

DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT REGULATORY CHANGE FORM

(Use this form to submit changes to building and fire codes)

<p>Address to submit to:</p> <p>DHCD, the Jackson Center 501 North Second Street Richmond, VA 23219-1321</p> <p>Tel. No. (804) 371 – 7150 Fax No. (804) 371 – 7092 Email: bhcd@dhcd.state.va.us</p>		<p>Document No. _____</p> <p>Committee Action: _____</p> <p>BHCD Action: _____</p>
<p>Submitted by: <u>William J. Hall</u> Representing: VA Building and Code Officials Association</p> <p>Address: <u>P.O. Box 12164 Richmond VA 23241</u> Phone No.: <u>804-649-8471</u></p> <p>Regulation Title: VA State Fire Prevention Code Section No(s): 805.1 _____</p>		

Proposed Change:

**SECTION 805
DECORATIONS AND TRIM**

805.1 General.

In occupancies of Groups A, E, I and R-1 and dormitories in Group R-2, curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 806.2 or be noncombustible.

Exceptions:

1. In dwelling units and sleeping units located in dormitories of Group R-2, the permissible amount of decorative paper material, suspended from or attached to the walls shall not exceed 50 percent of the aggregate area of the walls, where the building is equipped throughout with an automatic sprinkler system in accordance with section 903.3.1.1 or 903.3.1.2.
2. In dwelling units and sleeping units located in dormitories of Group R-2, the permissible amount of decorative paper material, suspended from or attached to the walls shall not exceed 20 percent of the aggregate area of the walls, where the unit is provided with single station or multiple smoke alarms in accordance with 907.2.10.1.2.
3. In corridors located in dormitories of Group R-2, the permissible amount of decorative paper material, suspended from or attached to the walls shall not exceed 10 percent of the aggregate area of the walls.

In Groups I-1 and I-2, combustible decorations shall be flame retardant unless the decorations, such as photographs and paintings, are of such limited quantities that a hazard of fire development or spread is not present. In Group I-3, combustible decorations are prohibited.

Supporting Statement:

As written, the International Fire Code does not allow combustible decorations within college dormitories. This section is not only impractical but also un-enforceable. We feel that this change offers a good compromise between real life conditions and fire protection in these dormitory occupancies. Recognizing that sprinkler protection is a proven performer in stopping the spread of fire, this proposal allows for what is commonly encountered in most dorm rooms, which is approximately 50% percent of wall space covered with decorative paper material. 20% is proposed in non-sprinkled dorm rooms equipped with smoke detectors.

10% of decorations is proposed for corridors. We feel that although this is a common practice, combustible material should be limited in these areas.

Commonly, inspectors encounter fabrics and textiles hanging from ceiling and walls. This proposal would still prohibit any fabric or textile decorations as well as any combustible material being hung from the ceiling.

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Submitted by: Charles A. Gregory _____ Representing: Va Fire Services Board _____

Address: PO Box 40, Chesterfield Va 23238 _____ Phone No.: (804) 814-6989

Regulation Title: Statewide Fire Prevention Code _____ Section No(s): 904.11 _____

Proposed Change:
904.1.1 Commercial cooking systems.
The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Preengineered automatic dry-and wet-chemical extinguishing systems shall be tested in accordance with UL 300 and listed and labeled for the intended application. *Existing automatic fire-extinguishing system for commercial cooking systems shall be UL 300 compliant by (24 months after adoption of code).* Other types of automatic fire-extinguishing systems shall be (text not changed).

Supporting Statement:

At the request of manufacturer's to determine cause of abnormally high failure rates of suppression systems to extinguish and control fires, the UL 300 standard for testing pre-engineered cooking equipment fire suppression systems was developed in 1994.

Much discussion has evolved concerning a healthier America switching from animal fats to poly-unsaturated vegetable cooking oils. Testing did indicate that reduced insulating layer, saponification process, was formed by alkaline extinguishing chemicals reacting with vegetable based oils compared to reactions with animal fats.

Further testing with actual commercially available equipment indicated that newer energy efficient equipment was a more significant cause of suppression system failures than type of cooking oil. While equipment was operating at higher temperature ranges "fast fry process", upon fire suppression system discharge the insulated equipment prevented sufficient cooling to lower cooking oil temperatures below re-ignition levels. With less insulating layer being formed and cooking oil remaining at critical re-ignition temperatures, the pre-UL300 suppression systems could not effectively control cooking equipment fires.

During several code hearings, the concept that UL-300 systems could require additional fuel control valves has been presented as an expensive burden. Since the conception of pre-engineered suppression system in the early 1960's, all listed systems required fuel shut off valves and shunting electrical circuits. UL-300 did not require any additional appliance fuel/energy controls not previously required to meet listed pre-engineered fire suppression system installation.

Additional fuel control valve interfaced with mechanical ventilation as required under provisions of the IFGC, *International Fuel Gas Code*, would not be required to meet pre-UL300 or UL300 listed extinguishing system installations.

Rodgers, Emory

From: Rodgers, Emory
Sent: Monday, March 05, 2007 4:32 PM
To: Gregory, Charles; Hodge, Vernon
Cc: ebg5x@Virginia.EDU; DMitchel@loudoun.gov
Subject: RE: UL 300 Revised code change proposal

Charles: Good clean-up and starting to now focus on how can be done without seeking legislative approval. Hope to have from the April 9th stakeholders meeting and June 18th consensus. My reservation to avoid being considered retroactive, thus being in the USBC and probably legislation, is the inclusion of the 24 months time frame. I think your supporting statement may have the language that would avoid this problem so it can be an operational issue such as the newer energy efficient equipment is different, the cooking medium is different and the repair parts are unavailable as a means to be in the SFPC.

From: Gregory, Charles [mailto:GregoryC@chesterfield.gov]
Sent: Monday, March 05, 2007 4:19 PM
To: Rodgers, Emory; Hodge, Vernon
Cc: ebg5x@Virginia.EDU; DMitchel@loudoun.gov
Subject: UL 300 Revised code change proposal

<<UL300form.doc>>

Revised code change proposal for UL 300 pre-engineered suppression system

Thank you

Charles A. Gregory
Department of Building Inspection
Chesterfield County, Virginia
(804) 814-6989
gregoryc@chesterfield.gov

**VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CODE CHANGE FORM**

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Submitted by: Cheri Hainer Representing: City of Virginia Beach

Address: 2405 Courthouse Drive, Bldg. 2, Room 100, Virginia Beach, VA 23456

Phone No. (757) 385-4211

Regulation Title: 2003 USBC and SFPC Section No(s): USBC 902, 912 and SFPC 511

Proposed Change:

(1) In the USBC, add new definitions to Section 902 of the IBC as follows:

Emergency Communication Equipment. Emergency communication equipment, includes, but is not limited to, two-way radio communications, signal booster, bi-directional amplifiers, radiating cable systems or internal multiple antenna, or a combination of the foregoing.

Emergency Public Safety Personnel. Emergency public safety personnel includes firefighters, emergency medical personnel, law-enforcement officers and other emergency public safety personnel routinely called upon to provide emergency assistance to members of the public in a wide variety of emergency situations, including, but not limited to, fires, medical emergencies, violent crimes and terrorist attacks.

(2) In the USBC, add Section 912 to the IBC as follows:

Section 912. In-Building Emergency Communications Coverage.

912.1 General. In-building emergency communication equipment to allow emergency public safety personnel to send and receive emergency communications shall be provided in new buildings and structures in accordance with this section.

Exceptions:

1. Buildings of Use Groups A-5, I-4, within dwelling units of R-2, R-3, R-4, R-5, and U.
2. Buildings of Type IV and V construction without basements.
3. Above grade single story buildings of less than 20,000 square feet.

4. Buildings or leased spaces occupied by federal, state, or local governments, or the contractors thereof, with security requirements where the building official has approved an alternative method to provide emergency communication equipment for emergency public safety personnel.

5. Where the owner provides technological documentation from a qualified individual that the structure or portion thereof does not impede emergency communication signals.

912.2 Where required. For localities utilizing public safety wireless communications, new buildings and structures shall be equipped throughout with dedicated infrastructure to accommodate and perpetuate continuous emergency communication.

912.2.1 Installation. Radiating cable systems, such as coaxial cable or equivalent shall be installed in dedicated conduits, raceways, plenums, attics, or roofs, compatible for these specific installations as well as other applicable provisions of this code.

912.2.2 Operations. The locality will assume all responsibilities for the installation and maintenance of additional emergency communication equipment. To allow the locality access to and the ability to operate such equipment, sufficient space within the building shall be provided.

912.2.3 Inspection. In accordance with Section 113.3, all installations shall be inspected prior to concealment.

912.3 Acceptance test. Upon completion of installation, after providing reasonable notice to the owner or their representative, emergency public safety personnel shall have the right during normal business hours, or other mutually agreed upon time, to enter onto the property to conduct field tests to verify that the required level of radio coverage is present at no cost to the owner. Any noted deficiencies shall be provided in an inspection report to the owner to the owner or the owner's representative.

(3) In the SFPC, add Section 511 to the IFC as follows:

Section 511. Maintenance of In-Building Emergency Communication Equipment.

511.1 General. In-building emergency communication equipment shall be maintained in accordance with the USBC and the provisions of this section.

511.2 Additional in-building emergency communications installations. If it is determined by the locality that increased amplification of their emergency communication system is needed, the building owner shall allow the locality access as well as provide appropriate space within the building to install and maintain necessary additional communication equipment by the locality. If the building owner denies the locality access or appropriate space, or both, the building owner shall be responsible for the installation and maintenance of these additional systems.

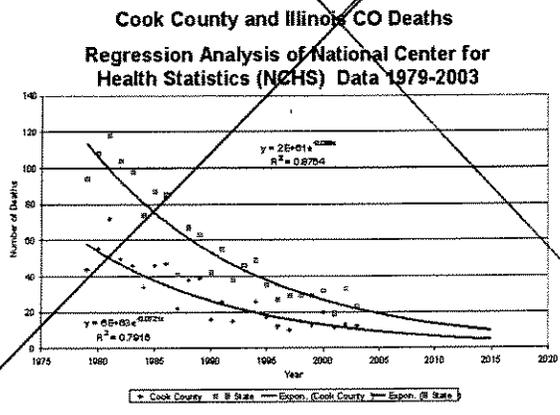
511.3 Field tests. After providing reasonable notice to the owner or their representative, the fire official, police chief, or their agents, shall have the right during normal business hours, or other mutually agreed upon time, to enter onto the property to conduct field tests to verify that the required level of radio coverage is present at no cost to the owner.

Supporting Statement:

In 2002, on behalf of my locality, I made a proposal to require the pre-wiring of buildings to supplement and enhance the locality's emergency communication system. Other localities were experiencing similar issues and several joined in the effort to codify the issue. In 2003, General Assembly Joint Bill 588 required the State Fire Marshall's office (Fire Programs) to study the necessity for appropriate code provisions. A task group representing all affected parties, such as Building and Fire Officials, Building Owners, Contractors, and Radio Systems Technical Advisors meet to discuss this issue and determined there was a need for this to be referenced in the Uniform Statewide Building Code. Based on the outcome of that study as well as the language in House Bill 2529 2003, several versions of this code provision were developed and presented to the Board of Housing. However, there were numerous undetermined construction and cost factors involved and no

consensus could be reached among the code, construction and building owners communities and consequently no codes were adopted. But the concern for and by the emergency public safety personnel is still prevalent, prompting the introduction of House Bill 2554 2007. Accordingly, the interested parties have come back to the table and as the In-Building Communications Work Group, have arrived at this compromise as a first step to addressing this issue. The installation and maintenance costs and responsibilities of the building owner have been greatly reduced as they now need only provide basic and generic infrastructure capable of enhancing any supplemental emergency communication equipment, which will be provided and maintained by the locality.

- This proposal does not address THE ONLY GROWING CAUSE OF CO FATALITIES -- PORTABLE EQUIPMENT, INCLUDING GENERATORS.
- CO alarms are not currently a stable product since UL through its Standards Technical Panel 2034 is addressing fundamental issues of alarm life and even activation points. At its upcoming meeting in October, UL will consider proposals to the UL 2034 standard to address deficiencies documented by CPSC and others. The changes proposed would fundamentally alter the design and performance of CO alarms.
- Experience from the City of Chicago, the first major metropolitan jurisdiction in the U. S. to promulgate mandatory CO alarm installation requirements, illustrates in the plot of CO fatalities below THE INEFFECTIVENESS OF MANDATES:
 - Though promulgated in 1994, Chicago and its collar communities in Cook County (many of which have similar mandates) continue to have CO fatalities. Continuing frequency of CO fatalities around ten per year appears to be stable over time and may be expected to continue in the future.
 - The annual number of deaths in this community is consistent with historical trends of declining CO fatalities over time, but no impact or change in this rate of decline can be attributed to the Chicago mandate.
 - For the mandate to have been effective, either CO fatalities would have had to decrease to zero or near zero, or at a minimum, the rate of CO fatalities would have had to show a discontinuous change that could be associated with the promulgation of the mandate.
 - Reasons for the ineffectiveness of the Chicago mandate are the subject of speculation and may be attributed to lack of compliance, lack of enforcement, lack of appropriate response, failure of alarms to perform as designed, or these and other factors in combination and discussed in AGA's presentation to the CTC³. Nevertheless, the societal cost of the mandate has been significant with no discernable societal benefit.



¹ "Report of the CTC, Area of Study – Carbon Monoxide Alarms," International Code Council Code Technology Committee, September 22, 2005, Detroit Marriott Renaissance Center, Detroit, Michigan [Available on the ICC website: <http://www.iccsafe.org/cs/cc/ctc/Carbon.html>].

² Williams, Ted A. "CO Alarm Mandates in Model Codes as Public Policy," presented at ICC Code Technology Committee on CO Alarms, July 26, 2005, Schiller Park, Illinois [Available on the ICC website: <http://www.iccsafe.org/cs/cc/ctc/Carbon.html>].

³ Williams, Ted A. "CO Alarm Mandates in Model Codes as Public Policy," presented at ICC Code Technology Committee on CO Alarms, July 26, 2005, Schiller Park, Illinois [Available on the ICC website: <http://www.iccsafe.org/cs/cc/ctc/Carbon.html>].

Final Action: AS AM AMPC _____ D

RB114-06/07
R313.3 (New)

Proposed Change as Submitted:

Proponent: John Dean, National Association of State Fire Marshals

Add new text as follows:

R313.1 Fire protection systems. An approved automatic fire sprinkler system shall be installed in new one- and two-family dwellings and townhouses in accordance with Section 903.3.1 of the *International Building Code*.

(Renumber subsequent sections)

Reason: The justification for providing fire sprinkler protection for the one- and two-family dwelling environment is clear and is provided in the following paragraphs.

1. The purpose in R101.3 states that "The purpose of this code is to provide minimum requirements to safeguard the public safety, health and general welfare, through affordability, structural strength, means of egress facilities, stability, sanitation, light and ventilation, energy conservation and safety to life and property from fire and other hazards attributed to the built environment." This objective is not met for the one- and two-family dwelling with the current code requirements in the IRC. Based on NFPA fire death data, only 15.5% of the fire deaths in the one- and two-family dwelling environment are actually intimate with ignition.¹ With 84.5% of one- and two-family dwelling fire deaths occurring when the occupant was not intimate with the ignition, the "Purpose" in R101.3 is clearly not being achieved.
2. The life safety hazards in the one- and two-family occupancy are clear: Between the years of 1994 and 1998 there was an average of 310,200 reported home structure fires resulting in 2,867 civilian deaths, 12,244 civilian injuries and \$3.5 billion dollars in direct property damage per year.² These losses and deaths far exceed any of the other occupancy types. 68% of total fire deaths occurred in the one- and two-family dwelling environment. The next highest fire death categories are 13% for apartments, 12% for highway vehicles and 4% for non-residential structures. The next highest dollar loss category is \$653.6 million for manufacturing, which is only 18.6% of the loss for one- and two-family dwellings.³
3. The ICC documents provide much more onerous code requirements for occupancy types other than the one- and two-family dwelling. These other occupancy types have significantly less fire death and loss history, yet they are provided with greater protection. Based on the current code requirements, the protection levels in the IRC do not match the life safety hazards in the one- and two-family dwelling environment. (See #2 above.)
4. The *Scottsdale Report* has shown the potential infrastructure savings that can be achieved by residential sprinkler protection. From January 1, 1985, through January 1, 1996, the estimated sprinkler flow per residential incident was 209 gallons.⁴ For the same period, the estimated suppression flow per residential incident was 3,290 gallons. For small to intermediate size water distribution systems, the infrastructure savings can be substantial.
5. In the year 2004, 45% of all fireground firefighter deaths occurred in dwellings and apartments.⁵
6. Although residential sprinklers are primarily focused on the protection of life safety, the *Scottsdale Report* has shown one community's experience with fire sprinklers for property protection. This report states that the average loss per non-sprinklered property was \$17,067. The loss per sprinklered property was \$1,945. This is a property loss savings of 89% over the unsprinklered property. NFPA's statistics also support a substantial savings. The average fire loss in non-sprinklered home structure fires between 1994 and 1998 was \$10,877. Sprinklered homes had an average loss of \$5,383 per fire incident. The loss reduction was 50.5% with sprinklers present.⁶
7. NFPA's statistics indicate the significant effect fire sprinklers have on their primary purpose in the home, which is life safety protection. Between 1994 and 1998, there were 9.5 fire deaths per 1,000 fires with no fire sprinkler system present in the home. When a fire sprinkler system is present in the home, this death rate drops to 2.2 per 1,000 fires.⁷ This is a 76.6% reduction in life loss when sprinklers are present. NFPA's fire data review has indicated, "When sprinklers are present, the chances of dying in a fire are reduced by one-half to three-fourths and the average property loss per fire is cut by one-half to two-thirds, compared to fires where sprinklers are not present. What's more, this simple comparison understates the potential value of sprinklers because it lumps together all sprinklers, regardless of type, coverage, or operational status, and is limited to fires reported to fire departments. If unreported fires could be included and if complete, well maintained, and properly installed and designed systems could be isolated, sprinkler effectiveness would be seen as even more impressive."⁸
8. The relative risk for fire deaths in one- and two-family dwellings is greatest for those 5 years of age and under and those 65 years of age and over. A child age 5 or under is 74% more likely to die in a home fire than the average person. Adults aged 65 years and over are more than twice as likely.⁹ Persons in these age groups are most likely to need assistance in exiting a home during a fire condition. Due to this lack of egress capability, the only effective method of protecting this group is with automatic fire sprinkler protection.
9. Frequently, an argument against fire sprinklers in single-family dwellings is that fires in these occupancies mostly occur in older homes. This is myth. NFPA's report titled "U.S. Fire Death Patterns by State"¹⁰ indicates that, "Defined by the percentage of housing units built before 1940, *age of housing* (shown in Table 6) also is a very poor predictor of fire death rates. The study by Schaefer et al., footnoted on the previous page, indicated that **age of housing is not a strong primary predictor of high fire incident rates.**"
10. Cost and affordable housing has long been a factor raised in opposition to automatic fire sprinklers in the one- and two-family dwelling environment. The experience in Scottsdale, Arizona, has shown that this concern is no longer valid. The cost of residential sprinklers has been reduced dramatically where widespread application has occurred. The "Scottsdale Report" indicates that average cost has been reduced from \$1.14 per square foot to \$0.59 per square foot. The costs stated in this proposal are based on averages calculated in Scottsdale, Arizona. Costs for residential sprinklers will vary around the country. Over time, homeowners will be able to recoup their investment for fire sprinklers by reduced insurance premiums and the possibility of lower property tax.
11. The "America Burning: Recommissioned" report¹¹ states in Finding #2 – "The Application and Use of Sprinkler Technology - The most effective fire loss prevention and reduction measure with respect to both life and property is the installation and maintenance of fire sprinklers. If the focus is limited to prevention and reduction of the loss of life, smoke alarms are also extremely effective. However, the use of sprinklers and smoke detectors has not been sufficiently comprehensive." The report further states, "The need for emphasis on residential construction is born out by statistics. For the most recently compiled year, 1997, there were

1 Ahrens, 2003, p. 65

2 *Ibid.*, 49

3 *Ibid.*, 50

4 Ford, 1997, p. 30

5 Fahy & Leblanc, 2005, p. 5

6 Ahrens, 2003, p. 66

7 *Ibid.*, 66

8 Hall & Rohr, 2005, p. i

9 Hall, 2005, p. i

10 Hall, 2004, "Fire Deaths by State"

552,000 structure fires in the United States. Almost three-quarters of structure fires occurred in residential properties including homes, hotels, motels, rooming houses and dormitories. Fifty-five percent (55%) or 302,500 were in one- and two-family homes and seventeen percent (17%) or 93,000 occurred in apartments. The largest number of civilian deaths occurred in residential buildings. Eighty-three percent (83%) of the 4035 total civilian deaths occurred in home structure fires - with sixty-seven percent (67%) or 2700 in one-and two-family homes."

Bibliography:

- Ahrens, M. (2003). *The U.S. Fire Problem Overview Report: Leading Causes and Other Patterns and Trends* (Rep.). Quincy, MA: National Fire Protection Association (NFPA).
- America Burning, Re-commissioned: Principle Findings and Recommendations* (Working Paper). (1999). Federal Emergency Management Agency.
- Ford, J. (1997). *Saving Lives, Saving Money: Automatic Sprinklers, a 10 Year Study* (Rep.). Scottsdale, AZ: Rural/Metro Fire Department, City of Scottsdale, Arizona.
- Hall, J. R. (2004). *U.S. Fire Death Rates by State* (Rep.). Quincy, MA: NFPA.
- Hall, J. R. (2005). *Characteristics of Home Fire Victims* (Rep.). Quincy, MA: NFPA.
- Leblanc, P. R., & Fahy, R. F. (2005). *Full Report: Firefighter Fatalities in the United States - 2004* (Rep.). Quincy, MA: National Fire Protection Association.
- Rohr, K. D., & Hall, J. R. (2005). *U.S. Experience with Sprinklers and Other Fire Extinguishing Equipment* (Rep.). Quincy, MA: NFPA.

Cost Impact: The code change proposal will increase the cost of construction.

Committee Action:

Disapproved

Committee Reason: The committee disapproved this proposed change to require approved automatic sprinkler systems for several reasons. The issue of cold weather and freezing of the systems was a concern. The cost of labor to install and then maintain the system was a concern. Increase of cost and demands on local infrastructure as well. Appendix P is an option that is available for anyone that wishes to adopt and enforce that appendix. Any code change to bring sprinklers into the code text needs to have a provision to delete Appendix P and this proposal did not.

Assembly Action:

None

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

Alan Perdue, Guilford County Emergency Services, representing International Association of Fire Chiefs – Fire and Life Safety Section, requests Approval as Modified by this public comment.

This public comment is being submitted on behalf of the following organizations:

National and Regional Organizations

International Association of Fire Chiefs – Fire and Life Safety Section
Center for Campus Fire Safety
ICC Joint Fire Service Review Committee
Institution of Fire Engineers, US Branch
National Association of State Fire Marshals
New England Association of Fire Marshals
Safe Buildings Coordinating Committee
Southeastern Association of Fire Chiefs

Statewide and Local Organizations

Arizona Fire Chiefs Association
Arizona Fire Marshals Association
Arizona Society of Fire Protection Engineers Chapter
Arizona: Yuma County, AZ Fire Officer's Association
California Fire Chiefs Association
California: Northern California Fire Prevention Officers Section
California: Orange County Fire Chiefs Association
Colorado: Fire Marshals Association of Colorado
Connecticut: Capitol Region Fire Marshals Association of Connecticut
Florida Fire Chiefs Association
Florida Fire Marshals and Inspectors Association
Idaho Fire Chiefs Association
Illinois Fire Chiefs Association
Illinois Fire Inspectors Association
Indiana: Fire Inspectors Association of Indiana
Iowa Fire Marshals Association
Iowa: Hawkeye State Fire Safety Association
Maryland State Firemen's Association
Michigan Association of Fire Chiefs

Michigan Fire Inspectors Society
 Nevada: Fire Prevention Association of Nevada
 New York: Association of Fire Districts of the State of New York
 New York: Career Fire Chiefs' Association of New York State
 New York: Firemen's Association of the State of New York
 New York: Monroe County, NY Fire Marshals & Inspectors Association
 New York State Association of Fire Chiefs
 New York State Building Officials Conference
 New York State Code Coalition to Protect and Preserve our Communities
 New York State Fire Marshals and Inspectors Association
 North Carolina State Firemen's Association
 Ohio Fire Officials Association
 Oregon Fire Code Committee
 Oregon Fire Marshals Association
 Rhode Island Association of Fire Marshals
 Texas: Fire Prevention Association of North Texas
 Virginia: Central Virginia Fire and Arson Association
 Virginia Fire Chiefs Association
 Virginia Fire Prevention Association
 Washington Fire Chiefs Association
 Washington State Assn of Fire Marshals

Modify proposal as follows:

**SECTION R313
 FIRE SPRINKLER SYSTEMS.**

R313.1 General Fire protection systems. An approved automatic fire sprinkler system shall be installed in new one-and two-family dwellings and townhouses in accordance with NFPA 13D-Section 903.3.1 of the International Building Code.

2. Delete IRC Appendix P.

3. Add new referenced standard to Chapter 43 as follows:

NFPA: NFPA 13D-07 Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes

Commenter's Reason: Although this reason statement is somewhat lengthy, we, the code officials who have sponsored this public comment, urge our fellow code officials to read it thoroughly. There is a great deal of important information to be conveyed, and it is important for all who attend the Rochester meeting to know first hand that we have thoroughly responded to all of the opposition issues raised at the hearing in Orlando and in the committee statement in the *2006 Report of the Public Hearing*.

At the final action hearing in Rochester, code officials will be given a unique opportunity to make a historic contribution to fire safety that directly addresses the root of America's fire problem, dwelling fires. No single change to ICC's codes for new construction could have a more direct and consequential impact on reducing the nation's long term fire losses than revising the IRC to require residential sprinklers in new homes. If your jurisdiction hopes to one day have a residential sprinkler ordinance, then there is no better way for you to accomplish this goal than by coming to the Rochester hearing and voting to approve this public comment so that the residential sprinkler requirement will become a part of the IRC. YOUR attendance to support this issue in Rochester is critical because it will require a 2/3 majority vote of members present to pass. EVERY vote will be important.

More than 30 years have passed since the concept of residential sprinklers was born, and in that time, the technology has matured greatly. Nevertheless, roughly 100,000 Americans have lost their lives in residential fires in that same time frame. Putting this death toll into perspective, it is essentially equivalent to wiping out the entire population of the City of Albany, New York in just 30-years. Those who argue that the residential fire problem is "not that bad" only get away with making such statements because residential fires tend to kill by ones and twos, ducking national attention. The solution to this problem is at hand, and yet we continue to debate whether the time has come to set out on a path that will protect current and future generations from the destruction brought by residential fires. It is time for this debate to end and for residential firesafety to take the next step forward.

There are many reasons why NOW is the time to change the IRC and establish residential sprinklers as part of the minimum safety package set forth in the national model code for residential construction. Substantial justification was offered in the reason statement originally published with this proposal, as shown above, and additional substantiation offered in this public comment focuses on issues raised in opposition comments made at the Orlando hearing.

Before addressing technical points, two housekeeping modifications proposed in this public comment need to be discussed. First, to address an important issue raised in the committee's reason for disapproval, this public comment deletes Appendix P. The committee correctly pointed out that it would be inappropriate to have a fire sprinkler requirement in both the body of the IRC and in the appendix, and this public comment resolves that issue. Second, this public comment proposes direct adoption of the NFPA 13D standard, rather than referencing the standard indirectly via reference to Chapter 9 of the IBC. Direct adoption of NFPA 13D is proposed in response to the stated desire of the National Association of Home Builders. NAHB successfully proposed this amendment (to Appendix P) in Orlando through their Proposal RB319-06/07, and this public comment yields to NAHB's preference by maintaining the direct reference to NFPA 13D and adding the appropriate text to Chapter 43 for the current edition (2007). We see no value in debating the issue of referencing 13D versus the IBC. If NAHB prefers 13D, we concede that issue.

One other introductory point to be discussed is the limitation on the scope of this proposal to only encompass new construction. This is in recognition of that fact that the infrastructure required to retrofit an existing home during a remodel or addition project may be substantially disproportionate to the project itself. Trying to create a framework to deal with such variables within the scope of a public comment to RB114 would certainly introduce new information not considered at the Orlando hearing and was therefore considered out of order.

The following paragraphs identify and respond to concerns raised at the Orlando hearing and in the committee's reason statement. With these issues addressed, the organizations sponsoring this public comment encourage the support of all code officials in approving this public comment.

1. **System freeze-ups in cold climates:** Opponents of residential sprinklers assert that system freeze-ups will cause lots of problems in cold climates. However, a sprinkler system poses no greater risk of freezing than domestic plumbing if the system is properly designed and installed. Freeze-ups result from design or installation errors that can occur with any plumbing system, and it is incorrect to suggest that sprinkler systems in cold climates are predisposed to freezing. In fact, on the contrary, there are many jurisdictions in Northern states with severely freezing climates that have adopted residential sprinkler ordinances, which would surely have been repealed if freezing problems were widespread. If we dismiss the occasional anecdotal stories about freeze-ups caused by faulty installations, common sense dictates that widespread freezing problems with sprinklers would generate an enormous political backlash in jurisdictions where sprinklers have been mandated. This simply hasn't happened.

There are many options available to sprinkler homes in freezing climates to combat the risks of frozen piping. These include, among others:

- Using sidewall sprinklers supplied by pipes running in walls, soffits, closets and crawl spaces to keep sprinkler piping out of unheated attics,
- Properly installing piping beneath the insulation in attics to protect the piping from the unheated attic space (used in climates that are not subject to extremely cold temperatures),
- Installing dry-pipe systems in unheated attics (a new technology that is just entering the marketplace)

The Residential Fire Safety Institute documents that hundreds of jurisdictions in at least 25 states have adopted residential sprinkler legislation, including mountainous states and Northern states ranging from New York to Alaska. In addition, sprinkler systems are required in all residential occupancies governed by the IBC, which include group homes and townhouses exceeding 3-stories in height. The bottom line is that residential sprinkler systems have been installed in homes located in freezing climates for many years, and if freeze concerns are being addressed in these cases, as they must be, then homes sprinklered in accordance with the IRC can and will be handled in the same manner.

2. **Cost impact of inflated water tap fees:** Opponents of residential sprinklers argue that sprinklers costs will skyrocket in jurisdictions where local water purveyors inflate the cost of larger water taps. Obviously, this is not a building code issue, and local fees should not serve as an impediment to national policy established by the IRC. Nevertheless, an experienced designer can avoid the use of a larger meter, and associated fee increases, by applying alternative design approaches that are already permitted by NFPA 13D. Such alternatives include:
- Using reduced sprinkler spacing in rooms protected by more than one sprinkler. UL listed sprinklers are already on the market for reduced spacing that only require 9 gpm per sprinkler. Given that NFPA 13D requires that a maximum of two sprinklers be calculated for dwelling systems, this yields a total demand of 18 gpm, which can be supplied by many municipal systems using a standard 5/8-inch meter. With this design approach, extended coverage sprinklers can still be used in rooms requiring only a single sprinkler. Although this design approach may not be the best choice for every case, it is particularly suited to smaller homes at the entry/affordable housing level.
 - If the tap fees for larger supplies are substantially out of line, there is always an option available to install a small tank/pump system supplied by a standard size water tap. Obviously, this option comes with its own associated cost, but it does provide an upper limit to the potential impact of high tap fees.

The options listed above are available today, and they meet NFPA 13D. Obviously, the most effective approach to fighting unfairly high tap fees is to encourage that the fees be reduced when increased meter sizes are being used to support the installation of a fire sprinkler system. Mandating sprinklers will put builders and code officials on the same side of this issue, trying to get affordable sprinklers, rather than arguing over whether sprinklers should be provided.

For such an effort to be successful, water purveyors will need to understand that increasing meter/tap sizes to supply residential sprinklers does not increase the demand on a public water system. On the contrary, residential sprinklers actually reduce demand because 1) Sprinklers only flow water when a fire occurs, and 2) The amount of water used by a residential fire sprinkler system is only a fraction of what firefighters use to extinguish fires in unsprinklered properties. This argument has already successfully resolved tap fee issues in some jurisdictions.

3. **Cost of sprinklers and impact on affordable housing.** Before specifically addressing the cost of sprinklers, there is a basic question that has to be asked when it comes to the price of housing in America, "What drives the price of a new home?" In many markets, the answer to this question is not "construction costs." Instead, prices are established based on an analysis of what the market will bear. In these markets, sales prices will continue to rise as long as there are buyers who are willing to pay the asking price, and in these markets, it would be disingenuous, at best, to suggest that the cost of fire sprinklers would price buyers out of the market.

In other segments of the home building industry, new home pricing does follow the "cost plus" model, and in these cases, the added cost of a sprinkler system is an important consideration. Such costs will be a function of many variables, including but not limited to, the availability of a public water supply, the size of the home, the level of competition in the local market, the design approach, the climate and enhancements that may be desired by the owner, such as custom colored cover plates for sprinklers.

One source of cost data associated with the widespread installation of residential sprinklers is available from Scottsdale, Arizona. Scottsdale, which became one of the first major U.S. jurisdictions to require residential sprinklers roughly 20 years ago, serves as an excellent demonstration case to show the effects of a community's decision to require residential sprinklers on system cost, life safety, property protection and the local fire-protection infrastructure. With respect to cost, residential sprinkler systems in Scottsdale were recently quoted as costing \$0.55 to \$0.75 per square foot, and there are now well over 40,000 sprinklered homes in the city. No one is suggesting that every other jurisdiction where residential sprinklers are required will match Scottsdale's cost structure, but Scottsdale's experience clearly demonstrates that a competitive marketplace greatly reduces sprinkler costs.

Technology, creative design approaches and labor charges also impact these costs. Design approaches, such as using combined plumbing-sprinkler systems that serve both domestic and fire protection needs (multipurpose systems) are being pursued in some jurisdictions as a way to minimize the cost and impact of sprinklers on new home construction. Multipurpose systems, which are already permitted by NFPA 13D, have been shown to be particularly well suited in affordable housing / entry-level homes because they add minimal cost to the plumbing installation. Recent surveys of sprinkler costs for affordable homes in the 1,000 to 1,200 square foot range showed that the added cost of materials related to sprinkler protection was in the \$0.25 to 0.30 per square foot range, and the sprinkler installation required less than 8 hours of additional labor. While no cost increase is inconsequential when dealing with affordable housing, the significant firesafety benefits gained by installing sprinklers for such a small cost (in the \$4/month range on a 30-year mortgage, not including any insurance or tax credit) certainly appears to be money well invested.

With respect to the cost of sprinklers in larger homes, the actual impact of sprinkler costs on the owner's monthly payment isn't much different. Figuring the cost of a hypothetical \$3,000 sprinkler system in a \$300,000 home with a 6.5% mortgage, a 5% credit on a \$2,000/year insurance bill, and a combined Federal/State income tax rate of 33%; the net cost of fire sprinklers, after mortgage

related tax deductions, would be \$4.37 per month. This represents a 0.23% increase in the monthly payment and roughly equates to the cost of a premium beverage at Starbucks. Just how cheap do sprinklers have to become before they're considered cost-effective?

With all of the foregoing information in mind, it seems fair to say that the true impact on the housing market associated with requiring residential sprinklers will be far less than what opponents of residential sprinklers would like code officials to believe. It has been demonstrated many times in the many jurisdictions throughout the country where residential sprinklers are required that housing markets are not affected by fire sprinklers. These local experiences show us that, once the IRC requires residential sprinklers, home building will continue as it always has. Home prices will fluctuate based on the law of supply and demand; home builders will adjust their products to meet consumer preferences and trends; and home buyers will continue to buy homes.

1. **Does the public want residential sprinklers?** Opponents of residential sprinklers suggested in Orlando that the general public, which isn't well represented at code hearings, would oppose residential sprinklers, but a recent national poll conducted by Harris Interactive indicates that this claim misrepresents public opinion. The survey of over 1,000 adults revealed that:
 - 45% of homeowners said that a sprinklered home is more desirable than an unsprinklered home,
 - 69% of homeowners said that having a fire sprinkler system increases the value of a home, and
 - 38% of homeowners said that they would be more likely to purchase a home with fire sprinklers than without. The reason that this number isn't higher appears largely tied to an unfounded fear of water damage. 48% of homeowners cited water damage as the reason they would not want to install a sprinkler system. Clearly, this indicates a need for public education on the operation and reliability of sprinkler systems as being a major component in enhancing public support and demand for sprinklers.

The results of this survey support the assertion that the general public has become aware of and has warmed up to the concept of residential sprinklers. Certainly, this is due, at least in part, to the fact that many homeowners live in multifamily occupancies before they own a one- or two-family dwelling. Now that the IRC requires all new multi-family dwellings to be sprinklered, it is fair to say that the home-buying public will continue to become more familiar with residential sprinklers and that public support for residential fire sprinkler systems will continue to grow.

2. **Correlation between a home's age and fire risk...aren't homes built to the IRC already safe enough?:** Opponents of residential sprinklers would like to convince us that residential fire deaths are a function of a home's age and that new homes, built in accordance with the IRC, are safe. Many people buy these arguments because, on the surface, they seem to make sense. However, further analysis paints a different picture. First, most residential fire deaths result from fires caused directly or indirectly by people. Compliance with the IRC doesn't prevent these types of fires or many other common fire causes, and once a fire starts, compliance with the IRC will not slow its spread. The speed by which a fire spreads in a home is instead a function of contents and room geometry.

Second, a simplistic correlation of residential fire deaths with the age of homes ignores several variables that tend to vary based on the age of a home. These include the socioeconomic status of the occupants, the density of occupants, the age of occupants, and the presence or omission of smoke detectors (discussed separately below), among others. Firesafety experts know that these factors are far more likely to be contributory factors in fire deaths than the age of a structure. In addition, the fact that more fire deaths occur in "older" homes than newer homes may also be related to the fact that the median age of homes in the U.S., according to a recent HUD study, is 32 years. By sheer numbers, a lot of people live in older homes. In summary, we do not debate that a home built in accordance with the IRC is safe, but that changes when people move in.

3. **Since only a small percentage of fire department responses are for actual structure fires, does the fire service really need residential sprinklers?** With respect to residential fire losses, the statistics submitted with Proposal RB114 clearly demonstrate the scope and magnitude of the residential fire problem in the United States. Although the percentage of emergency responses to residential structure fires is a small fraction of overall fire department responses, a shocking 45 percent of firefighter deaths that occur on the fire ground occur at residential occupancies, almost always 1- and 2-family dwellings. Dwelling fires have three characteristics that present disproportionate risks as compared to fires in other occupancies. First, they are typically well developed, post-flashover fires by the time the fire department arrives. Second, they often occur at night, and third, they often involve a real or perceived need to perform search and rescue operations. In short, dwelling fires represent a small percentage of our emergency responses but account for a very large percentage of firefighters who are killed in the line of duty.

It is also important to point out that the ability of the fire service to protect our communities by responding to residential fires has declined significantly in recent years, and the situation isn't getting better. The public has a relatively simple expectation with respect to the fire department when a fire happens...they call 911, and the fire department responds to rescue trapped occupants and put out the fire. Unfortunately, that expectation isn't being effectively met in many parts of the country because of dwindling resources.

Nationally, volunteer firefighters, who comprise 73% of the American fire service and protect the vast majority of the geographic area of the United States, are becoming harder and harder to retain. In New York alone, the ranks of volunteer firefighters have declined from 110,000 in the early 1990s to approximately 85,000 today. Considering that all-volunteer fire departments protect 95% of New York communities with a population of less than 10,000, what will happen when there are no longer enough firefighters to respond to 911 calls? This situation is national. It is not unique to New York. Long after many home builders leave a community, the homes that they leave behind and the people who live in them continue to place demands on the fire service. While the fire service will always strive to meet those demands, it is unrealistic to expect that our volunteers will always be able to do so. Therefore, the fire services' message is simple...if the public is going to be protected from home fires, it's time that we build that protection into new construction.

4. **Aren't smoke alarms enough?** Homebuilders who testified at the Orlando hearing suggested that smoke alarms are good enough to protect the public and that residential sprinklers aren't justified. Everyone can agree that smoke alarms save lives and that they are largely responsible for the dramatic reduction in fire death rates that has occurred in the U.S. over the past 30 years. Nevertheless, smoke alarms are only life-safety devices. On their own, they do nothing to stop the spread of fire, protect property or protect firefighters.

Two other issues related to reliance on smoke alarms are of concern. First, as smoke alarms age, their reliability declines. This concern prompted smoke alarm manufacturers and testing laboratories to begin stamping an expiration date on each unit indicating a 10-year replacement cycle. The questions before us are how many alarms will actually be replaced at 10-year intervals, and what will happen to the reliability of alarms that are not replaced? Although an estimated 96% of U.S. homes with telephones now have at least one smoke alarm, in ¼ of reported fires in smoke alarm equipped homes, the devices didn't work. In contrast, residential sprinkler systems have a life expectancy of 50-years, and they require essentially no maintenance, particularly for multipurpose systems. With these systems, if the domestic water is turned on, sprinklers are on as well. With the combination of sprinklers and smoke alarms, homeowners will have the best of both technologies. The second issue related to the effectiveness of smoke alarms in further reducing fire death rates has to do with their performance and waking effectiveness. In a study that was just completed in 2006, only 58% of a test group of children ages 6-12 awakened when a standard smoke alarm sounded, and only 38% of the test group successfully evacuated. The median time to awaken was 3 minutes, and the median time to escape was the maximum allowed 5 minutes. Another study revealed that a surprising **34% of fire deaths in one- and two-family dwellings during the 2000-2004 period occurred in homes with a working smoke detector**. Perhaps this statistic correlates with the fact that fire death rates for the young and the elderly, those who are least likely to be capable of self-preservation even if they are awakened by a smoke detector, are roughly double those for individuals in the central age group. Smoke detectors are good, but they can only go so far in reducing the nation's fire death and injury rates. We need residential sprinklers.

5. **What about homes without a public water supply?** Opponents of residential sprinklers have suggested that it is impractical and too expensive to require sprinklers in homes that will use a well as the water supply. However, design options are available that make wells a viable water supply for both sprinklers and domestic service. Wells essentially fall into two categories, deep and shallow. With a shallow well, the well will likely be designed to provide a direct feed to the home, with no intervening tank. With these types of systems, pumps can be selected at reasonable costs that are capable of supplying both the domestic and sprinkler demands. Constant pressure, variable speed pumps are an excellent choice for this type of application.

One question that is frequently raised with respect to direct feed well systems involves the "recharge" rate, or the rate at which water can keep up with the required flow. Wells may not be capable of keeping up with the demand associated with a sprinkler system, which will typically be 20 gallons per minute or more. Many automatically assume that a tank and a secondary pump are necessary in these cases, greatly increasing the cost of the sprinkler system, but a lesser known yet simple approach called "developing the well" is a much better solution. Developing a well essentially creates an underground cistern that replaces the need for a tank. The approach involves digging the well substantially below the water table and allowing the hole to fill with water, retaining the needed capacity underground. By using an appropriate pump with a developed well, an interior tank and pump arrangement can be avoided, and the water supply costs can be limited.

For deeper wells, there are two options. First, there are constant pressure, variable speed pumps suited for these applications. For installations utilizing this approach, a "developed well" as described above can also be used to accommodate needed water retention to satisfy the sprinkler demand. The second alternative involves a tank and pump, which can be installed between the well pump and the plumbing system. This approach is the common arrangement utilized for deep wells supplying domestic service. To supply sprinklers simply requires that the size of the domestic supply tank be increased to something in the range of 200-300 gallons, and the secondary pump needs to have an increased flow rating. Both of these enhancements can be made at modest cost.

Some have suggested that the IRC should not require homes on wells to have fire sprinklers, yet homes in rural areas, usually corresponding to homes served by wells, are the homes that are least likely to survive a fire because of long or inadequate responses by the fire service. The solution is instead educating contractors on cost-efficient design options for well systems.

6. **Impact of residential sprinklers on public and private water systems:** It was suggested by one builder during testimony at the Orlando hearing that operation of residential sprinklers connected to a small water system in a Michigan jurisdiction resulted in the jurisdiction having to drain and decontaminate the entire water system. Subsequent identification and review of the cited event revealed that the concern regarding contamination of the water supply, which was a private system, was linked to the use of fire hydrants during suppression activities, not the sprinkler system. This clearly makes more sense, and for the record, the fire actually started outside of this building, spread to the interior, and sprinklers still helped to stop the fire's progress.

To suggest that the water demand caused by operation of a one- or two-family dwelling or townhouse sprinkler system will lead to contamination of an entire community water system is absurd and demonstrates a complete lack of understanding regarding residential sprinkler systems. The same logic would suggest that a single broken residential pipe, which would flow more water than operating sprinklers, would have the same result. Any water system that is this feeble has much bigger concerns than residential sprinklers.

The truth is that residential sprinklers actually result in a significantly decreased demand on water systems because residential sprinklers use far less water than firefighters to extinguish a fire. Scottsdale, Arizona's experience provides data to support this claim. Scottsdale found that the average estimated sprinkler flow per residential fire incident was 341 gallons, as compared to an estimated manual suppression flow for unsprinklered residential fire incidents of 2,935 gallons.

7. **Wait for more cost-effective approaches to residential sprinkler protection before adopting a requirement in the IRC.** Opponents of residential sprinklers suggest that we should hold off on requiring such systems in dwellings until improvements in technology make the systems more cost effective. The truth is that many recent improvements in sprinkler technology have largely improved cost effectiveness already. The real problem isn't a lack of cost effective design and installation options. Instead, the problem appears to stem from a lack of communication within the supply, design and installation communities regarding these efficient design options and the fact that momentum often drives us to continue doing things the way we've done them in the past.

To drive the industry toward more innovative solutions, more competition is needed, and changing the IRC to require residential sprinklers will create the demand that will increase competition and motivate cost efficient designs.

Some have suggested that we should wait for NFPA 13D or the IRC to permit the use of a single operating sprinkler as a design basis, as opposed to the currently required two sprinklers, before requiring sprinklers in the IRC. Some have also

suggested that we should revisit whether sprinklers are really needed everywhere NFPA 13D requires them before requiring residential sprinklers in the IRC. The best way to encourage research and discussion on both of these ideas is to pass the IRC requirement now. Market demand will drive the research and interest in residential sprinklers will grow.

Market demand will also drive the creation of design tools that will simplify the exercises of locating sprinklers and sizing pipe. These tools, which will present design requirements in prescriptive, cookbook formats, are already being developed, and it is expected that they will be published prior to publication of the 2009 IRC.

8. **Required maintenance:** Opponents of residential sprinklers stated in Orlando that residential sprinkler systems need regular maintenance and questioned who would perform this service. Someone suggested that local fire departments will have to perform or verify maintenance, potentially raising concerns regarding right of entry.

The fact is that residential sprinkler systems are essentially maintenance free. Multipurpose systems have no maintenance requirements at all, and stand-alone systems only require an occasional test of the water flow alarm, if provided (not required by NFPA 13D or the IRC when the sprinkler pipe is copper, CPVC, or PEX) and the backflow preventer, if provided (again, not required by NFPA 13D). None of this maintenance would be performed or witnessed by the fire department. The alarm test can be conducted by the owner, in the same way the owner may periodically test a burglar alarm, and a plumber is required to test a backflow preventer. This test, which is a public health issue, is not associated with functionality or reliability of the sprinkler system, and therefore, it is not a firesafety concern.

9. **Trained labor/inspectors:** Opponents of residential sprinklers suggested in Orlando that, if the IRC were to require residential sprinklers, there would be a shortage of trained labor and trained inspectors to install and inspect these systems. While that is true today, there is no doubt that industry and code officials will respond once the IRC has been revised, and there will be several years to ramp up before the 2009 IRC begins to have an impact. This is exactly what has happened in the many local jurisdictions that have passed sprinkler ordinances.

Preliminary discussions have already taken place with ICC regarding the possibility of having ICC oversee a certification program for residential sprinkler installers and inspectors. Other organizations have also expressed interest in handling installer training and certification. It is expected that, in some jurisdictions, plumbers will become trained and certified to install residential sprinklers and sprinklers will be installed as part of the plumbing system. Likewise, it is expected that, in some jurisdictions, plumbing inspectors will be trained and certified to inspect these systems. This model is not unlike the approach taken with smoke alarms. They are located and installed by electricians and they are inspected by the electrical or building inspector.

10. **Leakage and mold damage:** In Orlando, opponents of residential sprinklers expressed fear that sprinklers would leak and cause mold damage, which could make a home uninsurable. In response, it should be pointed out that residential sprinkler systems are no different than residential plumbing. If quality products are used and the system is properly installed, it won't leak. If substandard products are used or workmanship is faulty, leaks will occur.

With respect to sprinkler systems, sprinkler piping and fittings, and sprinklers themselves, are subject to rigorous testing to ensure quality. Unquestionably, sprinklers are far higher quality and more thoroughly tested than domestic piping and fixtures. Sprinkler tests required for listing include, among others, 700 psi hydrostatic strength, 500 psi leakage resistance, 100,000 cycles water hammer resistance, 35-125°F temperature cycling, and freeze performance to 20°F below for 24 hours. Also, sprinkler piping and components are rated for a pressure of 175 psi, while plumbing water supply systems are rated for only 80 psi.

11. **Appendix P, good enough for now?** Opponents of residential sprinklers suggested in Orlando that, with the IRC having just accepted Appendix P, maybe it would be best to leave the sprinkler requirements in the appendix for a while to see what happens with it. This approach will certainly be appealing to some because it delays the sprinkler issue and gives home builders a leg up in fighting sprinklers at the local level.

However, isn't it time that we give local code officials the leg up? Code officials who have been through the local adoption process will certainly understand that it's much easier to justify taking something controversial out of the code than to add something new during an adoption review. With respect to residential sprinklers, code officials know all too well that arguing them into the code at the local level is a very uphill climb given local politics and the strength of local home builder associations.

Putting the sprinkler requirement into the body of the IRC certainly won't end the local debate, but it will at least put the burden on the home building industry to justify making an amendment to take sprinklers out.

Local code officials would then have a respectable chance of keeping the sprinkler requirement. Other codes including the Uniform Fire Code, the NFPA Building Code and the Life Safety Code have already set a moral precedent by adding mandatory dwelling sprinkler requirements in their 2006 editions. The IBC and IFC have also done their parts by now requiring all residential occupancies within their respective scopes to be protected by fire sprinklers. Now it is time for the IRC to do the same.

Conclusion: From the perspective of fire safety, Code Change RB114 will probably be the single most important code change that code officials attending the Rochester meeting will ever vote for. Unlike many issues that we face, THIS change strikes directly at the heart of America's fire problem. Opponents of residential sprinklers have a record of fighting just about every initial effort to improve dwelling safety. The same groups initially fought against smoke detectors, ground fault interrupters and mandatory sprinklers in multi-family residential occupancies. On each of these topics, code officials heard the same predictions of gloom and doom, but once the codes moved forward to require these features, the home building industry proceeded without so much as a detectible bump in the road. As years passed, prices for all of these features declined, some dramatically, and technology advanced to create better, yet less expensive products. The scenario for residential sprinklers will play out in exactly the same way.

In Rochester and for many years to come, we can continue to debate whose statistics are right and whose are wrong; we can continue to debate whose cost estimates are right and whose are wrong, or we can finally accept the fact that it is simply good public policy to provide residential sprinklers in new home construction...to protect the public, to protect firefighters, to reduce the impact of new home construction on community resources, and to transfer the responsibility for new home fire protection from the general public to developers and homeowners who create the increased demand. No one will argue that sprinkler technology cannot be improved or made more cost efficient. However, the best way to promote such improvements and efficiencies is by establishing a requirement for residential

sprinklers in the IRC. This will bring all of the national model codes into agreement on this issue. An IRC sprinkler requirement is the best thing that we, as code officials, can do to drive enhanced competition in both technology and price to bring about better and less expensive residential sprinkler systems.

By making the change now, in a supplement cycle, code officials and affected industries will have several years to prepare for residential sprinklers. A change approved this year will be first published in the 2007 Supplement, followed by the 2009 edition of the IRC. Realistically, initial adoptions of the sprinkler requirement won't begin until at least 2010, and widespread adoptions won't begin for a couple years after that. So, changing the code today provides a buffer of five or more years before there will be a widespread impact on home construction. During this period, sprinkler technology will certainly be improved and made even more affordable.

It seems fair to say that most people familiar with residential sprinklers, even home builders, recognize that residential sprinklers will eventually become a standard feature in new home construction. That said, why are we continuing to wait? The best method of overcoming perceived obstacles is to place the sprinkler requirement into the IRC, stop focusing on the debate and start working together to efficiently integrate residential sprinklers into new home construction. We, the code officials who have co-sponsored this public comment, are committed to working with manufacturers and the home building industry as partners with the common interest of supporting continued research and development to maximize the effectiveness and affordability of residential sprinklers.

At the Rochester meeting, we urge our fellow code officials to vote AGAINST the standing motion, which will be the committee's recommendation for disapproval, and FOR the follow-up motion of APPROVAL AS MODIFIED by this public comment, which will be made once the standing motion has been defeated.

Public Comment 2:

Brian Sause, National Association of Home Builders, requests Disapproval.

Commenter's Reason: The Committee's action to disapprove this and all proposals to mandate sprinklers in the body of the IRC is absolutely correct and should not be overturned. Each of the concerns raised by the committee as the basis for their disapproval is completely valid and none have been adequately addressed. The Committee's disapproval also appropriately reflects the fact that the need, practicality and impact of mandating sprinklers in one- and two-family is still a subject of much legitimate debate. For these reasons, the decision of whether or not to require sprinklers should be left up to state and local jurisdictions via an action separate from the adoption of the IRC. Jurisdictions adopting the IRC should not be forced to amend sprinkler requirements out of the code. Furthermore, state and local statutes in many jurisdictions that adopt the IRC prohibit amendments that are deemed to result in a less restrictive code and therefore prevent the amending out of sprinkler requirements.

Finally, inclusion of Appendix P was overwhelmingly deemed as the most appropriate action to take by a large group sprinkler proponents who testified so at the previous Final Action Hearings stating that the appendix provides for jurisdictions that wish to require sprinklers and those that do not.

Final Action: AS AM AMPC _____ D

RB116-06/07

RB314.5.3, R314.5.4

Proposed Change as Submitted:

Proponent: Rick Davidson, City of Hopkins, Minnesota

Revise as follows:

R314.5.3 Attics. The thermal barrier specified in Section 314.4 is not required where:

1. Attic access is required by Section R807.1, ~~and where~~
2. The space is entered only ~~for service of utilities~~ to provide service or maintenance to appliances or equipment, and
3. ~~when~~ The foam plastic insulation is protected against ignition using one of the following ignition barrier materials:
 - 3.1. 1.5-inch-thick (38 mm) mineral fiber insulation;
 - 3.2. 0.25-inch-thick (6.4 mm) wood structural panels;
 - 3.3. 0.375-inch (9.5 mm) particleboard;
 - 3.4. 0.25-inch (6.4 mm) hardboard;
 - 3.5. 0.375-inch (9.5 mm) gypsum board; or
 - 3.6. Corrosion-resistant steel having a base metal thickness of 0.016 inch (0.406 mm).

The above ignition barrier is not required where the foam plastic insulation has been tested in accordance with Section R314.6.

R314.5.4 Crawl spaces. The thermal barrier specified in Section R314.4 is not required where:

1. Crawlspace access is required by Section R408.3, ~~and where~~

DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT REGULATORY CHANGE FORM

(Use this form to submit changes to building and fire codes)

<p>Address to submit to:</p> <p>DHCD, the Jackson Center 501 North Second Street Richmond, VA 23219-1321</p> <p>Tel. No. (804) 371 – 7150 Fax No. (804) 371 – 7092 Email: bhcd@dhcd.state.va.us</p>		<p>Document No. _____</p> <p>Committee Action: _____</p> <p>BHCD Action: _____</p>
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Submitted by: Amusement Device Technical Advisory Committee Representing: _____

Address: _____ Phone No.: _____

Regulation Title: Virginia Amusement Device Regulations Section No(s): 13 VAC 5-31-90

Proposed Change:

Change Section 90 to read as follows:

13 VAC 5-31-90. Accidents.

In the event of an accident involving serious injury or death to persons riding the amusement device or to persons in, on, under or near the amusement device; the owner or operator shall:

(remainder of section unchanged)

Supporting Statement:

This code change from the Amusement Device Technical Advisory Committee clarifies the circumstances where the additional measures need to be taken in response to an accident. The language is the same used for the requirements for liability insurance.

DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT REGULATORY CHANGE FORM

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<p>Submitted by: Raymond Rinaldi</p> <p>Address: 1 Harrison St SE Leesburg, VA 20177</p> <p>Regulation Title: Virginia Amusement Device Regulation</p>		<p>Representing: Loudoun County</p> <p>Phone No.: 703-771-5449</p> <p>Section No(s): 13 VAC 5-31-200</p>
<p>Proposed Change: Delete</p>		
<p>Supporting Statement: This is a difficult regulation to enforce. Inflatable amusement devices can be purchased at retail stores by any person. Often times these devices are only set up for a short period of time (a few hours). It is difficult for a locality to provide staff to inspect every inflatable amusement device that is setup at church picnics, block parties and similar events. Most of the time these devices are setup and used without knowledge of the locality. Therefore, it is all but impossible for the locality to locate every device being used and enforce this code.</p>		

Rodgers, Emory

From: Revels, Greg [rev04@co.henrico.va.us]
Sent: Wednesday, February 21, 2007 9:42 AM
To: McIver, Curtis; Ackerly, Cabell M.
Cc: Bailey, Alan; Banta, Richard; Rodgers, Emory; Bowles, Bolman; Castelvechi, Frank
Subject: RE: Mobile CT unit at St. Mary's Hospital

Curtis and Mr. Ackerly: It is my opinion that the intent of the code is to not apply to vehicles unless they are being used as a structure. For example, a book mobile or blood mobile that routinely travels between sites only a daily basis, usually no more than a few hours at each site, is not considered a structure per the building code. However, if such mobile units are installed for a continuous use at one location then it would be regulated as a structure instead of a vehicle. This concept was the subject of a Sate Building Code Technical Review Board interpretation a few years ago regarding the use of a dmv-licensed trailer (disconnected from a truck) being used for the storage of tires.

The building permit application for this CT unit includes the installation of a fence as a vision barrier to block the view of the CT unit after in is installed. Once installed, the unit will be surrounded by barriers on all 4 sides, with no means of removing the unit without taking down the fence. Given the proposed layout it is obvious that the unit will not be routinely moving between different sites and would be a continuous use regulated as a structure per the State building code.

The plan review comments were issued based on the plan submittal filed with the permit application. No information was provided to indicate that the unit has a Virginia label as an industrialized building – thus it would be subject to the design and construction standards of the Virginia Uniform Statewide Building Code. We are happy to consider any design or construction details from the manufacturer that will clarify these details. We would need a copy the applicable safety standard that was used for design and construction of the unit if a national building construction code was not used by the manufacturer. We would also need to know what type of quality control program the manufacturer used to assure the unit was constructed according to the applicable safety standards. Approval of any alternate safety standards or quality control program will require the submission of the attached Modification Request form
<http://www.co.henrico.va.us/bldg/pdf/modification.pdf>

Please note that the contractor has requested that we release the permit for construction of the pad at this site. The Planning Office has also rejected the application based on the need for a temporary conditional use permit; therefore, we will not release the permit for construction of the pad.

Gregory H. Revels

Rodgers, Emory

From: Mclver, Curtis
Sent: Tuesday, February 20, 2007 1:45 PM
To: 'Ackerly, Cabell M.'
Cc: Bailey, Alan; Banta, Richard; 'Revels, Greg'; Rodgers, Emory
Subject: RE: Mobile CT unit at St. Mary's Hospital

Mr. Ackerly:

As you have requested, I will provide to you my opinions regarding the "Henrico County Review Comments" you forwarded to me. I am also sending a copy of this e-mail to Greg Revels, Henrico County Building Official, so that he will be aware of both the questions and my responses. Greg and I have had some previous correspondence regarding the mobile CT units and other types of similar mobile units.

Before responding to the review comments, it may be beneficial to first discuss whether the mobile CT unit is a vehicle that would not usually be regulated by this office or a structure that would be regulated under the Virginia Industrialized Building Safety Regulations (IBSR) and the Virginia Uniform Statewide Building Code (USBC). After reviewing the photographs of the typical mobile CT unit provided to us from Rich Dishman and also visiting the Medical Coaches Web site to review the specifics of these mobile CT units, it would be my opinion that these mobile CT units should be considered as vehicles or vehicle trailers and not structures under the IBSR and USBC. The mobile CT units are titled by the Department of Motor Vehicles and have a motor vehicle license plate on the trailer. The drawings and listing of Standard Features of the units shown on the Medical Coaches Web site clearly indicate a motor vehicle type trailer and not what would generally be considered as a building or a structure.

Now, having said that, I would also raise the question that at what length in time (number of days, weeks, months, years) that one of these mobile CT units is left in one place should that mobile vehicular unit be considered as having become a structure under our codes? The USBC in section 117.1 provides that the building official may issue permits for the use of temporary buildings or structures for a limited period of time up to one year. Section 3103.1 of the International Building Code (which may have been superseded by section 117.1 of the USBC) would indicate that temporary structures in place for more than 180 days would have to comply with applicable provisions of the code. Since there is no definite time limit specified in the code, I think each local building official has the authority under USBC 117.1 to make a determination of the specific length of time a mobile unit may remain in one location before being considered as a structure rather than remaining as a vehicle.

Following are my responses to the review comments:

1. *Submit trailer to be used, submitting site work for future trailer is not acceptable.* I would think this may require two (or more) permits, first for the construction of the pad and associated utility work where trailers and mobile units may be moved in and out as needed. The pad and utility receptacles would be the "permanent" construction that stays at the hospital. Henrico County may then require permits for mobile units and trailers individually as they are moved in and out of the hospital complex from this pad as necessary in the future.
2. *Indicate compliance with IBC/USBC requirements for accessibility.* According to my conversations with Mr. Dishman and as shown on the Medical Coaches Web site the mobile CT unit comes with a self-storing step platform (landing) and steps as well as a hydraulic patient lift for those in wheelchairs or on gurneys, so other than any site specific accessible route requirements for the path from the hospital to the patient access steps/lift there should be little problem indicating compliance with the accessibility requirements. There are no bathrooms or other areas for specific accessibility requirements.
3. *Trailer must have HUD level or state Reg. Label and must be wired per NEC art. 517. Please provide detail of internal wiring accordingly.* I think the correct reference is to a HUD label not level. The mobile CT unit will not and cannot have a HUD label on it. The HUD label is strictly for manufactured homes (single family dwellings) only. HUD labels would not be appropriate for mobile CT units. Virginia law does not require a Virginia Registration Seal to be placed on the mobile CT unit. Use of the Registration Seal is optional for the manufacturers of industrialized or modular buildings. Unregistered or unlabeled industrialized buildings are subject to review and approval by the local building official. Article 517 of the

NEC addresses electrical wiring for health care facilities and does refer to some wiring requirements for transportable x-ray type equipment that can be placed in vehicles.

I would be interested in knowing if these mobile CT units or other types of mobile x-ray units are regulated by the Health Department or some similar agency that would regulate the construction and operation of the units and the various safety features that would be required. If these mobile CT units have been certified by some department such as that, the local building official may be willing to accept that certification in lieu of any certification to the IBC/USBC for the vehicle trailer.

Hopefully this information will be helpful. I would say again that these are my opinions and not intended as an official interpretation from the State Building Code Technical Review Board. Please contact me if there are further questions.

Curtis L. McIver
State Building Code Administrator
Department of Housing and Community Development
501 North Second Street
Richmond, VA 23219
(804) 371-7160

From: Ackerly, Cabell M. [mailto:Cabell_Ackerly@bshsi.com]
Sent: Thursday, February 15, 2007 12:01 PM
To: McIver, Curtis
Cc: Bailey, Alan; Banta, Richard
Subject: Mobile CT unit at St. Mary's Hospital

Mr. McIver,

Thank you for taking the time to speak with me this morning regarding the mobile CT at St. Mary's Hospital. As we discussed, below are the comments received from the County of Henrico regarding the permit application to build a temporary pad for a mobile CT unit at St. Mary's. I would appreciate it if you could offer us a response to each of these comments based on your experience and understanding of the state building codes.

Henrico County review comments

1. Submit Trailer to be used, submitting site work for future trailer is not acceptable
2. Indicate compliance with IBC/USBC requirements for accessibility.
3. Trailer must have HUD level or state Reg. Label and must be wired per NEC art. 517. Please provide detail of internal wiring accordingly.

Thank you once again for your assistance with this matter. If you have any questions, please do not hesitate to contact me directly.

Thank you,
Cabell

Cabell M. Ackerly
Matrix Real Estate Services, LLC
5875 Bremo Road, Suite 306
Richmond, VA 23226
t:804-287-7374 f:800-851-7094 m:804-937-0220

DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT REGULATORY CHANGE FORM

(Use this form to submit changes to building and fire codes)

Address to submit to: DHCD, the Jackson Center 501 North Second Street Richmond, VA 23219-1321 Tel. No. (804) 371 - 7150 Fax No. (804) 371 - 7092 Email: bhcd@dhcd.state.va.us		Document No. _____ Committee Action: _____ BHCD Action: _____
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Submitted by: Tom Hardiman/ Jerry Brosius Representing: Modular Building Institute

Address: 944 Glenwood Station Lane Suite 204 Charlottesville VA Phone No.: 888-811-3288

Regulation Title: Unregistered Industrialized Buildings Section No(s): Section 13 VAC 5-91-120

Proposed Change:

Add Section C:

C. An unregistered industrialized building may be eligible for registration under the following criteria:

1. *The building bears the insignia of another state and/or a compliance assurance agency.* The building owner must obtain the services of a Virginia designated compliance assurance agency. The agency must inspect the building to verify compliance with the codes in effect at the date of manufacture. The agency must also assure that the buildings structural, electrical, mechanical and plumbing systems have not been modified since the date of manufacture. Upon verification, the agency may apply Virginia registration seals, compliance agency certification labels and a new data plate. The data plate must reflect the Virginia codes in effect at the date of manufacture. The agency must forward copies of the inspection report and data plate to the administrator.
2. *The building does not bear the insignia of another state and/or a compliance assurance agency, but factory plans are available.* The building owner must obtain the services of a Virginia designated compliance assurance agency. The agency must review the plans to determine compliance with the Virginia codes in effect at the date of manufacture. The agency must inspect the building to verify compliance with the codes and the design. The agency must also assure that the buildings structural, electrical, mechanical and plumbing systems have not been modified since the date of manufacture. Upon verification, the agency may apply Virginia registration seals, compliance agency certification labels and a new data plate. The data plate must reflect the Virginia codes in effect at the date of manufacture. The agency must forward copies of the inspection report and data plate to the administrator.
3. *The building does not bear the insignia of another state and/or a compliance assurance agency.* The building owner must obtain the services of a Virginia designated compliance assurance agency. The agency must inspect the building to determine the construction characteristics. Structural framing members and fasteners must be verified along with the installation of the electrical, mechanical and plumbing systems. This inspection will require removal of wall and roof panels to provide access to the closed construction elements. The number of panels to be removed will be at the discretion of the compliance assurance agency.
 The agency must analyze the inspection findings to determine the design loads and to determine compliance with the codes in effect at the time of manufacture. Upon determination, the agency may apply Virginia registration seals, compliance agency certification labels and a new data plate. The data plate must reflect the Virginia codes in effect at the date of manufacture. The agency must forward copies of the inspection reports and data plate to the administrator.

Add Section D.

An unregistered industrialized building may be eligible for a change of occupancy under the criteria listed in Section C and under item number 9 in Section 13 VAC 5-91-110.

Supporting Statement:

These changes will streamline the current process of requiring the administrator to review each request for certification labels on a case by case basis. The changes provide the building owners and the compliance assurance agencies with definite guidelines regarding the re-certification process.

DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT REGULATORY CHANGE FORM

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Submitted by: Tom Hardiman/ Jerry Brosius

Representing: Modular Building Institute

Address: 944 Glenwood Station Lane Suite 204 Charlottesville VA

Phone No.: 888-811-3288

Regulation Title: Registered Industrialized Buildings Section No(s): Section 13 VAC 5-91-110

Proposed Change:

Add item 9

9. Registered industrialized buildings may be eligible for a change of occupancy. The building owner must obtain the services of a Virginia designated compliance assurance agency. The agency must inspect the building to verify that the building complied with the codes for the new occupancy at the time of manufacture. The agency must also assure that the buildings structural, electrical, mechanical and plumbing systems have not been modified since the date of manufacture. Upon verification, the agency may apply compliance agency certification labels and a new data plate. The data plate must reflect the Virginia codes in effect at the date of manufacture and the new occupancy designation. The agency must forward copies of the inspection report and data plate to the administrator.

If the building does not comply with the codes for the new occupancy at the time of manufacture, then the agency must verify compliance with current Virginia codes. The agency must also assure that the buildings structural, electrical, mechanical and plumbing systems have not been modified since the date of manufacture. Upon verification, the agency may apply compliance agency certification labels and a new data plate. The data plate must reflect the current Virginia codes and the new occupancy designation. The agency must forward copies of the inspection report and data plate to the administrator.

Supporting Statement:

These changes will streamline the current process of requiring the administrator to review each request for certification labels on a case by case basis. The changes provide the building owners and the compliance assurance agencies with definite guidelines regarding the re-certification process.

Suggestions for the Modular Building Institute's Changes

13 VAC 5-91-280. Change of occupancy classification and registering existing industrialized buildings.

A. Where the occupancy classification of a registered industrialized building is proposed to be changed, a compliance assurance agency shall inspect the building, including any disassembly necessary, to determine whether substantial compliance may be achieved with any methods for change of occupancy in the USBC. If factory plans are available, then disassembly is not required to the extent that the factory plans can be reasonably verified to reflect the actual construction. Once any necessary work is completed, the compliance assurance agency shall prepare a report documenting the method utilized for the change of occupancy and any alterations made to the building to achieve substantial compliance. When the report is complete, the compliance assurance agency shall (i) mark the building with a new label in accordance with § 13 VAC 5-91-210 which replaces or covers the existing label, (ii) place a new manufacturer's data plate on the building in accordance with 13 VAC 5-91-245 which replaces or covers the existing manufacturer's data plate and reflects the new occupancy classification, (iii) mark the building with a registration seal in accordance with § 13 VAC 5-91-260 which replaces or covers the existing seal and (iv) forward a copy of the report and new data plate to the SBCAO.

B. The following procedure shall be used to register an existing unregistered industrialized building:

1. Where a building was constructed under an industrialized program of another state and approved under such program, a compliance assurance agency shall prepare a report based on inspection of the building or review of the plans and specifications for the building, or both, to determine whether there is substantial compliance with the construction requirements of this chapter that were in effect on the date of manufacture of the building. If substantial compliance is determined, the compliance assurance agency shall (i) mark the building with a label in accordance with § 13 VAC 5-91-210 which replaces or covers any existing label, (ii) place a new manufacturer's data plate on the building in accordance with 13 VAC 5-91-245 which replaces or covers any existing manufacturer's data plate, (iii) mark the building with a registration seal in accordance with § 13 VAC 5-91-260 which replaces or covers any existing seal and (iv) forward a copy of the report and new data plate to the SBCAO.
2. If substantial compliance is not determined under subdivision 1 of this subsection or where a building was not subject to an industrialized program of another state, then in order to be labeled under this chapter, the compliance assurance agency shall inspect the building, including any disassembly necessary, to determine whether there is substantial compliance with the construction requirements of this chapter that were in effect on the date of manufacture of the building. If factory plans are available, then disassembly is not required to the extent that the factory plans can be reasonably verified to reflect the actual construction. When substantial compliance with the construction requirements of this chapter that were in effect on the date of manufacture of the building is achieved, the compliance assurance agency shall prepare a report documenting compliance and outlining the changes made to the building and certify the building in accordance with items (i) through (iv) in subdivision 1 of this subsection.

**DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT REGULATORY CHANGE
FORM**

(Use this form to submit changes to building and fire codes)

<p>Address to submit to:</p> <p>DHCD, the Jackson Center 501 North Second Street Richmond, VA 23219-1321</p> <p>Tel. No. (804) 371 – 7150 Fax No. (804) 371 – 7092 Email: bhcd@dhcd.state.va.us</p>		<p>Document No. _____</p> <p>Committee Action: _____</p> <p>BHCD Action: _____</p>
<p>Submitted by: <u>State Fire Marshal's Office (SFMO)</u> Representing: _____</p>		
<p>Address: _____ Phone No.: _____</p>		
<p>Regulation Title: <u>2006 Va. Statewide Fire Prevention Code</u> Section No(s): <u>107.14</u></p>		
<p>Proposed Change:</p>		
<p>107.14. State annual inspection permit fees. Annual fees for inspection permits issued by the State Fire Marshal's office for the inspection of buildings shall be as follows:</p>		
<ul style="list-style-type: none">1. <u>Nightclubs frequented by the general public.</u><ul style="list-style-type: none">1.1. \$350 for occupant load of 100 or less.1.2. \$450 for occupant load of 101 to 200.1.3. \$500 for occupant load of 201 to 300.1.4. \$500 plus \$50 for each 100 occupants where occupant loads exceed 300.		
<p>Remainder of text same.</p>		
<p>Supporting Statement:</p>		
<p>The change to item 1 is to clarify the SFMO inspection program for nightclubs. The intent of the current SFMO program is to inspect annually those nightclubs open to the general public on a recurring or frequent basis. This includes those that are open on weekends only or even the private clubs that have dances on a regular basis where tickets are openly sold to the public as opposed to those that must be in the company of a member. We do not currently include private functions, organizations, or clubs such as churches, museums, lodges and meeting halls open only to members or in which events are held only on special occasions or a few times per year. This change better identifies our current program but still allows response to complaints on the private organizations or others not frequented by the general public.</p>		

[summary](#) | [pdf](#)**CHAPTER 673**

An Act to amend and reenact § 63.2-1732 of the Code of Virginia, relating to emergency electrical systems.

[S 181]

Approved April 12, 2004

Be it enacted by the General Assembly of Virginia:

1. That § 63.2-1732 of the Code of Virginia is amended and reenacted as follows:

§ 63.2-1732. Regulations for assisted living facilities.

A. The Board shall have the authority to adopt and enforce regulations to carry out the provisions of this subtitle and to protect the health, safety, welfare and individual rights of residents of assisted living facilities and to promote their highest level of functioning. Such regulations shall take into consideration cost constraints of smaller operations in complying with such regulations.

B. Regulations shall include standards for staff qualifications and training; facility design, functional design and equipment; services to be provided to residents; administration of medicine; allowable medical conditions for which care can be provided; and medical procedures to be followed by staff, including provisions for physicians' services, restorative care, and specialized rehabilitative services.

C. *Regulations shall require all licensed assisted living facilities with six or more residents to be able to connect by July 1, 2007, to a temporary emergency electrical power source for the provision of electricity during an interruption of the normal electric power supply. The installation shall be in compliance with the Uniform Statewide Building Code.*

D. Regulations for medical procedures in assisted living facilities shall be developed in consultation with the State Board of Health and adopted by the Board, and compliance with these regulations shall be determined by Department of Health or Department inspectors as provided by an interagency agreement between the Department and the Department of Health.

Legislative Information System

STANDARDS FOR LICENSED
ASSISTED LIVING FACILITIES 22 VAC 40-72

12/06

22 VAC 40-72-960. Emergency equipment and supplies.

14. Syrup of ipecac (use only if instructed by physician or Poison Control Center);
15. Thermometer;
16. Triangular bandages;
17. Tweezers; and
18. The first aid instructional manual.

Items with expiration dates must not have dates that have already passed.

B. In facilities that have a motor vehicle that is used to transport residents and in a motor vehicle used for a field trip, there shall be a first aid kit on the vehicle, located in a designated place that is accessible to staff but not residents, that includes items as specified in subsection A of this section.

C. First aid kits shall be checked at least monthly to assure that all items are present and items with expiration dates are not past their expiration date.

D. Each facility with six or more residents shall be able to connect by July 1, 2007, to a temporary emergency electrical power source for the provision of electricity to provide the services listed below in the event of an emergency that disrupts electrical power to the facility. The installation of the emergency power source shall be in compliance with the Virginia Uniform Statewide Building Code, 13 VAC 5-63.

1. The emergency electrical power shall be sufficient to provide the following services:

- a. Heating and cooling as required by 22 VAC 40-72-860 in an area that provides no less than 40 square feet of floor area per resident;
- b. Lighting as required by 22 VAC 40-72-870 in an area that provides no less than 40 square feet of floor area per resident;
- c. Refrigeration adequate to preserve food and medications that require refrigeration; and
- d. Operation of any necessary medical equipment.



STANDARDS FOR LICENSED
ASSISTED LIVING FACILITIES 22 VAC 40-72

12/06

22 VAC 40-72-960. Emergency equipment and supplies.

2. The provision of emergency electrical power may be supplied by:

- a. An emergency generator available on-site; or
- b. A written agreement with a company or other entity that will provide an emergency generator within four hours of notification.

E. The following emergency lighting shall also be available at all times:

- 1. Flashlights or battery lanterns with one light for each employee directly responsible for resident care who is on duty between 5 p.m. and 7 a.m.
- 2. One operable flashlight or battery lantern for each bedroom used by residents and for the living and dining area unless there is a provision for emergency lighting in the adjoining hallways.
- 3. Open flame lighting is prohibited.

F. There shall be an alternative form of communication in addition to the telephone such as a cell phone, two-way radio, or ham radio.

G. The facility shall ensure the availability of a 96-hour supply of emergency food and drinking water, emergency generator fuel, and oxygen for residents using oxygen.

22 VAC 40-72-970. Plan for resident emergencies and practice exercise.

A. Assisted living facilities shall have a written plan for resident emergencies that includes:

- 1. Procedures for handling medical emergencies including identifying the staff person responsible for (i) calling the rescue squad, ambulance service, resident's physician, or Poison Control Center, and (ii) providing first aid and CPR, when indicated.
- 2. Procedures for handling mental health emergencies such as, but not limited to, catastrophic reaction or the need for a temporary detention order.
- 3. Procedures for making pertinent medical information and history available to the rescue squad and hospital, including but not limited to information on medications and any advance directives.

Hodge, Vernon

From: Hodge, Vernon
Sent: Wednesday, March 21, 2007 2:15 PM
To: 'carole.retzlaff@fairfaxcounty.gov'; 'Fortney, Dean'
Cc: Rodgers, Emory; Eubank, Paula; 'lmoorenc@aol.com'
Subject: FW: Summary of Emergency Generator Meeting with Social Services

Carole and Dean:

Thanks for having Terry come with me to the Social Services meeting today, he was a great help in explaining the details of standby power systems.

As you can see from the summary below, we need to evaluate the 2005 NEC to see whether it permits transfer switches between the meter base and the service panel, without causing the service panel to become a subpanel. Section 230.82 seems to prohibit the transfer switch unless it is also the service disconnecting means. Also, we want to formulate a change to permit the generators being put in to comply with the Social Services regulations to be considered optional standby systems subject to 702 and not legally required systems subject to 701.

Carole, could you perhaps have an IAEI committee be assigned to look into this or see if anyone is interested in helping us formulate language?

Thanks again for Terry's help.

Vernon

From: Rodgers, Emory
Sent: Wednesday, March 21, 2007 1:10 PM
To: Hodge, Vernon; Eubank, Paula; 'Terry Moore'
Subject: RE: Summary of Emergency Generator Meeting with Social Services

Great and would we prepare changes with help of IAEI and VBCOA that we would discuss at April 9th meeting. Thanks sound like we made progress to have DSS collaboration/coordination for their licensed operators and for us to convey message on how to apply USBC.

From: Hodge, Vernon
Sent: Wednesday, March 21, 2007 11:59 AM
To: Rodgers, Emory; Eubank, Paula
Subject: Summary of Emergency Generator Meeting with Social Services

On Wednesday, March 21, 2007, Terry Moore, representing the International Association of Electrical Inspectors, and I, met with a licensing team at the Va. Dept. of Social Services to field questions concerning their new regulations for assisted living facilities to have emergency generators available by July 1, 2007.

They were given information on the power companies' meter base transfer switches and services to provide generators. We described potential problems with complying with the state building code if operators did not choose to use the power company devices.

It was agreed that we would pursue changes to the building code to minimize the provisions applicable to these installations. The two changes mentioned were to clarify that these systems are optional standby systems, not legally required systems (Article 702 of the NEC, versus Articles 700 and 701) and to clarify that a transfer switch may be installed between the meter base and the panel box without requiring the panel box to become a subpanel.

They requested that I (or we) be available for additional meetings as they needed time to digest our information.

Vernon

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3/21/2007

R301.2.1 Wind limitations. Buildings and portions thereof shall be limited by wind speed, as defined in Table R301.2(1), and construction methods in accordance with this code. Basic wind speeds shall be determined from Figure R301.2(4). Where different construction methods and structural materials are used for various portions of a building, the applicable requirements of this section for each portion shall apply. Where loads for windows, skylights and exterior doors are not otherwise specified, the loads listed in Table R301.2(2) adjusted for height and exposure per Table R301.2(3), shall be used to determine design load performance requirements for windows and doors. Wind speeds for localities in special wind regions, near mountainous terrain and near gorges shall be based on elevation. Areas at 4,000 feet in elevation or higher shall use 110 V mph (48.4 m/s) and areas under 4,000 feet in elevation shall use 90 V mph (39.6 m/s). Gorge areas shall be based on the highest recorded speed per locality or in accordance with local jurisdiction requirements determined in accordance with Section 6.5.4 of ASCE 7. Wind speed considerations for roof coverings shall be as set out in Section R905.

2. Change the first sentence in Section R302.1 to read:

R302.1 Exterior walls. Exterior walls with a fire separation distance of less than five feet (1524 mm) shall not have less than a one-hour fire-resistive rating with exposure from both sides.

3. Change Section R302.2 to read:

R302.2 Openings. Openings shall not be permitted in the exterior wall of a dwelling or accessory building with a fire separation distance less than three feet (914 mm). Openings in excess of 25% of the area of the entire wall surface, which shall include bay windows, shall not be permitted in the exterior wall of a dwelling or an accessory building with a fire separation distance between three feet (914 mm) and five feet (1524 mm). The building face of a bay window shall not be considered a separate wall with respect to the computation of the 25% opening limitations. This distance

shall be measured perpendicular to the line used to determine the fire separation distance.

Exceptions:

1. Openings shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.
 2. Foundation vents installed in compliance with this code are permitted.
4. Add an exception to Section R303.8 to read:

Exception: Seasonal structures not used as a primary residence for more than 90 days per year, unless rented, leased or let on terms expressed or implied to furnish heat, shall not be required to comply with this section.

5. Add Section R303.8.1 to read:

R303.8.1 Nonowner occupied required heating. Every dwelling unit or portion thereof which is to be rented, leased or let on terms either expressed or implied to furnish heat to the occupants thereof shall be provided with facilities in accordance with Section R303.8 during the period from October 15 to May 1.

6. Add Section R303.9 to read:

R303.9 Insect screens. Every door, window and other outside opening required for ventilation purposes shall be supplied with approved tightly fitted screens of not less than 16 mesh per inch and every swinging door shall have a self-closing device.

7. Add Section R306.5 to read:

R306.5 Water supply sources and sewage disposal systems. The water and drainage system of any building or premises where plumbing fixtures are installed shall be connected to a public or private water-supply and a public or private sewer system. Where applicable, water supply sources and sewage disposal systems shall

be regulated by the Virginia Department of Health.

8. Change Section R310.1 to read:

R310.1 Emergency escape and rescue required. Basements and each sleeping room designated on the construction documents shall have at least one openable emergency escape and rescue opening. Such opening shall be directly to the exterior of the building or to a deck, screen porch or egress court, all of which shall provide access to a public street, public alley or yard. Where emergency escape and rescue openings are provided, they shall have a sill height of not more than 44 inches (1118 mm) above the floor. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with Section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside, except that tilt-out or removable sash designed windows shall be permitted to be used. Emergency escape and rescue openings with a finished height below the adjacent ground elevation shall be provided with a window well in accordance with Section R310.2.

Exceptions:

1. Dwelling units equipped throughout with an approved automatic sprinkler system installed in accordance with NFPA 13, 13R or 13D.
2. Basements used only to house mechanical equipment and not exceeding total floor area of 200 square feet (18.58 m²).

9. Change Section R310.1.1 to read:

R310.1.1 Minimum opening area. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.530 m²), including the tilting or removal of the sash as the normal

operation to comply with sections R310.1.2 and R310.1.3.

Exception: Grade floor openings shall have a minimum net clear opening of 5 square feet (0.465 m²).

10. Change Section R311.4.3 to read:

R311.4.3 Landings at doors. There shall be a floor or landing on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel.

Exception: Where a stairway of two or fewer risers is located on the exterior side of a door, other than the required exit door, a landing is not required for the exterior side of the door.

11. Add Section R311.4.3.1 to read:

R311.4.3.1 Elevation of landing. The floors or landings at both sides of any exterior door shall not be more than 1-1/2 inches (38 mm) lower than the top of the threshold.

Exception: The floor or landing at the exterior side of any exterior door shall have a rise no greater than permitted in Section R311.5.3 provided the door, other than an exterior storm or screen door, does not swing over the landing.

12. Change Section R311.5.3.1 to read:

R311.5.3.1 Riser height. The maximum riser height shall be 8-1/4 inches (210 mm). The riser shall be measured vertically between the leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

13. Change Section R311.5.3.2 to read:

R311.5.3.2 Tread depth. The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The

Chapter 29

PLUMBING SYSTEMS

Change Section 2901.1 of the IBC to read:

2901.1 Scope. The provisions of this chapter and the International Plumbing Code shall govern the design and installation of all plumbing systems and equipment, except that water supply sources and sewage disposal systems are regulated and approved by the Virginia Department of Health. The approval of pumping and electrical equipment associated with such water supply sources and sewage disposal systems shall, however, be the responsibility of the building official.

Add Section 2901.1.1 to the IBC to read:

2901.1.1 Changes to the International Plumbing Code. The following change shall be made to the International Plumbing Code:

1. Delete Sections 311 and 311.1.

Chapter 30

ELEVATORS AND CONVEYING EQUIPMENT

Change Section 3001.2 of the IBC to read:

3001.2 Referenced standards. Except as otherwise provided for in this code, the design, construction, installation, alteration and repair of elevators and conveying systems and their components shall conform to ASME A17.1, ASME A90.1, ASME B20.1, ALI ALCTV. In addition, ASCE 24 shall apply to construction in flood hazard areas established in Section 1612.3.

frame on the designated and alternate landing floors required to be established by ASME A17.1.

Exception: Elevators in multistory dwelling units or guest rooms.

Change Section 3002.4 of the IBC to read:

3002.4 Elevator car to accommodate ambulance stretcher. In buildings four or more stories in height where an elevator or elevators are provided, at least one of the elevators shall be capable of providing fire department personnel emergency access to all floors and shall have the elevator car of such a size and arrangement to accommodate a 24-inch by 76-inch (610 mm by 1930 mm) ambulance stretcher in the horizontal, open position. The elevator shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoistway door

DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT REGULATORY CHANGE FORM
 (Use this form to submit changes to building and fire codes)

Address to submit to: DHCD, the Jackson Center 501 North Second Street Richmond, VA 23219-1321 Tel. No. (804) 371 – 7150 Fax No. (804) 371 – 7092 Email: bhcd@dhcd.state.va.us		Document No. _____ Committee Action: _____ BHCD Action: _____
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Submitted by: Richard C. Witt	Representing: Chesterfield County
Address: 9800 Government Center Parkway, Chesterfield, Va. 23832	Phone No.: (804) 751-4161
Regulation Title: Part I, VUSBC, Virginia Construction Code	Section No(s): 105.1.4 and 105.2.3

Proposed Change:

105.1.4 Continuing education requirements. Building officials shall attend periodic training courses designated as determined by DHCD BHCD

105.2.3 Continuing education requirements. Technical assistants shall attend periodic training courses designated as determined by DHCD BHCD

Supporting Statement:

This change coordinates the language in the VUSBC to that proposed in a companion change to the Certification Standards. This would allow the Board of Housing and Community Development to adopt continuing education recommendations by staff and BCAAC. Currently and for many years there has been a continuing education section in the VUSBC and this would be part of enhancing the professionalism of code officials and technical assistants.

DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT REGULATORY CHANGE FORM

(Use this form to submit changes to building and fire codes)

Address to submit to: DHCD, the Jackson Center 501 North Second Street Richmond, VA 23219-1321 Tel. No. (804) 371 – 7150 Fax No. (804) 371 – 7092 Email: bhcd@dhcd.state.va.us		Document No. _____ Committee Action: _____ BHCD Action: _____
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Submitted by: Rick Witt Representing: Chesterfield County

Address: 9800 Government Center Parkway, Chesterfield, Va. 23832 Phone No.: (804) 751-4161

Regulation Title: Virginia Certification Standards Section No(s): 13 VAC 5-21-41, 13 VAC 5-21-45

Proposed Change:

13 VAC 5-21-41. Certification categories and training requirements.

~~A. DHCD shall maintain a list of all BHCD categories and the list shall set out the required training necessary to attend and complete to obtain a certificate. This section also contains specific training requirements for some certification categories that may be duplicated on the list or that may be in addition to those set out on the list. Alternatives to the training requirements set out in 13 VAC 5-21-45 shall be permitted for all categories on the list except that no alternative shall be accepted for the code academy core module.~~

~~For further information on BHCD certification categories and required training, contact DHCD, Division of Building and Fire Regulation, 501 N. 2nd St., Richmond, VA 23219, (804) 371-7180~~

B. Applicants for all BHCD certificates shall attend and complete the code academy core module. In addition to the completion of the core module, applicants for the following categories of BHCD certification are required to attend and complete the following code academy training, ~~except as provided for in 13 VAC 5-21-45:~~

Category of BHCD Certification	Code Academy Training
Building official	Advanced official module
Fire official	Advanced official module and The 1031 school as administered By DFP
Building maintenance official	Advance official module and the Property maintenance module
Fire prevention inspector	The 1031 School as administered by DFP
Amusement device inspector	Amusement device inspection module

C. All BHCD Certificate holders shall attend periodic training as determined by the BHCD as per VUSBC Sections 105.1.4 and 105.2.3

D. For further information on BHCD certification categories and required training, contact: DHCD, Division of Building and Fire Regulation, 501 N. 2nd St., Richmond, Virginia 23219, (804) 371-7180

13 VAC 5-21-45. Alternatives to examination and training requirements

- A. An applicant for a BHCD certificate with the written endorsement or documentation required by 13 VAC 5-21-31 may submit a written request to DHCD to approve an equivalent examination by a testing agency not on the list of approved testing agencies maintained by DHCD to satisfy the examination requirements of 13 VAC 5-21-31. DHCD may request the assistance of BCAAC in such consideration.

Upon written application by any applicant for a BHCD certificate, DHCD may approve alternative training or a combination of training, education or experience to satisfy the training requirements of 13 VAC 5-21-41, provided that such alternatives or combinations are determined to be equivalent to that required. However, as provided in 13 VAC 5-21-41, no substitutions shall be approved for the code academy core module. The types of combinations of education and experience may include ***but is not limited to***, military training, college classes, technical schools or long term work experiences, except that long term work experiences shall not be approved as the sole substitute to satisfy the training requirements. DHCD may request the assistance of BCAAC in any such consideration.

Supporting Statement:

This code change is intended to incorporate continuing education (periodic training) as part of the maintenance of certification requirements. For a number of years the VUSBC has required periodic training as determined by DHCD. The change proposed would incorporate the periodic training requirement but the determining entity would be the Board of Housing and Community Development based on recommendations from BCAAC and DHCD staff. Additionally with periodic training requirements, the minimum requirements for certification have been modified, and the entire process will be more consistent with the ICC requirements. There is corresponding proposed changes to the VUSBC periodic training sections which will make both the VUSBC and the Certification Standards consistent.

- Upgrade unvented attic text in IRC.

Revise as follows

Section 202

Definitions

Air-impermeable insulation. An insulation having an air permance equal to or less than 0.02 L/s-m² at 75 Pa pressure differential tested according to ASTM E 2178 or E 283.

R806.4 Conditioned-Unvented attic assemblies. Unvented conditioned-attic assemblies (spaces between the ceiling joists of the top story and the roof rafters) ~~are~~ shall be permitted under if all the following conditions are met:

1. The unvented attic space is completely contained within the building thermal envelope.
2. No interior vapor retarders are installed on the ceiling side (attic floor) of the unvented attic assembly.
2. An air-impermeable insulation is applied in direct contact to the underside/interior of the structural roof deck. "Air-impermeable" shall be defined by ASTM E 283.
~~–Exception: In Zones 2B and 3B, insulation is not required to be air-impermeable.~~
3. In the warm-humid locations as defined in Section N1101.2.1:
 - 3.1. For asphalt roofing shingles: A 1-perm (5.7 °x10⁻¹¹ kg/s⁻¹·m²·Pa) or less vapor retarder (determined using Procedure B of ASTM E 96) is placed to the exterior of the structural roof deck; that is, just above the roof-structural sheathing.
 - 3.2. For ~~Where~~ wood shingles ~~and~~ or shakes are used, a minimum continuous ¼ inch (6 mm) vented air space separates the shingles/ or shakes and the roofing felt placed over underlayment above the structural sheathing.
4. In Zones 3 through 8 as defined in Section N1101.2 sufficient insulation shall be installed to maintain the monthly average temperature of the condensing surface above 45°F (7°C). The condensing surface is defined as either the structural roof deck or the interior surface of an air-impermeable insulation applied in direct contact with the underside/interior of the structural roof deck. "Air-impermeable" is quantitatively defined by ASTM E 283. For calculation purposes, an interior temperature of 68°F (20°C) is assumed. The exterior temperature is assumed to be the monthly average outside temperature.
4. Either "a", "b", or "c" shall be met, depending on the air permeability of the insulation directly under the structural roof sheathing.
 - a. Air-impermeable insulation only. Insulation shall be applied in direct contact to the underside of the structural roof sheathing.
 - b. Air-permeable insulation only. In addition to the air-permeable installed directly below the structural sheathing, at least R-15 rigid board or sheet insulation shall be installed directly above the structural roof sheathing for condensation control.
 - c. Air-impermeable and air-permeable insulation. At least R-15 air-impermeable insulation shall be applied in direct contact to the underside of the structural roof sheathing for condensation control. The air-permeable insulation shall be installed directly under the air-impermeable insulation.

Reason:

Unvented attics are attics where the insulation and air barrier boundary is moved to be directly above the attic space, instead of on top of the ceiling. Unvented attics eliminate the extreme temperatures of the attic, thereby placing the HVAC, ducts, pipes, and anything in the attic space into a more favorable environment. Unvented attics increase energy efficiency and decrease wear and tear on equipment in the attic.

This comment proposes simpler code text and clarifies what "air impermeable" means by adding a definition. If this public comment prevails, the existing RB806.4 will be simplified. For clarity the resulting R806.4 code text is below:

Section 202, Definitions

Air-impermeable insulation. An insulation material having an air permance equal to or less than 0.02 L/s-m² at 75 Pa pressure differential tested according to ASTM E 2178 or E 283.

R806.4 Unvented attic assemblies. Unvented attic assemblies (spaces between the ceiling joists of the top story and the roof rafters) shall be permitted if all the following conditions are met:

1. The unvented attic space is completely contained within the building thermal envelope.
2. No interior vapor retarder is installed on the ceiling side (attic floor) of the unvented attic assembly.
3. Where wood shingles or shakes are used, a minimum ¼ inch (6 mm) vented air space separates the shingles or shakes from the roofing underlayment.
4. Either “a” or “b” or “c” shall be met, depending on the air permeability of the insulation under the structural roof sheathing.
 - a. Air-impermeable insulation only. Insulation shall be applied in direct contact to the underside of the structural roof sheathing.
 - b. Air-permeable insulation only. In addition to air-permeable insulation installed directly below the structural sheathing, at least R-15 rigid board or sheet insulation shall be installed directly above the structural roof sheathing for condensation control.
 - c. Air-impermeable and air-permeable insulation. At least R-15 air-impermeable insulation shall be applied in direct contact to the underside of the structural roof sheathing for condensation control. The air-permeable insulation shall be installed directly under the air-impermeable insulation.

Listed below are code changes I suggest be considered for Virginia. Please do not hesitate to contact me if any of this is unclear or if further information is required.

Craig Conner
Building Quality
PO Box 1507
Richland WA 99352
509-943-8934
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- Add IRC statement that allows the IRC requirements as the base case for performance approach done under by reference to the IRC.

IRC

Add new text as follows:

N1101.9 Performance based compliance. Provisions of this code shall be permitted to be used to define the standard reference design used for performance based compliance under Section 404 of the IECC.

Reason:

Performance-based compliance is allowed by the IRC's reference to the IECC. Jurisdictions that use the IRC should also allow the IRC's provisions to define the "code-minimum home" to which the proposed building is compared.

- Delete the hard limits on fenestration tradeoffs.

IECC

Delete without substitution:

~~**402.6 Maximum fenestration U-factor and SHGC. (Mandatory).** The area weighted average maximum fenestration U-factor permitted using trade offs from Section 402.1.4 or Section 404 shall be 0.48 in zones 4 and 5 and 0.40 in zones 6 through 8 for vertical fenestration, and 0.75 in zones 4 through 8 for skylights. The area weighted average maximum fenestration SHGC permitted using trade offs from Section 404 in Zones 1 through 3 shall be 0.50.~~

Reason:

This is an artificial restriction on design without any net energy savings. The section has proven to be confusing and does not save energy. Many code users confuse the main prescriptive code requirements for windows (IECC Table 402.1 and IRC Table N1102.1) and this section's limits on tradeoffs.

Some common products, such as glass block and garden windows, seldom meet these "hard limits." In principal, a calculation or exemption would be required if more than a small area of these common products are used in new residences. Additions or renovations with significant areas of these glazing products would be technically illegal unless they include other glazing products, even when the addition or renovation includes increased efficiency such as improved HVAC efficiency or increased insulation levels.

The IRC and IECC, which are identical on most energy requirements, differ on this requirement. There are no IRC limits in zone 4. This code change eliminates the difference.

- Lower the required duct R-value, remove it from the “mandatory” list.

Part I. IECC

Revise as follows

403.2.1 Insulation. (Prescriptive) Supply and return ducts in attics shall be insulated to a minimum of R-8. ~~All other ducts~~ ~~Ducts in floor trusses~~ shall be insulated to a minimum of R-6.

Exception: Ducts or portions thereof located completely inside the building thermal envelope.

Part II.

IRC

Revise as follow:

N1103.2.1 Insulation. Supply and return ducts in attics shall be insulated to a minimum of R-8. ~~All other ducts~~ ~~Ducts in floor trusses~~ shall be insulated to a minimum of R-6.

Exception: Ducts or portions thereof located completely inside the building thermal envelope.

Reason:

R-8 ducts in attics can be cost-effective. However, there is clearly no economic case for R-8 return ducts or R-8 supply ducts in the basement. This change passed in 2007 code development processes for both the IECC and IRC committees.

The latest Energy Star requirements are for R-6 ducts.

Only health and life safety requirements should be mandatory. Being “prescriptive” allows a code user to trade off the duct insulation, while achieving equivalent energy savings.

- Add method for manufacturers to show air handlers meet the “sealed” requirement in the factory. (Saves builders from needing to do it.)

Part I. IECC

Revise as follows

403.2.2 Sealing. All ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed. Joints and seams shall comply with Section M1601.3.1 of the *International Residential Code*.

Air handlers with a manufacturer’s designation for an air leakage of no more than 2 percent of the design air flow rate when tested at an air pressure of 1-inch water gauge when all air inlets, air outlets, and condensate drain port(s) are sealed shall be deemed sealed. Air handlers with filter boxes shall be tested with the filter box in place.

Part II. IRC

Revise as follows

N1103.2.2 Sealing. Ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed. Joints and seams shall comply with Section M1601.3.1.

Air handlers with a manufacturer's designation for an air leakage of no more than 2 percent of the design air flow rate when tested at an air pressure of 1-inch water gauge when all air inlets, air outlets, and condensate drain port(s) are sealed shall be deemed sealed. Air handlers with filter boxes shall be tested with the filter box in place.

Reason:

The 2006 IECC and IRC have new requirements for sealed air handlers, but do not include a specification of what would be considered "sealed." This proposal adds a measure for "sealed" air handler based on an existing "credit" in the Florida building code.

Some air handler manufacturers already produce "air-tight" air handlers. Some manufacturers use Florida's measure of air tightness. Manufacturers that seal, test, and label their air handlers as "sealed in the factory" to meet the code-specified air tightness requirement provide a practical way to encourage sealed air handlers, allow manufacturers to provide their customers with code-compliant products and encourage energy efficiency. A manufacturer's label is a practical way to verify code compliance in the field.

The IBC (Section 1702.1) defines "Manufacturer's Designation" as, "an identification applied on a product by the manufacturer indicating that a product or material complies with a specified standard or set of rules."

- Rewrite the mass section text to make it readable.

Part I. IECC. Revise as follows

Table 402.1.1

INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^(a)

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT ^b U-FAC TOR	GLAZED FENESTRATION SHGC ^h	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ⁱⁱ	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^e WALL R-VALUE
1	1.20	0.75	0.40	30	13	3 / 4	13	0	0	0
2	0.75	0.75	0.40	30	13	4 / 6	13	0	0	0
3	0.65	0.65	0.40 ^c	30	13	5 / 8	19	0	0	5/13
4 except Marine	0.40	0.60	NR	38	13	5 / 10	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.35	0.60	NR	38	19 or 13+5 ^g	13 / 17	30 ^f	10/13	10, 2 ft	10/13
6	0.35	0.60	NR	49	19 or 13+5	15 / 19	30 ^f	10/13	10, 4 ft	10/13

					^g					
7 and 8	0.35	0.60	NR	49	21	19 / 21	30 ^f	10/13	10, 4 ft	10/13

h. The second R-value applies when more than half the insulation is on the interior of the mass wall.

Table 402.1.2. Equivalent U-Factors^(a)

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Ceiling U-Factor	Frame Wall U-Factor	Mass Wall U-Factor ^b	Floor U-Factor	Basement Wall U-Factor	Crawl Space Wall U-Factor
1	1.20	0.75	0.035	0.082	0.197	0.064	0.360	0.477
2	0.75	0.75	0.035	0.082	0.165	0.064	0.360	0.477
3	0.65	0.65	0.035	0.082	0.141	0.047	0.360	0.136
4 except Marine	0.40	0.60	0.030	0.082	0.141	0.047	0.059	0.065
5 and Marine 4	0.35	0.60	0.030	0.060	0.082	0.037	0.059	0.065
6	0.35	0.60	0.026	0.060	0.060	0.033	0.059	0.065
7 and 8	0.35	0.60	0.026	0.057	0.057	0.033	0.041	0.057

a. Non-fenestration U-factors shall be obtained from measurement, calculation or an approved source.

b. When more than half the insulation is on the interior, the mass wall U-factors shall be 0.17 in zone 1, 0.14 in zone 2, 0.12 in zone 3, 0.10 in zone 4 and the same as the wood frame wall in zones 5 through 8.

402.1.3 U factor alternative. An assembly with a U factor equal to or less than that specified in Table 402.1.3 shall be permitted as an alternative to the R value in Table 402.1.1.

Exception: For mass walls not meeting the criterion for insulation location in Section 402.2.3, the U factor shall be permitted to be:

1. U factor of 0.17 in Climate Zone 1.
2. U factor of 0.14 in Climate Zone 2.
3. U factor of 0.12 in Climate Zone 3.

402.2.3 Mass walls. Mass walls for the purposes of this Chapter shall be considered above-grade walls of concrete block, concrete, insulated concrete form (ICF), masonry cavity, brick (other than brick veneer), earth (adobe, compressed earth block, rammed earth) and solid timber/logs. The provisions of Section 402.1.1 for mass walls shall be applicable when at least 50 percent of the required insulation R value is on the exterior of, or integral to, the wall. Walls that do not meet this criterion for insulation placement shall meet the wood frame wall insulation requirements of Section 402.1.1.

Exception: For walls that do not meet the criterion for insulation placement, the minimum added insulation R value shall be permitted to be:

1. R value of 4 in Climate Zone 1.
2. R value of 6 in Climate Zone 2.
3. R value of 8 in Climate Zone 3.

Part II. IRC. Revise as follows

**Table N1102.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^(a)**

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^b	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ^h	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^e WALL R-VALUE
1	1.20	0.75	0.40	30	13	3/4	13	0	0	0
2	0.75	0.75	0.40	30	13	4/6	13	0	0	0
3	0.65	0.65	0.40 ^c	30	13	5/8	19	0	0	5/13
4 except Marine	0.40	0.60	NR	38	13	5/10	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.35	0.60	NR	38	19 or 13+5 ^g	13/17	30 ^f	10/13	10, 2 ft	10/13
6	0.35	0.60	NR	49	19 or 13+5 ^g	15/19	30 ^f	10/13	10, 4 ft	10/13
7 and 8	0.35	0.60	NR	49	21	19/21	30 ^f	10/13	10, 4 ft	10/13

^h. The second R-value applies when more than half the insulation is on the interior of the mass wall.

Table N1102.1.2. Equivalent U-Factors^(a)

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Ceiling U-Factor	Frame Wall U-Factor	Mass Wall U-Factor ^b	Floor U-Factor	Basement Wall U-Factor	Crawl Space Wall U-Factor
1	1.20	0.75	0.035	0.082	0.197	0.064	0.360	0.477
2	0.75	0.75	0.035	0.082	0.165	0.064	0.360	0.477
3	0.65	0.65	0.035	0.082	0.141	0.047	0.360	0.136
4 except Marine	0.40	0.60	0.030	0.082	0.141	0.047	0.059	0.065
5 and Marine 4	0.35	0.60	0.030	0.060	0.082	0.037	0.059	0.065
6	0.35	0.60	0.026	0.060	0.060	0.033	0.059	0.065
7 and 8	0.35	0.60	0.026	0.057	0.057	0.033	0.041	0.057

a. Non-fenestration U-factors shall be obtained from measurement, calculation or an approved source.

b. When more than half the insulation is on the interior, the mass wall U-factors shall be 0.17 in zone 1, 0.14 in zone 2, 0.12 in zone 3, 0.10 in zone 4 and the same as the wood frame wall in zones 5 through 8.

N1102.1.2 U-factor alternative. An assembly with a U-factor equal to or less than that specified

in Table N1102.1.2 shall be permitted as an alternative to the R -value in Table N1102.1.

Exception: For mass walls not meeting the criterion for insulation location in Section N1102.2.3, the U -factor shall be permitted to be:

1. U -factor of 0.17 in Climate Zone 1
2. U -factor of 0.14 in Climate Zone 2
3. U -factor of 0.12 in Climate Zone 3
4. U -factor of 0.10 in Climate Zone 4 except Marine
5. U -factor of 0.082 in Climate Zone 5 and Marine 4

N1102.2.3 Mass walls. Mass walls for this chapter shall be considered above-grade walls of concrete block, concrete, insulated concrete form (ICF), masonry cavity, brick (other than brick veneer), earth (adobe, compressed earth block, rammed earth) and solid timber/logs. The provisions of Section N1102.1 for mass walls shall be applicable when at least 50 percent of the required insulation R -value is on the exterior of, or integral to, the wall. Walls not meeting this criterion for insulation placement shall meet the wood frame wall insulation requirements of Section N1102.1.

1. R -value of 4 in Climate Zone 1
2. R -value of 6 in Climate Zone 2
3. R -value of 8 in Climate Zone 3
4. R -value of 10 in Climate Zone 4 except Marine
5. R -value of 13 in climate Zone 5 and Marine 4

Reason: Due to amendments in the code development process the mass wall requirements were spread out though the code and became hard to read. Small differences also developed between the IRC and IECC. This combines several sections that apply to mass wall insulation into the main R -value/ U -factor tables. This is primarily reformatting to be readable, not a change in stringency.

This change passed was passed by the IECC committee in the 2007 code development process.

- Specify sealing the attic access.

PART I – IECC

Revise as follows:

402.4.1 Building thermal envelope. The building thermal envelope shall be durably sealed to limit infiltration. The sealing methods between dissimilar materials shall allow for differential expansion and contraction. The following shall be caulked, gasketed, weatherstripped or otherwise sealed with an air barrier material, suitable film or solid material:

1. All joints, seams and penetrations.
2. Site-built windows, doors and skylights.
3. Openings between window and door assemblies and their respective jambs and framing.
4. Utility penetrations.
5. Dropped ceilings or chases adjacent to the thermal envelope.
6. Knee walls.
7. Walls and ceilings separating a garage from conditioned spaces.
8. Behind tubs and showers on exterior walls.
9. Common walls between dwelling units.
10. Attic access openings.
- 10-11. Other sources of infiltration.

PART II – IRC

1102.4.1 Building thermal envelope. The building thermal envelope shall be durably sealed to limit infiltration. The sealing methods between dissimilar materials shall allow for differential expansion and contraction. The following shall be caulked, gasketed, weatherstripped or otherwise sealed with an air barrier material, suitable film or solid material:

1. All joints, seams and penetrations.
2. Site-built windows, doors and skylights.
3. Openings between window and door assemblies and their respective jambs and framing.
4. Utility penetrations.
5. Dropped ceilings or chases adjacent to the thermal envelope.
6. Knee walls.
7. Walls and ceilings separating a garage from conditioned spaces.
8. Behind tubs and showers on exterior walls.
9. Common walls between dwelling units.
10. Attic access openings.
- ~~10.~~ 11. Other sources of infiltration.

Reason: Attic access openings are often a source of air leakage, but are easy to seal. Adding this to the list of items to be sealed makes the code clearly state that this penetration of the building envelope should be sealed.

- Update the energy label requirements.

PART I – IECC

Revise as follows:

401.3 Certificate. A permanent certificate shall be posted on or in the electrical distribution panel. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall be completed by the builder or registered design professional. The certificate shall list the predominant *R*-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; *U*-factors for fenestration; and the solar heat gain coefficient (SHGC) of fenestration. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the ~~type types and efficiency efficiencies~~ of heating, cooling and service water heating equipment Where a gas fired unvented room heater, electric furnace, and/or baseboard electric heater is installed in the residence, the certificate shall list “gas fired unvented room heater”, “electric furnace”, or “baseboard electric heater” as appropriate. An efficiency shall not be listed for gas fired unvented room heaters, electric furnaces, or electric base board heaters.

PART II – IRC

Revise as follows:

N1101.8 Certificate. A permanent certificate shall be posted on or in the electrical distribution panel. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall be completed by the builder or registered design professional. The certificate shall list the predominant *R*-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; *U*-factors for fenestration; and the solar heat gain coefficient (SHGC) of fenestration. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the ~~type types and efficiency efficiencies~~ of heating, cooling and service water heating equipment Where a gas fired unvented room heater, electric furnace, and/or baseboard electric heater is installed in the

residence, the certificate shall list “gas fired unvented room heater”, “electric furnace”, or “baseboard electric heater” as appropriate. An efficiency shall not be listed for gas fired unvented room heaters, electric furnaces, or electric base board heaters.

Reason: This clarifies that the energy label should not cover any safety information on or in an electrical panel. Besides circuit directory and disconnect labels, safety instructions such as signage for emergency/alternate power needs to be placed on the panel.

Electric furnaces and baseboard heaters sound efficient, since they are virtually 100% efficient at turning electricity into heat. However this is not a good use of electricity and the consumer should not be led to believe electric resistance heating is preferable because its measure of efficiency has a higher number.

Unvented heater manufacturers advertise that their units are 99% or more efficient. Consumers could easily consider a 99% efficient heater better than at 90 AFUE furnace. By design unvented heaters vent the moisture they produce into the residence, a bad design should not be encouraged or made to appear to be a better way to heat.

These changes were approved for both the IECC and IRC.

- Provide a more usable alternative for rating commercial site-built windows

IECC-

1. Add a new Section 102.1.3.1:

102.1.3.1 Commercial building fenestration rating alternative. U-factors and SHGC for fenestration used in commercial buildings shall be permitted to be determined in accordance with AAMA 507-07. The product performance shall be documented by a certificate of compliance, as described in AAMA 507, that is signed and submitted to the code official by the glazing contractor or registered design professional. The product line testing and simulation, as described in AAMA 507, shall be conducted in accordance with NFRC 100 and NFRC 200 by an approved, accredited, independent laboratory.

2. Add a Referenced Standard:

AAMA

507-07 Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems Installed in Commercial Buildings

Reason:

Commercial windows should be rated. The commercial window industry needs a rating method that works with their bid and construction process. The time between bid and construction can be days or weeks. The NFRC rating procedure takes months. The AAMA 507 procedure can be used to rate a window in days or less and produces the same window rating.

Commercial windows are often built “on site”. Commercial window makers bid windows for a specific commercial building. The combinations of available glass and window frames are too numerous to rate all combinations in advance. However, the characteristics of each separate frame and glass option are known in advance. Using the AAMA 507 standard, commercial window makers can quickly and inexpensively use the frame and glass characteristics to produce

a timely rating for windows tailored to the specifications for a particular building. Therefore the AAMA 507 produces a window rating that can be used in the commercial site-built bid process.

The NFRC standards should not get a monopoly in the code when those standards do not work for most of the commercial site-built industry. AAMA 507 is a good alternative to the NFRC procedures for commercial windows.

- Restrict most unvented heater use.

IFGC / IRC

G2445.2 (621.2) Prohibited use. One or more unvented room heaters shall not be used as the sole source of comfort heating in a dwelling unit. Unvented room heaters shall not be installed in a manufactured home. Unvented room heaters shall not be installed in a new residence.

Reason:

By design unvented room heaters vent their combustion moisture into the interior of a residence. As new homes get progressively tighter, venting water into the residence becomes a worse idea. There are good reasons we vent a “normal” gas furnace, these are the same reasons we should vent any unvented gas heater.

The producers of unvented gas heaters assert there are no documented fatalities associated with unvented gas heaters. A comparison to showers may be useful. Unvented showers would probably not produce fatalities either. However, unvented showers are a bad idea because routinely venting shower moisture into the home will lead to moisture problems; therefore the code requires showers to be vented. Accordingly, we should vent gas heater moisture for the same reason we vent shower moisture.

HUD regulates the construction of all manufactured homes. Both HUD’s Manufactured Home Construction and Safety Standards (Section 3280.707) and NFPA 501, the “Standard for Mobile Homes”, prohibit unvented gas heaters in manufactured homes. NFPA 501, Section 10.6 states:
“Fuel-burning, heat-producing appliances and refrigeration appliances shall be of the vented type and shall vent to the outside. Exception: Ranges and ovens.”

In spite of HUD’s and NFPA 501’s regulation prohibiting unvented gas heaters, unvented gas heaters are often sold for use in existing manufactured homes.

Unvented gas heaters should not be allowed in the relatively air tight homes that meet the energy code air sealing requirements to avoid moisture and air quality problems. Unvented gas heaters should never be installed in manufactured homes.

International Building Code applicable to new construction; and

2. The building has sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump.

704.2.5 Supervision. Fire sprinkler systems required by this section shall be supervised by one of the following methods:

1. Approved central station system in accordance with NFPA 72;
2. Approved proprietary system in accordance with NFPA 72;
3. Approved remote station system of the jurisdiction in accordance with NFPA 72; or
4. Approved local alarm service that will cause the sounding of an alarm in accordance with NFPA 72.

Exception: Supervision is not required for the following:

1. Underground gate valve with roadway boxes.
2. Halogenated extinguishing systems.
3. Carbon dioxide extinguishing systems.
4. Dry and wet chemical extinguishing systems.
5. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.

704.3 Standpipes. Where the work area includes exits or corridors shared by more than one tenant and is located more than 50 feet (15 240 mm) above or below the lowest level of fire department access, a standpipe system shall be provided. Standpipes shall have an approved fire department connection with hose connections at each floor level above or below the lowest level of fire department access. Standpipe systems shall be installed in accordance with the *International Building Code*.

Exceptions:

1. No pump shall be required provided that the standpipes are capable of accepting delivery by fire department apparatus of a minimum of 250 gallons per minute (gpm) at 65 pounds per square inch (psi) (946 L/m at 448KPa) to the topmost floor in buildings equipped throughout with an automatic sprinkler system or a minimum of 500 gpm at 65 psi (1892 L/m at 448KPa) to the topmost floor in all other buildings. Where the standpipe terminates below the topmost floor, the standpipe shall be designed to meet (gpm/psi) (L/m/KPa) requirements of this exception for possible future extension of the standpipe.
2. The interconnection of multiple standpipe risers shall not be required.

704.4 Fire alarm and detection. An approved fire alarm system shall be installed in accordance with Sections 704.4.1

through 704.4.3. Where automatic sprinkler protection is provided in accordance with Section 704.2 and is connected to the building fire alarm system, automatic heat detection shall not be required.

An approved automatic fire detection system shall be installed in accordance with the provisions of this code and NFPA 72. Devices, combinations of devices, appliances, and equipment shall be approved. The automatic fire detectors shall be smoke detectors, except that an approved alternative type of detector shall be installed in spaces such as boiler rooms, where products of combustion are present during normal operation in sufficient quantity to actuate a smoke detector.

704.4.1 Occupancy requirements. A fire alarm system shall be installed in accordance with Sections 704.4.1.1 through 704.4.1.7. Existing alarm-notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-notification appliances within the work area shall be provided and automatically activated.

Exceptions:

1. Occupancies with an existing, previously approved fire alarm system.
2. Where selective notification is permitted, alarm-notification appliances shall be automatically activated in the areas selected.

704.4.1.1 Group E. A fire alarm system shall be installed in work areas of Group E occupancies as required by the *International Fire Code* for existing Group E occupancies.

704.4.1.2 Group I-1. A fire alarm system shall be installed in work areas of Group I-1 residential care/assisted living facilities as required by the *International Fire Code* for existing Group I-1 occupancies.

704.4.1.3 Group I-2. A fire alarm system shall be installed in work areas of Group I-2 occupancies as required by the *International Fire Code* for existing Group I-2 occupancies.

704.4.1.4 Group I-3. A fire alarm system shall be installed in work areas of Group I-3 occupancies as required by the *International Fire Code* for existing Group I-3 occupancies.

704.4.1.5 Group R-1. A fire alarm system shall be installed in Group R-1 occupancies as required by the *International Fire Code* for existing Group R-1 occupancies.

704.4.1.6 Group R-2. A fire alarm system shall be installed in work areas of Group R-2 apartment buildings as required by the *International Fire Code* for existing Group R-2 occupancies.

704.4.1.7 Group R-4. A fire alarm system shall be installed in work areas of Group R-4 residential care/assisted living facilities as required by the *International Fire Code* for existing Group R-4 occupancies.

CHAPTER 7

ALTERATIONS—LEVEL 2

SECTION 701 GENERAL

701.1 Scope. Level 2 alterations as described in Section 404 shall comply with the requirements of this chapter.

Exception: Buildings in which the reconfiguration is exclusively the result of compliance with the accessibility requirements of Section 605.2 shall be permitted to comply with Chapter 6.

701.2 Alteration Level 1 compliance. In addition to the requirements of this chapter, all work shall comply with the requirements of Chapter 6.

701.3 Compliance. All new construction elements, components, systems, and spaces shall comply with the requirements of the *International Building Code*.

Exceptions:

1. Windows may be added without requiring compliance with the light and ventilation requirements of the *International Building Code*.
2. Newly installed electrical equipment shall comply with the requirements of Section 708.
3. The length of dead-end corridors in newly constructed spaces shall only be required to comply with the provisions of Section 705.6.
4. The minimum ceiling height of the newly created habitable and occupiable spaces and corridors shall be 7 feet (2134 mm).

SECTION 702 SPECIAL USE AND OCCUPANCY

702.1 General. Alteration of buildings classified as special use and occupancy as described in the *International Building Code* shall comply with the requirements of Section 701.1 and the scoping provisions of Chapter 1 where applicable.

SECTION 703 BUILDING ELEMENTS AND MATERIALS

703.1 Scope. The requirements of this section are limited to work areas in which Level 2 alterations are being performed, and shall apply beyond the work area where specified.

703.2 Vertical openings. Existing vertical openings shall comply with the provisions of Sections 703.2.1, 703.2.2, and 703.2.3.

703.2.1 Existing vertical openings. All existing interior vertical openings connecting two or more floors shall be enclosed with approved assemblies having a fire-resistance

rating of not less than 1 hour with approved opening protectives.

Exceptions:

1. Where vertical opening enclosure is not required by the *International Building Code* or the *International Fire Code*.
2. Interior vertical openings other than stairways may be blocked at the floor and ceiling of the work area by installation of not less than 2 inches (51 mm) of solid wood or equivalent construction.
3. The enclosure shall not be required where:
 - 3.1. Connecting the main floor and mezzanines; or
 - 3.2. All of the following conditions are met:
 - 3.2.1. The communicating area has a low hazard occupancy or has a moderate hazard occupancy that is protected throughout by an automatic sprinkler system.
 - 3.2.2. The lowest or next to the lowest level is a street floor.
 - 3.2.3. The entire area is open and unobstructed in a manner such that it may be assumed that a fire in any part of the interconnected spaces will be readily obvious to all of the occupants.
 - 3.2.4. Exit capacity is sufficient to provide egress simultaneously for all the occupants of all levels by considering all areas to be a single floor area for the determination of required exit capacity.
 - 3.2.5. Each floor level, considered separately, has at least one half of its individual required exit capacity provided by an exit or exits leading directly out of that level without having to traverse another communicating floor level or be exposed to the smoke or fire spreading from another communicating floor level.
4. In Group A occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories.
5. In Group B occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 703.2.1, shall not be required in the following locations:
 - 5.1. Buildings not exceeding 3,000 square feet (279 m²) per floor.

cent or decrease the seismic base shear capacity by more than 10 percent shall comply with the structural requirements specified in Sections 807.5 and 807.7. Changes in base shear and base shear capacity shall be calculated relative to conditions at the time of the original construction.

Exception: If the building's seismic base shear capacity has been increased since the original construction, the percentage changes shall be permitted to be calculated relative to the increased value.

707.4.3 Snow drift loads. Any structural element of an existing building subjected to additional loads from the effects of snow drift as a result of additional equipment shall comply with the *International Building Code*.

Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with no more than five dwelling units or sleeping units used solely for residential purposes where the existing building and its alteration comply with the conventional light-frame construction methods of the *International Building Code* or the provisions of the *International Residential Code*.

SECTION 708 ELECTRICAL

708.1 New installations. All newly installed electrical equipment and wiring relating to work done in any work area shall comply with the materials and methods requirements of Chapter 5.

Exception: Electrical equipment and wiring in newly installed partitions and ceilings shall comply with all applicable requirements of the *ICC Electrical Code*.

708.2 Existing installations. Existing wiring in all work areas in Group A-1, A-2, A-5, H, and I occupancies shall be upgraded to meet the materials and methods requirements of Chapter 5.

708.3 Residential occupancies. In Group R-2, R-3, and R-4 occupancies and buildings regulated by the *International Residential Code*, the requirements of Sections 708.3.1 through 708.3.7 shall be applicable only to work areas located within a dwelling unit.

708.3.1 Enclosed areas. All enclosed areas, other than closets, kitchens, basements, garages, hallways, laundry areas, utility areas, storage areas, and bathrooms shall have a minimum of two duplex receptacle outlets or one duplex receptacle outlet and one ceiling or wall-type lighting outlet.

708.3.2 Kitchens. Kitchen areas shall have a minimum of two duplex receptacle outlets.

708.3.3 Laundry areas. Laundry areas shall have a minimum of one duplex receptacle outlet located near the laundry equipment and installed on an independent circuit.

708.3.4 Ground fault circuit interruption. Newly installed receptacle outlets shall be provided with ground fault circuit interruption as required by the *ICC Electrical Code*.

708.3.5 Minimum lighting outlets. At least one lighting outlet shall be provided in every bathroom, hallway, stairway, attached garage, and detached garage with electric power, and to illuminate outdoor entrances and exits.

708.3.6 Utility rooms and basements. At least one lighting outlet shall be provided in utility rooms and basements where such spaces are used for storage or contain equipment requiring service.

708.3.7 Clearance for equipment. Clearance for electrical service equipment shall be provided in accordance with the *ICC Electrical Code*.

SECTION 709 MECHANICAL

709.1 Reconfigured or converted spaces. All reconfigured spaces intended for occupancy and all spaces converted to habitable or occupiable space in any work area shall be provided with natural or mechanical ventilation in accordance with the *International Mechanical Code*.

Exception: Existing mechanical ventilation systems shall comply with the requirements of Section 709.2.

709.2 Altered existing systems. In mechanically ventilated spaces, existing mechanical ventilation systems that are altered, reconfigured, or extended shall provide not less than 5 cubic feet per minute (cfm) (0.0024 m³/s) per person of outdoor air and not less than 15 cfm (0.0071 m³/s) of ventilation air per person; or not less than the amount of ventilation air determined by the Indoor Air Quality Procedure of ASHRAE 62.

709.3 Local exhaust. All newly introduced devices, equipment, or operations that produce airborne particulate matter, odors, fumes, vapor, combustion products, gaseous contaminants, pathogenic and allergenic organisms, and microbial contaminants in such quantities as to affect adversely or impair health or cause discomfort to occupants shall be provided with local exhaust.

SECTION 710 PLUMBING

710.1 Minimum fixtures. Where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the *International Plumbing Code* based on the increased occupant load.

Rodgers, Emory

From: Gregg.Fields@alexandriava.gov
Sent: Monday, March 19, 2007 9:17 AM
To: John.Catlett@alexandriava.gov
Cc: Dennis Mitchell; Rodgers, Emory; Tomberlin, Guy; Jannine.Pennell@alexandriava.gov; Robert.Rodriguez@alexandriava.gov; Hodge, Vernon; Virginia.Clarke@alexandriava.gov
Subject: RE: question on permits

While we are on the "electronic" subject. Can we also explore some language concerning section 113.6 as it relates to giving approvals "in writing" or provide "written notice" ? Now that we are using the Toughbooks in the field, the printers become a problem to issue tickets. Is there anyway to allow an emailed ticket or electronic ticket, etc? I heard a rumor that other jurisdictions might be doing this already. Thanks.

Gregg Fields
 Engineering Supervisor
 City of Alexandria, Code Enforcement
 Phone: 703-838-4644 x134 Fax: 703-549-4589

John Catlett/Alex

03/16/2007 03:19 PM

To "Rodgers, Emory" <Emory.Rodgers@dhcd.virginia.gov>
 cc "Dennis Mitchell" <Dennis.Mitchell@loudoun.gov>, "Tomberlin, Guy" <Guy.Tomberlin@fairfaxcounty.gov>, "Hodge, Vernon" <Vernon.Hodge@dhcd.virginia.gov>, jannine.pennell@alex@Alex, Gregg Fields@Alex@Alex, Virginia Clarke@Alex@Alex, Robert Rodriguez@Alex@Alex

Subject RE: question on permits [Link](#)

Many localities have accepted fax permit applications for years, but have required actual issued permits to be signed. Our locality does not have a place for the permit holder to sign on the permit, it is done through the application. So I have the same question regarding receiving them in any electronic form.

Alexandria is also looking in to the same type of system. I would assume that if a person is given some sort of access number (PIN) and a password, that the process would be considered secure enough to make sure that legal use of a contractor's license is validated. However, I don't know how this would work for homeowners. Some sort of pre-signup where a pin and password are issued? How do you keep "prank" permit applications from being generated? (Assume by the same method...)

I agree that an interpretation needs to be issued regarding how the "security" provisions of the USBC are applied. This should be done before we attempt a code change. We also need to find out if there is any other state law that regulates and guides this. I'm afraid that a simple code text change may not be the only answer, but am more than willing to propose one.

Those copied on this email can feed me their thoughts.

I'm also looking for some feedback on Section 103.5 for some clarifying language as to what is fair game when doing a replacement. Several feel it is time to at least address things like requiring footings under a deck if one did not exist and like matters.

Thanks!

John D. Catlett, MCP
Code Enforcement Director
Alexandria Fire Department
301 King Street, Room 4200
Alexandria, Virginia 22314

Office: (703) 838-4360
Fax: (703) 838-3880

"Rodgers, Emory"
<Emory.Rodgers@dhcd.virginia.gov>

To "Hodge, Vernon" <Vernon.Hodge@dhcd.virginia.gov>, "Dennis Mitchell"
<Dennis.Mitchell@loudoun.gov>
cc <John.Catlett@alexandriava.gov>, "Tomberlin, Guy"
<Guy.Tomberlin@fairfaxcounty.gov>

03/16/2007 01:27 PM

Subject RE: question on permits

Many localities accept and have done so for year's faxed permits. Vernon ask John if he can code change for VBCOA and need to do same for SFPC too. I think some localities already do over internet. If it helps I would be glad to pen letter so would not have to wait until March of 2008.

From: Hodge, Vernon
Sent: Friday, March 16, 2007 12:54 PM
To: 'Dennis Mitchell'
Cc: Rodgers, Emory
Subject: RE: question on permits

Dennis, we have not had this issue come up. If it can be done by mail, then I don't see any practical reason why it can't be done electronically, so maybe we need a code change to the "by mail" section to add "or electronically."

From: Dennis Mitchell [mailto:Dennis.Mitchell@loudoun.gov]
Sent: Thursday, March 15, 2007 10:33 AM

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3/20/2007

Rodgers, Emory

From: Rodgers, Emory
Sent: Wednesday, March 21, 2007 3:44 PM
To: McIver, Curtis
Cc: 'Tomberlin, Guy'; Morris, Sandi; Carter, Charlotte; 'Paula Eubank'; Hodge, Vernon; 'Bartell, Richard'
Subject: RE: Termite Pre-Treatment Task Force Information

Curtis: I have copied all these folks as you have thoroughly explained what initiatives the task force is considering that impacts in one way or another all the other folks. Sandi needs articles for the Code Connection for the July-August edition so the timing is perfect and Hollie need articles for the DHCD newsletter and this fits the bill. The VBCOA link is great plus their web-site being used works for a wide dissemination. If there are code changes they need to be submitted by July 27th for the 2006 USBC and shortly thereafter for the 2009 IRC. Thaks.

From: McIver, Curtis
Sent: Wednesday, March 21, 2007 3:27 PM
To: Rodgers, Emory
Subject: Termite Pre-Treatment Task Force Information

We have been assisting the Office of Pesticide Services (OPS) in the Department of Agriculture and Consumer Services by serving on their Termite Pre-Treatment Task Force. The Task Force met yesterday to review the status of the Pesticide Pre-Treatment Enforcement and Education Plan developed and implemented by the OPS and the Virginia Pest Management Association (VPMA). My involvement has been primarily with the termite protection requirements of the USBC as they relate to the Task Force.

Last year we assisted the OPS and VPMA in the development of parts of a training manual for use in the education part of their Enforcement and Education Plan. We also helped present part of the program for the first two of the sessions. They are now evaluating what changes need to be made to the training program and who or what groups the education efforts need to be expanded to include. The Task Force and OPS determined that more outreach efforts needed to be made to the building officials and to the homebuilders and contractors.

One of the OPS field investigators recently attended the VBCOA Battlefield Region meeting and discussed the termite pre-treatment requirements, certification forms, types of chemicals, etc. He said that he was well received and it was suggested that the other VBCOA regions be contacted about presentations at their meetings. I explained the makeup and meetings of the 8 VBCOA regions and the annual and mid-year general membership meetings. Also, I told them about the Code Connection and suggested that an article in that newsletter would get to all of the building inspection departments across Virginia. The VPMA secretary will send an article to me that they did for the HBAV builder magazine that we should be able to modify slightly to target it to the building officials.

The HBAV representative on the Task Force asked me to help draft an article for the homebuilders to explain the responsibilities (and corresponding liabilities) that a homebuilder or contractor would have under the USBC if the homebuilder used termite pre-treatment to comply with the provisions of R320 in the IRC. The general consensus of the Task Force members was that the contractors, mistakenly or not, probably felt that the pest management company was licensed by the "state" and as such was completely responsible for complying with the USBC. We probably need to explain to the homebuilder that as the general contractor and especially if he is the permit holder he can be held responsible for the work of his subs, including the pesticide applicator. If a contractor submits fraudulent documentation of termite pre-treatment for the final inspection and CO, it's possible that the building official could refuse to issue or revoke the CO due to the fraudulent documentation of compliance with code requirements.

We're also looking at the changes in the IRC between the 2003 and 2006 editions that address protection against termites. The 2006 edition has revised the wording in Table 302 and also includes additional requirements in R320 for protection against termites. I'll provide copies of that information to the Task Force members.

Rodgers, Emory

From: Rodgers, Emory
Sent: Tuesday, March 13, 2007 12:28 PM
To: 'RCarpenter@co.stafford.va.us'
Cc: cjamison@co.stafford.va.us; Hodge, Vernon; Tomberlin, Guy; 'Witt, Rick'
Subject: RE: Potomac Vineyards.html

Farm exemption has been around forever. In the late 80's or early 90's got the restaurant exception. VBCOA and VFPA would be best bet to proceed with law changes. It wouldn't be pretty and farm interest would be strong opponents. If it becomes residential (bed and breakfast and daycare) then can cover that portion or a restaurant. Should see if your local delegates and senators along with County Board are interested to move forward with legislation. Until the building isn't used primarily for farming activities or falls into one of the other noted categories hands are tied as they have been for 30 plus years.

From: Roger Carpenter [mailto:RCarpenter@co.stafford.va.us]
Sent: Tuesday, March 13, 2007 12:00 PM
To: Rodgers, Emory
Cc: cjamison@co.stafford.va.us; Hodge, Vernon
Subject: FW: Potomac Vineyards.html

Emory: Let me first say that I am not fussing at you or trying to come down on DHCD. I am sharing my expereinece in some hope that things may change with future code editions and adoptions. Now for the issue.

How did the lawmakers ever pass a law to allow all of this (minus restaurant) as a agriculture exemption? This is a 22,000 sq. ft. building with 2 stories above grade over a full basement. The roof framing and interior framing is wood without any fire suppression of any type anywhere. A bed and breakfast is likely. A daycare is planned per a conervation with the owner. There are rooms which can easily seat 250 people which are alledgely not part of the restaurant. Proper egress is not provided. I can not believe that such is the intent of the agriculture exemption law. Can something be done to rehash this law with the lawgivers from a DHCD level? This agriculture exemption law needs to be changed. RDC

From: Mary Jean Tibbetts
Sent: Tuesday, March 13, 2007 11:32 AM
To: Roger Carpenter
Subject: Potomac Vineyards.html

067103402

HOUSE BILL NO. 2297

Offered January 10, 2007

Prefiled January 9, 2007

A BILL to amend and reenact §§ 27-97, 36-99.3, and 36-99.5:1 of the Code of Virginia, relating to the Uniform Statewide Building Code and the Statewide Fire Prevention Code; required automatic sprinkler systems or other fire suppression systems in certain structures.

Patrons-- McClellan, Armstrong, Bulova, Englin, Lewis, Marsden, McEachin, O'Bannon and Waddell;
 Senator: Marsh

 Referred to Committee on General Laws

Be it enacted by the General Assembly of Virginia:

1. That §§ 27-97, 36-99.3, and 36-99.5:1 of the Code of Virginia are amended and reenacted as follows:

§ 27-97. Adoption of Fire Prevention Code.

A. The Board of Housing and Community Development is hereby empowered to adopt and promulgate a Statewide Fire Prevention Code which shall be cooperatively developed with the Fire Services Board pursuant to procedures agreed to by the two Boards. The Fire Prevention Code shall prescribe regulations to be complied with for the protection of life and property from the hazards of fire or explosion and for the handling, storage, sale and use of fireworks, explosives or blasting agents, and shall provide for the administration and enforcement of such regulations. The Fire Prevention Code shall require manufacturers of fireworks or explosives, as defined in the Code, to register and report information concerning their manufacturing facilities and methods of operation within the Commonwealth in accordance with regulations adopted by the Board. In addition to conducting criminal background checks pursuant to § 27-97.2, the Board shall also establish regulations for obtaining permits for the manufacturing, storage, handling, use, or sales of fireworks or explosives. In the enforcement of such regulations, the enforcing agency may issue annual permits for such activities to any state regulated public utility. Such permits shall not apply to the storage, handling, or use of explosives or blasting agents pursuant to the provisions of Title 45.1.

B. The Fire Prevention Code shall prohibit any person, firm, or corporation from transporting, manufacturing, storing, selling, offering for sale, exposing for sale, or buying, using, igniting, or exploding any fireworks except for those persons, firms, or corporations that manufacture, store, market and distribute fireworks for the sole purpose of fireworks displays permitted by an enforcement agency or by any locality.

C. The Fire Prevention Code shall supersede fire prevention regulations heretofore adopted by local governments or other political subdivisions. Local governments are hereby empowered to adopt fire prevention regulations that are more restrictive or more extensive in scope than the Fire Prevention Code provided such regulations do not affect the manner of construction, or materials to be used in the erection, alteration, repair, or use of a building or structure, including the voluntary installation of smoke alarms and regulation and inspections thereof in commercial buildings where such smoke alarms are not required under the provisions of the Code.

D. In formulating the Fire Prevention Code, the Board shall have due regard for generally accepted standards as recommended by nationally recognized organizations including, but not limited to,

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standards of the Southern Building Code Congress, the Building Officials and Code Administrators International, Inc., the National Fire Protection Association, and recognized organizations issuing standards for the protection of the public from the hazards of explosives and blasting agents. Such standards shall be based on the companion document to the model building code referenced by the Uniform Statewide Building Code.

E. The Fire Prevention Code shall require that buildings constructed prior to 1973 be maintained in accordance with state fire and public building regulations in effect prior to March 31, 1986, and that any building which is (i) more than seventy-five feet or more than six stories high and (ii) used, in whole or in part, as a dormitory to house students by any public or private institution of higher education shall be required to comply with the provisions of § 36-99.3.

F. The Fire Prevention Code shall require that any building which is more than seventy-five feet or more than six stories high and used, in whole or in part, as (i) a residential dwelling unit designed or developed and marketed to persons aged 60 years or older or (ii) an assisted living facility licensed by the Department of Social Services comply with the provisions of § 36-99.5:1.

G. The Fire Prevention Code shall also require annual fire drills in all buildings having floors used for human occupancy located more than seventy-five feet above the lowest level of fire department vehicle access. The drills shall be conducted by building staff personnel or the owner of the building in accordance with a plan approved by the appropriate fire official and shall not affect other current occupants. The Board may modify, amend or repeal any Code provisions as the public interest requires. Any such Code changes shall be developed in cooperation with the Fire Services Board pursuant to procedures agreed to by the two Boards.

§ 36-99.3. Smoke detectors and automatic sprinkler systems in colleges and universities.

A. College or university buildings containing dormitories for sleeping purposes shall be provided with battery or AC powered smoke detector devices installed therein in accordance with the Uniform Statewide Building Code. All public or private college and university dormitories shall have installed and use due diligence in maintaining in good working order such detectors regardless of when the building was constructed.

B. The Board of Housing and Community Development shall promulgate regulations pursuant to ~~item (ii)~~ clause (iii) of subdivision ~~ESA 13 of section~~ § 2.2-4006 establishing standards for automatic sprinkler systems throughout all public or private college or university buildings which are (i) more than seventy-five feet or more than six stories high and (ii) used, in whole or in part, as dormitories to house students. Such buildings shall be equipped with automatic sprinkler systems by September 1, 1999, regardless of when such buildings were constructed.

C. The chief administrative office of the college or university shall obtain a certificate of compliance with the provisions of this section from the building official of the locality in which the college or university is located or in the case of state-owned buildings, from the Director of the Department of General Services.

D. The provisions of this section shall not apply to any dormitory at a state-supported military college or university which is patrolled twenty-four hours a day by military guards.

§ 36-99.5:1. Smoke detectors and other fire detection and suppression systems in assisted living facilities, adult day care centers and nursing homes and facilities.

A. Battery- or AC-powered smoke detector devices shall be installed in all assisted living facilities and adult day care centers licensed by the Department of Social Services, regardless of when the building

was constructed. The location and installation of the smoke detectors shall be determined by the Uniform Statewide Building Code.

The licensee shall obtain a certificate of compliance from the building official of the locality in which the facility or center is located, or in the case of state-owned buildings, from the Department of General Services.

The licensee shall maintain the smoke detector devices in good working order.

B. The Board of Housing and Community Development shall promulgate regulations in accordance with the Administrative Process Act (§ 2.2-4000 et seq.) establishing standards for requiring ~~(i) smoke detectors and (ii) such other fire detection and suppression systems as deemed necessary by the Board to increase the safety of persons in assisted living facilities, residential dwelling units designed or developed and marketed to senior citizens,~~ in nursing homes and nursing facilities. All nursing homes and nursing facilities which are already equipped with sprinkler systems shall comply with regulations relating to smoke detectors.

C. The Board of Housing and Community Development shall promulgate regulations pursuant to clause (iii) of subdivision A 13 of § 2.2-4006 establishing standards for requiring automatic sprinkler systems or other fire suppression systems in buildings that are more than seventy-five feet or more than six stories high and used, in whole or in part, as (i) a residential dwelling unit designed or developed and marketed to persons aged 60 years or older or (ii) an assisted living facility licensed by the Department of Social Services.

Legislative Information System

Hodge, Vernon

From: Rodgers, Emory
Sent: Thursday, March 29, 2007 9:53 AM
To: Hodge, Vernon; 'julie@elevatorconsultingservices.com'
Cc: Altizer, Ed; Eubank, Paula
Subject: RE: State Elevator Code for MRLs

My list grows longer and would add onto page 7 this item as advisory so can see what folks are doing.

From: Hodge, Vernon
Sent: Tue 3/27/2007 3:57 PM
To: 'julie@elevatorconsultingservices.com'
Cc: Altizer, Ed; Rodgers, Emory; Eubank, Paula
Subject: RE: State Elevator Code for MRLs

Ms. Branham:

Your email below was forwarded to me for response. Unlike some states, we do not have a state elevator program. The installation of elevators is regulated under our Virginia Uniform Statewide Building Code (USBC), a state regulation enforced by local building departments within the cities, counties and towns in Virginia. The USBC uses the International Code Council's International Codes. We are currently using the 2003 edition of the International Building Code (IBC), but with a state amendment to the IBC to reference the 2000 edition of ASME A17.1 with the 2002 (1a) and 2003 (1b) Addenda. Each local building department would have to decide how to deal with the installation of an MRL elevator. Our code provides for modifications based on newer editions of the standards.

We are also in the process of updating our USBC to the 2006 IBC.

Please let me know if I may be of further assistance.

Vernon Hodge, Va. Dept. of Housing and Community Development Regulatory Specialist

From: Altizer, Ed
Sent: Tuesday, March 27, 2007 2:44 PM
To: Hodge, Vernon
Subject: FW: State Elevator Code for MRLs

Hey Vernon is this something you know about?

Ed Altizer, P. E.
 State Fire Marshal
 501 North 2nd Street
 Richmond, VA 23219
 804-371-7170
ed.altizer@dhcd.virginia.gov
<http://www.dhcd.virginia.gov/StateFireMarshalsOffice/default.htm>

From: julie [mailto:julie@elevatorconsultingservices.com]
Sent: Tuesday, March 27, 2007 10:41 AM
To: Altizer, Ed
Subject: State Elevator Code for MRLs

Dear Mr. Altizer:

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3/29/2007

We represent five major regional and national retailers in the United States. In order to develop a national program that has branding similarities, we need to know if it is possible to include MRLs in lieu of the hydraulic program already in place. I am in the process of researching your state code regarding Machine Room-less Elevators (MRLs) (as defined by AMSE 17.1 2005 Supp. 1S). Unfortunately, I am unable to locate specific information regarding your amendments and acceptance of the following units:

Manufacturer:	Elevator:
Kone	Eco Lift
Otis	Gen 2
Schindler	400A
Thyssen	Isis

I am seeking answers to the following questions:

1. Are MRLs accepted in Virginia?
2. If so, are there specific restrictions for:
Suspension means?
Machine room enclosure?
Access doors including governor access doors?
3. If not accepted, what are the underlying reasons?
4. What is the maximum capacity allowed for MRLs if not the OEM designated limits ?
5. Is there any rule in the 1S supplement you modify to make the unit acceptable?

If I have sent this to the wrong person, I would greatly appreciate it if you could direct me to the correct person. Thank you for your assistance in this matter.

Sincerely,

Julie Branham
Elevator Consulting Services, Inc.

Hodge, Vernon

From: Rodgers, Emory
Sent: Thursday, March 29, 2007 9:42 AM
To: Underwood, Lynn; Hodge, Vernon
Cc: McInnis, Ralston; Tomberlin, Guy; GloverJW@ci.staunton.va.us; Collins, James L.; John.Catlett@alexandriava.gov; Freeman, David
Subject: RE: Proposed Code Change

Please send to Vernon Hodge too so can be discussed April 9th. Will be part of the discussion on 3 year limit for permits.

From: Underwood, Lynn [mailto:lynn.underwood@norfolk.gov]
Sent: Tue 3/27/2007 4:53 PM
To: Rodgers, Emory
Cc: McInnis, Ralston; Tomberlin, Guy; GloverJW@ci.staunton.va.us; Collins, James L.; John.Catlett@alexandriava.gov; Freeman, David
Subject: Proposed Code Change

Emory,

I am now ready to submit the attached as proposed code changes on behalf of the City of Norfolk. There are two changes:

1. Changes in Section 110.1.

This proposed change would predicate the issuance of any permit to any lawful conditions set out by the Property Maintenance Official for an active property maintenance case. If a permit is required to meet conditions set out in a Correction Notice or Notice of Violation, this change would allow the Property Maintenance Official to review the proposal and withhold approval of permit application unless all conditions are met.

2. Added Sections 110.6.1 and 110.6.2

This proposed change would require substantial progress for work authorized by a permit. The term, "Substantial progress" is defined as that progress that would necessitate a regular inspection within the six month period established to maintain the permit. This change also will allow the Property Maintenance Official to compel an owner subject to a Notice of Violation of Correction Order to make meaningful progress toward abating the violation and not merely acquire a permit.

It is possible that Region 8 and the Property Maintenance Committee will desire to co-sponsor this as well. However, in the interest of time, I am submitting it now. Thanks for your suggestions to improve the proposal. Please confirm that it was received and in proper order. Thanks again.

Lynn Underwood, C.B.O.
664-6511 office
641-7275 cell

DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT REGULATORY CHANGE FORM

(Use this form to submit changes to building and fire codes)

Address to submit to: DHCD, the Jackson Center 501 North Second Street Richmond, VA 23219-1321 Tel. No. (804) 371 – 7150 Fax No. (804) 371 – 7092 Email: bhcd@dhcd.state.va.us	Document No. _____ Committee Action: _____ BHCD Action: _____
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Submitted by: Lynn Underwood Representing: City of Norfolk
Address: 400 Granby, Norfolk, Va 23510 Phone No.: (757) 664-6511
Regulation Title: Suspension of Permit, Section 110.6

110.6 Suspension of a permit. Any permit shall become invalid if work on the site authorized by the permit is not commenced within six months after issuance of the permit or if the authorized work on the site is suspended or abandoned for a period of six months after the time of commencing the work; however, permits issued for building equipment such as plumbing, electrical and mechanical work shall not become invalid if the building permit is still in effect. It shall be the responsibility of the permit applicant to prove to the building official that work has not been suspended or abandoned. Upon written request, the building official may grant one or more extensions of time, not to exceed one year per extension.

110.6.1 Substantial Progress. If no substantial progress is made on work authorized by the permit the permit will become invalid. For the purposes of this section, substantial progress includes ongoing work and purposeful inspections as specified in Section 113.3 of Part I of this code; at least one within a period of six months.

110.6.2 Permits to correct Property Maintenance Code Violations. For permits to abate conditions identified in a Notice of Violation or a Correction Notice according to Section 105.4 of Part III of this code, any lawful condition established by the Property Maintenance Official set out in Section 110.1 must be corrected.

110.7 Revocation of a permit. The building official may revoke a permit or approval issued under this code in the case of any false statement, misrepresentation of fact or incorrect information supplied by the applicant in the application or construction documents on which the permit or approval was based.

Supporting Statement:
This proposed change would require substantial progress for work authorized by a permit. The term, "Substantial progress" is defined as that progress that would necessitate a regular inspection within the six month period established to maintain the permit. This change also will allow the Property Maintenance Official to compel an owner subject to a Notice of Violation of Correction Order to make meaningful progress toward abating the violation and not merely acquire a permit.

DEPT. OF HOUSING AND COMMUNITY DEVELOPMENT REGULATORY CHANGE FORM

(Use this form to submit changes to building and fire codes)

Address to submit to:	Document No. _____
DHCD, the Jackson Center 501 North Second Street Richmond, VA 23219-1321	Committee Action: _____
Tel. No. (804) 371 – 7150 Fax No. (804) 371 – 7092 Email: bhcd@dhcd.state.va.us	BHCD Action: _____

Submitted by: Lynn Underwood Representing: City of Norfolk

Address: 400 Granby, Norfolk, Va 23510 Phone No.: (757)
 664-6511

Regulation Title: Approval and issuance of permits. Section 110.1

Proposed Change:

110.1 Approval and issuance of permits. The building official shall examine or cause to be examined all applications for permits or amendments to such applications within a reasonable time after filing. If the applications or amendments do not comply with the provisions of this code or all pertinent laws and ordinances, the permit shall not be issued and the permit applicant shall be notified in writing of the reasons for not issuing the permit. If the application or amendments are associated with a Notice of Violation or a Correction Notice according to the provisions of Section 105.4 of Part III of this code, approval of permit is subject to any lawful condition set out by the Property Maintenance Official. If the application complies with the applicable requirements of this code, a permit shall be issued as soon as practicable. The issuance of permits shall not be delayed in an effort to control the pace of construction of new detached one- or two-family dwellings.

Supporting Statement:

This proposed change would predicate the issuance of any permit to any lawful conditions set out by the Property Maintenance Official for an active property maintenance case. If a permit is required to meet conditions set out in a Correction Notice or Notice of Violation, this change would allow the Property Maintenance Official to review the proposal and withhold approval of permit application unless all conditions are met.

FEMA | the life safety group

Saving Lives, Protecting Property

February 26, 2007

Steve Calhoun
Regulatory Coordinator
Department of Housing and Community Development
501 N. 2nd St.
Richmond, VA 23219

RE: Adoption of the 2006 IFC in Virginia

Dear Mr. Calhoun:

On behalf of the Fire Equipment Manufacturers' Association (FEMA) and its members, I am writing to you regarding Virginia's movement towards adopting the 2006 version of the International Fire Code (IFC) as the basis for Virginia's new fire code. During the past code adoption cycle, Virginia amended its fire code to embrace balanced fire safety and amended a potentially dangerous exception contained in Line 1 of Section 906.1. I am writing to respectfully ask that as you begin the process of adopting the 2006 IFC, that Virginia keep the amended language in that section. In the past two years, Georgia, North Carolina, Iowa, Idaho, Nevada, Ohio, South Dakota, Alaska and California have joined Virginia in deleting this exception.

Section 906.1, (Line 1 exception) of the 2006 International Fire Code, states "In all Group A, B and E occupancies equipped throughout with quick-response sprinklers, fire extinguishers shall be required only in special-hazard areas." Virginia amended this exception when the 2003 IFC was adopted.

Your removal of the exception was in line with recommendations from both the National Association of State Fire Marshals (NASFM) and the National Fire Protection Association (NFPA) who recommend portable fire extinguishers as a part of a fire safety plan regardless of the presence of sprinklers. According to the NFPA, a balanced fire protection plan must not be based solely upon any single safeguard such as sprinklers. Sprinklers, quick response or otherwise take lots of heat to be activated which occurs after any opportunity exists to use an extinguisher. Additionally, safeguards should be provided for life safety in case any single safeguard is ineffective due to inappropriate human actions or system failure. NASFM has advocated to Legislative and Regulatory bodies across the country on the importance of having fire extinguishers in buildings even if those buildings have sprinklers. NASFM states "we know of no scientific justification for abandoning the central principle of fire protection

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redundancy”. In line with this, OSHA (Standard 1910.157) requires that fire extinguishers be made available to employees every seventy-five feet in many business settings – a contrary position to the dangerous tradeoff contained in Sec 906.1 Line 1 in the 2006 IFC.

Section 906.1, the exception, is contrary to the just released 2007 edition of NFPA 10, Standard for Portable Fire Extinguishers. Section 1.1.1 states: “the selection and installation of extinguishers is independent of whether the building is equipped with sprinklers”. Additionally, section 5.4.2 states: “Fire extinguishers shall be provided for the protection of both the building structure and the occupancy hazards contained therein regardless of the presence of any fixed fire suppression systems.”

Fire extinguishers are a proven instrument of life safety, not only can they successfully extinguish a fire at its initial stages, but when available and used properly, extinguishers can also provide individuals assistance to allow them to rescue a coworker or escape a fire safely. This additional time can be the difference between life and death.

FEMA is an international group of leading fire protection manufacturers working together to educate the public about fire prevention to save lives and reduce property damage. Member companies include Amerex Corporation, American Pacific Corporation, Ansul Incorporated, Brooks Equipment Co, Buckeye Fire Equipment, DuPont Fluoroproducts, Elkhart Brass Manufacturing Co., Fire-End & Croker Corp., Getz Manufacturing, Globe Technologies Corporation, JL Industries, JOB GMBH, Kidde Fire Fighting, USA, Kidde Fenwal, Larsen’s Manufacturing Company, Luxfer Gas Cylinders, Mercedes Textiles Limited, Potter Roemer, Seal Seat Company and Wilson and Cousins. Member companies manufacture top quality fire protection products such as portable fire extinguishers, fire hose systems, fire suppression systems, and interior equipment – all necessary components of a complete and balanced fire protection plan.

I would like to again respectfully request that Virginia keep the current amended language from the adopted 2003 edition of the IFC in Section 906.1 when updating to the 2006 IFC. Thank you for your consideration and attention to this letter. If you have any questions please do not hesitate to contact me.

Sincerely,

Craig Voelkert

Craig Voelkert

Amerex

Chair, FEMA Government Relations Committee

fema

Hodge, Vernon

From: Hodge, Vernon
Sent: Thursday, March 08, 2007 10:35 AM
To: 'Ray Grill'
Cc: Vijay D'Souza
Subject: RE: Quick Question

Mr. Grill:

In my opinion, the Virginia Statewide Fire Prevention Code (SFPC) cannot be used to require fire extinguishers in any existing building when the building was not required to have them when it was first built (see Sections 101.2, 101.4, 102.2 and 102.3 of the SFPC). The amendment you reference was an attempt to correlate the requirements for new construction in the Virginia Uniform Statewide Building Code (USBC) with the SFPC, as we modified Section 906.1 of the International Building Code under the USBC to not require fire extinguishers in any new Group R-2 occupancies.

If your question is concerning when fire extinguishers need to be installed in newly constructed buildings, then our reference to the International Fire Code through the USBC leaves the exception you reference intact, so for new construction, you clearly do not need to provide fire extinguishers in Group A, B and E occupancies equipped throughout with quick-response sprinklers, except in special hazard areas, of course.

I hope this answers your question.

Vernon Hodge, DHCD Regulatory Specialist

From: Ray Grill [mailto:Ray.Grill@arup.com]
Sent: Thursday, March 08, 2007 8:52 AM
To: Hodge, Vernon
Cc: Vijay D'Souza
Subject: Quick Question

Dear Mr. Hodge,

I have a very quick question. I just wanted to confirm whether the Commonwealth has deleted the exception to Section 906.1 of the International Fire Code. The USFPC amends the section by deleting R-2 occupancies, but I could not tell if the intent was to keep the exception or delete it.

The exception in the 2003 IFC to this section exempts Group A, B and E occupancies from having portable fire extinguishers when quick response sprinklers are provided. Is this exception applicable in the Commonwealth?

Thank you very much for your time spent in review of this question.

Best regards,

Ray Grill
=====

Raymond A. Grill, P.E., FSFPE
Principal

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