAT Web site and Region X Web site. There were scholarships available to attend the code hearings.

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UPCOMING 82ND LEGISLATIVE SESSION



Jim Olk, Farmers Branch, and I were asked to serve on the TML Legislative Policy Committee on Eminent Domain and Regulation of Development. We met on May 21, 2010, and the Summary of Actions taken by the Committee is printed below. There were 16 topics that the Committee reviewed, discussed, and voted on for TML to potentially place on its Legislative Program for 2011. The TML Board will finalize TML's 2011 Legislative Program in December 2010. The proposed Legislative Program will be voted on by the TML membership during the TML Annual Conference in Corpus Christi on October 26-29, 2010.

Jim Olk will become BOAT's Representative to the TML Board of Directors on October 29, 2010. I would respectfully request that our membership show Jim the same level of participation in the legislative process that you showed me. I appreciate all the support I was shown over the last four years. I believe we've protected our industry well from many detrimental bills that

were filed.

Item #16 - Other Business (see below) was submitted by us at the meeting. BOAT will be seeking sponsor(s) to file this proposed legislation. This bill would add a "Certified Inspector" to Chapter 150, Civil Practice and Remedies Code. This legislation currently protects Architects and Engineers (80th Legislative Session, HB 823) from liability for services rendered during a disaster.

1. Eminent Domain

The Committee voted to recommend that TML **oppose** legislation that would further erode a city's ability to condemn property for a public purpose, specifically legislation that would: (a) place eminent domain restrictions on cities that are more burdensome than those placed on the state; (b) provide for retroactive application of any eminent domain provisions; (c) erode municipal authority to engage in urban renewal efforts; (d) provide an excessive amount of damages to a property owner whose property is acquired through eminent domain; (e) enact adverse amendments to current law relating to subsequent repurchase of land acquired through eminent domain; or (f) amend the definition of "public use" to include any restriction on traditional public projects.

The Committee voted to recommend that TML **support** legislation that would assist cities in providing for a greater quality of life and safe neighborhoods, and that TML **oppose** legislation that would unfairly benefit one property owner to the detriment of the citizens at-large.

2. Manufactured/Industrialized Housing

The Committee voted to recommend that TML **oppose** legislation that would erode current municipal authority to regulate manufactured or industrialized housing.

3. Annexation

The Committee voted to recommend that TML **oppose** legislation that would erode municipal annexation authority.

Building Officials Association of Texas
1821 Rutherford Lane, Suite 400
Austin, Texas 78754-5128
512.231.7400 www.boatx.org



UPCOMING 82ND LEGISLATIVE SESSION (Continued)

The Committee agreed that staff would work with committee members to develop additional suggestions for beneficial amendments to annexation laws, and that those recommendations would be provided to the Committee for later action through electronic means.

4. Zoning and Downzoning

The Committee voted to recommend that TML **oppose** legislation that would erode municipal zoning authority. The Committee voted to recommend that TML **oppose** legislation that would restrict a city's ability to adopt or amend zoning regulations, or vest or otherwise create a property right in a zoning classification.

5. Regulatory Takings

The Committee voted to recommend that TML **oppose** legislation that would establish a standard or process for determining economic loss and related compensation resulting from a regulatory action.

6. Religious Land Use

The Committee voted to recommend that TML **oppose** legislation that would further erode a city's ability to regulate religious or charitable organizations.

7. Permit Vesting

The Committee voted to recommend that TML **oppose** legislation that would enact adverse amendments to the permit vesting statute (Chapter 245 of the Local Government Code).

8. Special Districts

The Committee voted to recommend that TML **oppose** legislation that would allow special districts to form in the ETJ without a city's permission, or that would impose additional requirements on cities relating to special districts.

9. Development Exactions

The Committee voted to recommend that TML **oppose** legislation that would reduce municipal authority to require exactions related to and required by new development, or that would erode the authority of cities to adopt and enforce minimum development standards.

10. Building Codes, Permits, and Fees

The Committee voted to recommend that TML **oppose** legislation that would erode a city's ability to make amendments to model building codes.

The Committee voted to recommend that TML **oppose** legislation that would impose additional time restrictions on the



UPCOMING 82ND LEGISLATIVE SESSION (Continued)

issuance of building permits, or that would erode municipal authority regarding building permits in any way.

The Committee voted to recommend that TML **oppose** legislation that would further restrict a city's ability to impose building fees.

11. **Extraterritorial Jurisdiction (ETJ)**

The Committee voted to recommend that TML **oppose** legislation that would erode municipal authority in the ETJ.

The Committee voted to recommend that TML **support** legislation that would clarify that cities have authority to enforce building codes in the ETJ.

12. **County Development Authority**

The Committee voted to recommend that TML **endorse** legislation that would grant counties additional land use authority, so long as municipal authority in the ETJ remains superior to that of the county.

13. **Impact Fees**

The Committee voted to recommend that TML **oppose** legislation that would exempt any entity from paying municipal impact fees.

The Committee voted to recommend that TML **seek introduction and passage** of legislation that would allow a city to collect thoroughfare impact fees in the ETJ.

14. **Geospatial Data Products**

The Committee voted to recommend that TML **oppose** legislation that would require a city to place a disclaimer of any type on a geospatial data product used by the city.

15. **Wind Turbine Regulation**

The Committee voted to recommend that TML **oppose** legislation that would erode municipal authority to regulate renewable energy technology and green building initiatives.

16. **Other Business**

The Committee voted to recommend that TML **support** legislation that would grant immunity from liability for certified municipal building inspectors for damages arising from services provided during an emergency.



UPCOMING 82ND LEGISLATIVE SESSION (Continued)

82nd Legislative Session Dates of Interest

Tuesday, March 2, 2010

Primary election for legislative and other offices held
[Election Code, Sec. 41.007]

Tuesday, April 13, 2010

Primary runoff election for legislative and other offices is held
[Election Code, Sec. 41.007]

Tuesday, November 2, 2010

General election for legislative and other offices is held
[Election Code, Sec. 41.002]

Monday, November 8, 2010

Prefiling of legislation for the 82nd Legislature begins
[House Rule 8, Sec. 7, and Senate Rule 7.04(a)]

Session Begins

Tuesday, January 11, 2011 (1st day)
82nd Legislature convenes at noon
[Government Code, Sec. 301.001]

Session Ends

Monday, May 30, 2011 (140th day),
Last day of 82nd Regular Session; corrections only in house and senate
[Sec. 24(b), Art. III, Texas Constitution]

Sunday, June 19, 2011 (20th day following final adjournment)

Last day governor can sign or veto bills passed during the regular legislative session
[Sec. 14, Art. IV, Texas Constitution]

Monday, August 29, 2011 (91st day following final adjournment)

Date that bills without specific effective dates (that could not be effective immediately) become law
[Sec. 39, Art. III, Texas Constitution]

Randall R. Childers, CBO, CPM, Building Official, City of Waco



CHALLENGES IN MERCANTILE OCCUPANCIES

Mercantile occupancies are those that involve the display and sale of merchandise and are accessible to the public. Mercantile occupancies range from small “mom-and-pop” operations to much larger, big-box retailers. Mercantile occupancies often present complex fire protection and life safety issues and require special consideration when developing fire and life safety solutions.

Fire challenges in mercantile occupancies may arise from:

- ▶ Varying products and display/storage configurations.
- ▶ Conflicting safety and security objectives.
- ▶ Occupants who are generally unfamiliar with their surroundings.



Typical, combustible merchandise may include: flammable and combustible liquids, hazardous materials, plastic, aerosols, rubber tires, and many other high-hazard commodities displayed in various solid-piled, shelving, and racking arrangements. Inherently, mercantile occupancies are sales-driven and require flexibility to adapt to changing market conditions and fluctuations in seasons.

Fire and life safety design professionals must consider all the special life safety challenges facing the mercantile industry and incorporate these into an integrated approach with both active and passive systems that accomplish a well-thought-out design solution. Passive systems include compartmentalization, fire-rated construction, and physical separation. Active systems include fire alarm, fire sprinkler, and smoke management systems.

HAZARD CLASSIFICATION

Proper hazard classification is crucial to a successful fire protection strategy. One important characteristic in defining hazard severity is understanding the heat release rate for the product. An increase in heat release rate may lead to an increase in hazard. The heat release rate is critical information when determining fire size, sprinkler effectiveness, detection adequacy, smoke production, and available egress times.

Classifying commodities is a unique challenge, and utmost consideration should be given to the retailer to allow for greater merchandising flexibility and future changes. A thorough investigation of the retail commodity—including hazardous materials classifications, flammable and combustible liquids, aerosols, and any other high-hazard commodities—is necessary prior to developing any fire protection strategy.

DISPLAY AND FIXTURE ARRANGEMENTS

Retail display and storage arrangement play an important role in the severity of a fire. The display arrangement can affect the rate at which materials burn. This burning rate is dependent on many factors, including storage height, flue space, shelving, aisles, display depth, and storage density.

NFPA 13, Standard for the Installation of Sprinkler Systems¹, defines various types of storage arrangements, including solid-piled, shelf, and rack storage. Mercantile occupancies might include one or a combination of all three configurations.



CHALLENGES IN MERCANTILE OCCUPANCIES (Continued)



Many of the prescriptive requirements have been developed based on warehouse storage. However, many display arrangements do not fit neatly into the prescriptive requirements. Examples would be shelf displays, retail shelf systems, and product displayed out of the cartons in retail display shelves, as opposed to closely packed products in cartons on racks. It should be noted that the NFPA 13 committee is addressing some of these difficulties, with a proposed new definition of back-to-back shelf storage in the 2010 edition.

RETAIL AND HIGH-PILED STORAGE

Certainly, the determination of whether or not a retail occupancy falls within the prescriptive high-piled storage provisions of the International Fire Code® (IFC) 2 can be quite challenging. The high-piled storage provisions incorporate enhanced features into the building design to account for an expected higher fire severity. These features typically impact larger retail occupancies, especially the big-box retailers. Building enhancements may include smoke management, sprinklers, detection, access, storage restrictions, and small hose stations.

The IFC defines high-piled storage as combustible material storage within a building in closely packed piles or on pallets, in racks, or on shelves, where the top of storage is greater than 12 feet (3.6 m) in height. Also, high-piled combustible storage may include certain high-hazard commodities—such as Group A plastic, aerosols, etc.—exceeding 6 feet (1.8 m) in height.

Retailers using storage racks might fall into the provisions for high-piled storage. Retailers using display shelving and not warehouse storage racks are typically not considered high-piled storage, even when there are limited amounts of high-hazard commodities exceeding 6 feet (1.8 m) in storage height.

High-piled combustible storage has several distinct features not common to display shelving, such as storage in a compact arrangement, quantities of types of products stored, and storage heights.

SPRINKLER DESIGN

The type of commodity and complexity of the storage arrangement must be thoroughly evaluated when designing fire sprinkler systems. One of the greatest challenges that might be encountered is integrating the protection strategy into a program that allows merchandising flexibility to the end-user without compromising adequacy.

Sprinkler design must include an analysis of expected hazards and the various merchandising display arrangements. Special consideration is given to grated and solid mezzanines, shelf systems, solid shelves, slatted shelves, racks, displays in racks, solid piles, aisles, flue spaces, storage heights, and ceiling heights.

The technology behind automatic sprinkler protection has come a long way, especially since the early '90s. The use of larger-orifice sprinklers, extended coverage, and suppression-mode technology has tremendously helped to protect a large variety of products and storage configurations.



CHALLENGES IN MERCANTILE OCCUPANCIES (Continued)

SMOKE MANAGEMENT

Today, there are mercantile operations in all types of specialized areas, such as high-rises, atriums, covered mall buildings, and high-piled storage areas. The requirements for smoke management are driven by these special occupancies and not necessarily the mercantile operations. Integrating smoke management into the building design requires special consideration and should include an evaluation of the mercantile use and operations.

There are many approaches to a properly engineered smoke management system. High spaces in malls and atria may be used as smoke reservoirs, which mitigate effects on the occupants' egress through the mall. High-piled storage areas may utilize mechanical exhaust in lieu of traditional smoke and heat vents or suppression-mode sprinklers in accordance with the IFC.



FIRE ALARM

Mercantile occupancies might contain people who are unfamiliar with their surroundings. Display fixtures can confuse the path of egress. As such, the prescriptive code provisions for fire alarm systems in mercantile occupancies have recognized these challenges for the wide range retail operations.

Prescriptive codes require fire alarm systems for most mercantile occupancies.^{2,3,4,5} In the past, a fire alarm system in mercantile locations included sprinkler monitoring with limited notification, unless it was required as part of another occupancy. Today, especially in big-box stores, full notification coverage is typically provided.

Please contact your local Schirmer Engineering office for design solutions to these common challenges in mercantile occupancies.

Submitted by Edward S. Goldhammer, P.E

References:

1. NFPA 13, Standard for the Installation of Sprinkler Systems, National Fire Protection Association, Quincy MA, 2007.
2. International Fire Code®, International Code Council, Washington, DC, 2009.
3. International Building Code®, International Code Council, Washington, DC, 2009.
4. NFPA 101, Life Safety Code®, National Fire Protection Association, Quincy, MA, 2009.
5. NFPA 5000®, Building Construction and Safety Code®, National Fire Protection Association, Quincy, MA, 2009.

July 2010

BOAT News

a publication by the BUILDING OFFICIALS ASSOCIATION OF TEXAS



MARK YOUR CALENDAR

August 17-18, 2010

Brazos Valley Chapter Fourth Annual Code Seminar, Rosenberg

October 25-28, 2010

ICC Annual Conference, Charlotte, North Carolina

October 28-November 1, 2010

2010 Final Action Hearings, Charlotte, North Carolina

October 26-29, 2010

TML Annual Conference and Exhibition, Corpus Christi





Brazos Valley Chapter, ICC
2601 Cartwright Rd Box #171
Missouri City, TX 77459
generalinfo@brazosvalleychapter.org

NOTICE
Fourth ANNUAL CODE SEMINAR

Hosted by
Brazos Valley Chapter

- Program:** Design Advantage Fire Sprinkler Options in the IBC and the Life Safety Code. Significant Changes to the 2009 International Residential Code
- Instructors**
- August 17, 2010:** Jeff Hugo CBO, Manager of Code, National Fire Sprinkler Association, and Current editor of the Fire Sprinkler Guide. He represents the fire sprinkler industry in the development of the International Code Council family of codes. Jeff has been a Michigan registered Building Official, Building Inspector, and Plan Reviewer since 1995, an Assistant Director of Building Codes for Tuscola County, Michigan, Chief Building Official/Administrator for the City of Bay City and also the Chief Building Official for the City of Frankenmuth.
- August 18, 2010:** Frank C. Morris, CBO, CEAP, MCP, President of Tri-State Consultants and is a noted speaker who has more that 37 years experience in the construction industry as a contractor, Building Official and Consultant. Mr. Morris remains current with his CBO, CEAP, MCP, AACE designations, and most recently as an authorized provider for AACE. He is still one of the top certified Building Officials in the State of Louisiana. He has taught for SBCCI and ICC and also provides consulting services to the construction industry.
- Date:** August 17th Jeff Hugo & 18th Frank Morris
- Location:** Rosenberg Civic Center 3825 HWY 36 South, Rosenberg TX. 77471
- Time:** 8:00 AM- 4:30 PM
Lunch will be provided.

Registration deadline August 4, 2010*
If registered and paid on or before the deadline;
Single day registration is \$85.00
Two day registration is \$150.00

CEU Certificates Available

Late Registration: \$95.00 Design Advantage Fire Sprinkler Options In the IBC and the Safety Code. IRC 2009 Significant Changes= \$95.00, IBC 2009 Changes & Fire Sprinkler Options= \$175.00

Please RSVP. Art Flores: 713-465-8308 or inspections@springvalleytx.com

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Scott McDonald, CBO
Building Official
City of Amarillo
P.O. Box 1971
Amarillo, TX 79105-1971
806-378-3045 (phone)
806-378-3085 (fax)
scott.mcdonald@amarillo.gov

Vice President

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P.O. Box 152288
Irving, TX 75015-2288
972-721-0875 (phone)
972-721-2481 (fax)
lcrow@cityofirving.org

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201 N Ector Dr
Euless, TX 76039-3543
817-685-1656 (phone)
817-685-1628 (fax)
kkasson@eulesstx.gov

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Chief Building Official
City of West University Place
3826 Amherst Street
West University Place, TX 77005-2830
713-662-5830 (phone)
713-662-5304 (fax)
jbrown@westu.org

Director At Large

Bruce Braley
Building Official
City of Hewitt
105 Tampico Dr
Hewitt, TX 76643-3015
254-666-6173 (phone)
254-666-6014 (fax)
bbraley@cityofhewitt.com

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Chris Haver, CBO
Building Official
City of College Station
1101 Texas Ave S
College Station, TX 77840
979-764-6254 (phone)
979-764-3496 (fax)
chaver@cstx.gov

Director At Large

Earl Abbott, CBO, CFM
Building Official
City of Killeen
PO Box 1329
Killeen, TX 76540-1329
254-501-7600 (phone)
254-634-2484 (fax)
eabbott@ci.killeen.tx.us

Associate Director At Large

Van Tran, CBO
Vice President
Bureau Veritas
1000 Jupiter Road, Ste 800
Plano, TX 75074-3724
469-241-1834 (phone)
469-241-1849 (fax)
van.tran@us.bureauveritas.com

TML Board Representative

Randall R. Childers, CBO, CPM
Building Official
City of Waco
PO Box 2570
Waco, TX 76702
254-750-5671 (phone)
254-5624 (fax)
randyc@ci.waco.tx.us

Immediate Past President

Ravi Shah
Director of Urban Development
City of Carrollton
P.O. Box 110535
Carrollton, TX 75011-0535
972-466-3245 (phone)
972-466-3220 (fax)
ravi.shah@cityofcarrollton.com

Past President

Jim Olk, CBO
Building Official
City of Farmers Branch
13000 William Dodson
Dallas, TX 75234
972-919-2533 (phone)
972-247-4836 (fax)
jim.olk@farmersbranch.info

Building Officials Association of Texas
1821 Rutherford Lane, Suite 400
Austin, Texas 78754-5128
512.231.7400 www.boatx.org