

# AGENDA

## DHCD WORKGROUP MEETING 2012 Code Change Cycle

October 11, 2013 at 9:30  
Virginia Housing Center

### SFPC:

DESCRIPTION	Page #
1. SFPC 103.2 - Administrative inspections, permits construction document. SFPC Section 106.3 covers all inspections deemed necessary or if something is missing can be done in Chapter 1 similar to USBC did some time ago? T107.2 covers now all operational permits so if need others can add? Open flame is broaden that clearly includes sterno canisters to warm food trays, but doesn't cover other occupancies besides A such as B or M or R? 901.2 needs to be correlated with the USBC 109 for construction documents as USBC governs copies that are disturbed to fire or maintenance officials, planning, zoning, public works and transportation departments?	4
2. SFPC 107.5.1, 107.6 and 107.13 - Clean-up; adds exception for issuance of explosive and firework permits by the SFMO.	37
3. SFPC 107.13 - SFMO new fee for permissible fireworks on state property. Legal issues.	39
4. SFPC 107.6 – Compliance fees – complaints, storage/retail display permissible fireworks, bon fires on state owned property.	41
5. SFPC 107.13 – Fees – state explosives, blasting agents, theatrical flame effects and firework permit fees. Need budget estimates. Proposed SFPC has increased fees too.	44
6. SFPC 107.14 – State compliance inspection permit fees. These include hotels and B&B's. Need budget number estimates.	46
7. SFPC 107.16 - SFMO permit fees not refundable.	49
8. SFPC 5601.4.3.1 - New SFMO fee for replacement of certificate.	50
9. SFPC – Definition - Residential Group R-5.	51
10. SFPC 108.3 - Conditions of a permit. This change now deletes text in section and then adds a note with the same language. The SFPC cannot direct what a building official does under the USBC, not even in a note.	53
11. SFPC 202 and 308.1.6.3 - Sky lanterns.	54
12. SFPC 403.3 – First code change: Crowd managers for training. Second code change: DHCD for Crowd managers only for A up to 1,000 and then 1 for 250 thereafter with nightclubs 250 and not 1,000 exception.	55
13. SFPC 307.1 – Approved outdoor live fire training exception.	56
14. SFPC Chapter 4 rewrite. Reduces fire drills from 12 to 6 in I-1 and allows designation of an assembly point. Since it is entire chapter, where there are changes, a better explanation of those changes that goes beyond current requirements is needed so stakeholders can better understand the change besides clarity and format changes.	57
15. SFPC 404.2. - Evacuation plans. Bed and Breakfasts.	78

16. SFPC 503.1- Fire apparatus access roads for new and existing buildings.	80
17. SFPC 607.1 and other sections – Changes to existing building references.	81
18. SFPC 609.3.3.3 - Tags kitchen hood systems. From 2015 IFC code change. Seems reasonable much like tagging of fire extinguishers.	83
19. SFPC IFC 703.3.3/703.1.1- Delete annual visual inspection - all existing buildings for rated and fire-resistance construction. Issues and questions are: do owners file and do reports, how to identify what to inspect, are reports retained, covers all existing buildings, how related to the USBC VMC, how will SFMO implement and what are enforcement problems? This needs study, cost impact and risk assessment. Will need for someone to educate owners? Should any occupancy be exempted like dwelling units? In SFPC or USBC VMC, it is those code officials who already are allowed to do periodic inspections. Was part of a STRB case.	85
20. SFPC IFC 3406.1 - Fire apparatus access roads tire storage yards	86
21. SFPC 5001.3/USBC 116.2, 307.1, 425.1 – NFPA 45 – Laboratory buildings. DHCD alternate staff proposal also attached. Subgroup meeting held on September 24 <sup>th</sup> .	87
22. SFPC 906.3 and 906.4 - SFMO new certification program fire extinguisher technician. Need program details, numbers impacted, budget and staff information.	90
23. SFPC 5601.5 - New section – Denial, suspension or revocation of certificate for blasters and pyrotechnicians. What is the history? Have cases arisen for suspension consideration? Sets up review panel.	94
24. SFPC 5603.4 – Adds requirement that accident information involving explosives be submitted to the SFMO.	96
25. SFPC 5706.6.2.1 and 6111.2.2 - Code Change for fuel and propane truck parking in residential areas. Was submitted as a placeholder. Propane change is already a technical amendment different than the IFC 6111.2.1 referencing NFPA standard. Two code changes.	97
26. SFPC Section 5607.16 – Blast records (w/code commission corrections attached).	99
27. USBC/SFPC 2306.7.1 – E85 Standard.	105
28. SFPC 202 – Definition of responsible management.	107
29. IWUIC – Urban interface code.	108
30. USBC VCC IBC/IFC 906.1 - Deletes USBC amendments for the 2012 IBC/IFC. Would not have any sprinkled occupancies without fire extinguishers except R-2.	108a
31. USBC VCC IBC/IFC 906 - Delete from IBC and retain in SFPC/IFC as not a USBC matter.	108d

**2012 USBC:**

DESCRIPTION	Page #
1. USBC 103.10 IECC 101.7 – New item 7 - Explanation was given that the purpose of this change is to make it clear that low energy buildings were referenced.	109
2. USBC 103.10 – Use of certain provisions of referenced codes. DHCD staff proposal.	113
3. 108.1 and 3411.9.5 (IEBC 410.1) - Accessible parking (restriping) – discussion on evolution of change to make it less stringent. Incorporate into IEBC.	114
4. USBC – Definition of nightclub. Subgroup meeting held on September 24 <sup>th</sup> .	116
5. USBC VCC Table 307.1 – Fireworks amounts. First code change is revised from previous change that was “approve as revised” from the August 22 <sup>nd</sup> meeting. Second code change DHCD code changes on permissible fireworks.	118
6. USBC VCC IBC 404.5 - Smoke control clarification.	121
7. USBC VCC IBC 404.6 - Atrium sprinklers Exceptions 1 and 3 – two proposals.	122

8. IBC 408.2 – Short term holding areas.	124
9. 415.1.1 and 414.6.2 – UST removal.	128
10. USBC VCC and VRC IBC 903.2.1A – Two code changes. Occupancy requiring buildings unsprinkled to have floor or floors sprinkled and egress to exit discharge. In the 2009 USBC/IBC so have there been any impacts for new or existing buildings? Triggers sprinklers in unsprinkled buildings like B with A on lower or upper floors could be entire building or entire 1 <sup>st</sup> floor. Should it be A area and to exit discharge? How does this impact new and existing buildings triggers for sprinklers such as 55 feet or the VRC for alterations and change of occupancy. 903.2.1 for A occupancies is perhaps not problem VCC new buildings as 300 occupants for restaurants or where restaurants moving into an existing buildings is not able to use fire areas and VRC compliance methods. Carry-over 2015.	130
11. USBC VCC IBC 903.2.6 - Exception 5 new exercise yards I-3 and sprinklers.	131
12. USBC VCC IBC/IFC 906.1 - Deletes USBC amendments for the 2012 IBC/IFC. Would not have any sprinkled occupancies without fire extinguishers except R-2.	132
13. USBC VCC IBC/IFC 906 - Delete from IBC and retain in SFPC/IFC as not a USBC matter.	135
14. 1106.3 – Outpatient parking – Revised change exempts medical offices in residences.	136
15. USBC VCC IBC 1604 - Deletes #3. Adult education facilities.	137
16. USBC IBC 1705.16, 16.1 and 16.2 - 3 <sup>rd</sup> party inspections Risk category III scoping review.	139
17. USBC IECC R402.1.1 - Wall insulation R18 or R15+3. Two changes.	140
18. USBC IECC R402.1.1 - Ceiling insulation R49.	147
19. USBC IECC R402.4.1.2.1 - Testing exterior barriers delete visual inspections – two proposals.	148
20. USBC IECC R402.3.6 - Requires replacement fenestration to meet current U values not being allowed to be replaced with similar kind per 103.5.	151
21. USBC IECC R403.4.2 - R-3 for hot water piping insulation.	153
22. USBC IECC R404.1 - Reinstates 75% for high-efficacy lamps/luminaires.	155
23. USBC IECC R405.5.2 - Glazing area having trade-offs below 15% deletes.	156
24. USBC IRC R602.10 and R602.12 - Coordination practical wall bracing.	159
25. USBC IRC R602.12.1(3) - Fasteners for gypsum wall bracing spacing.	163
26. USBC IRC R602.12.2 - Clarifies language with gypsum on both sides.	164
27. USBC IRC Table R602.12.4 - Clarifies foot notes wall bracing lengths.	165
28. USBC IECC R403-6 – Energy efficiency of appliances. Two changes.	166
29. USBC IRC M1401.3 – Energy efficiency of appliances. Two changes.	170
30. USBC IRC M1401.3 – VPC 608.16.10 – Coffee machines.	174
31. USBC IBC 908.7 – CO alarms – educational – two proposals.	175
32. USBC IBC 1008.1.9.7 – Delayed egress locks.	180
33. USBC IBC 1106.3 – Outpatient clinics.	181
34. USBC IBC 1403.8 – Air barriers.	182
35. USBC IRC R311.2.1 – Interior passage.	184
36. USBC IRC R403.1 – Depth of footings for ramps.	186
37. USBC IRC R507 – Decks	187
38. USBC IRC R806 – Attic ventilations.	203
39. USBC IRC M1501.2 – Transfer air.	204
40. USBC IRC M1503.4 – Make-up air.	205

Date prepared: 9/10/13

41. USBC IRC G2411.1 – CSST.	207
42. USBC IPC 607.2 – Hot water pipe insulation.	209
43. VCC 425.2 – Site work for manufactured homes.	210
44. 13VAC5-95-20 – Site prep., utility connection and skirting of manufactured homes.	211
45. IBC 1008.1.9.8 – Sensor lock. Change was consensus but needs correlation with ICC.	212
46. USBC/SFPC 2306.7.1 – E85 Standard.	217
47. IWUIC – Urban interface code.	219
48. IBC 308 – Code change relating to number of residents needing assistance,	220
49. USBC VADR – Fee for generators.	221

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2012 Code Change Cycle**

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual       Government Entity       Company

Name: Robby Dawson

Representing: Fire Services Board Code Committee

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-748-1426

Proposal Information

Code(s) and Section(s): Statewide Fire Prevention Code – various sections as listed below

Proposed Change (including all relevant section numbers, if multiple sections):

**103.2. Amendments.** All requirements of the referenced codes and standards that relate to fees, permits, unsafe notices, disputes, condemnation, inspections, scope of enforcement and all other procedural, and administrative matters are deleted and replaced by the provisions of Chapter 1 of the SFPC.

**107.2 Permits Required.** Operational Permits may be required by the fire official as permitted under the SFPC in accordance with Table 107.2, except that the fire official shall require permits for the manufacturing, storage, handling, use and sale of explosives. (remainder of section unchanged)

**Table 107.2  
Operational Permit Requirements (to be filled in by local jurisdiction)**

Description	Permit Required (yes or no)	Permit Fee	Inspection Fee
<del>Battery systems. A permit is required to install stationary lead-acid battery systems having a liquid capacity of more than 50 gallons (189 L).</del>			
<b>Compressed gas.</b> An operational permit is required for the storage, use or handling at normal temperature and pressure (NTP) of compressed gases in excess of the amounts listed below. <b>Exception:</b> Vehicles equipped for and using compressed gas as a fuel for propelling the vehicle.			
<b>PERMIT AMOUNTS FOR COMPRESSED GASES</b>			
<b>TYPE OF GAS</b>	<b>AMOUNT (cubic feet at NTP)</b>		

Corrosive	200			
Flammable (except cryogenic fluids and liquefied petroleum gases)	200			
Highly toxic	Any amount			
Inert and simple asphyxiant	6,000			
Oxidizing (including oxygen)	504			
<u>Pyrophoric</u>	<u>Any amount</u>			
Toxic	Any amount			
For SI: 1 cubic foot = 0.02832 m <sup>3</sup>				
<b>Covered and open mall buildings.</b> An operational permit is required for: 1. The placement of retail fixtures and displays, concession equipment, displays of highly combustible goods and similar items in the mall. 2. The display of liquid- or gas-fired equipment in the mall. 3. The use of open-flame or flame-producing equipment in the mall.				
<b>LP-gas.</b> An operational permit is required for: 1. Storage and use of LP-gas. <b>Exception:</b> A permit is not required for individual containers with a 500-gallon (1893 L) water capacity or less <u>or multiple container systems having an aggregate quantity not exceeding 500 gallons (1893 L), serving occupancies in Group R-3.</u> 2. Operation of cargo tankers that transport LP-gas.				
<b>Cryogenic fluids.</b> An operational permit is required to produce, store, transport on site, use, handle or dispense cryogenic fluids in excess of the amounts listed below. Exception: Operational permits are not required for vehicles equipped for and using cryogenic fluids as a fuel for propelling the vehicle or for refrigerating the lading.				
<b>Explosives, fireworks and pyrotechnics.</b> An operational permit is required for the manufacture, storage, handling, sale or use of any quantity of explosive, explosive materials, fireworks, <del>or</del> pyrotechnic special effects, <u>or pyrotechnic special effects material</u> within the scope of Chapter 3356. <b>Exception:</b> Storage in Group R-3 or R-5 occupancies of smokeless propellant, black powder and small arms primers for personal use, not for resale and in accordance with the quantity limitations and conditions set forth in Section 5601.1, exceptions 4 and 12.				
<b>Type of Cryogenic Fluid</b>	<b>Inside Building (gallons)</b>	<b>Outside Building (gallons)</b>		
Flammable	More than 1	60		
Inert	60	500		
Oxidizing (includes oxygen)	10	50		
Physical or health hazard not indicated above	Any amount	Any amount		
For SI: 1 gallon = 3.785 L.				
<b>Fumigation, and thermal and insecticidal fogging.</b> An operational permit is required to operate a business of fumigation, <del>or</del> thermal or insecticidal fogging and to maintain a room, vault or chamber in which a toxic or flammable fumigant is used.				
<b>Hazardous materials.</b> An operational permit is required to store, transport on site, dispense, use or handle hazardous materials in excess of the following amounts:				
<b>Type of material</b>		<b>Amount</b>		
Combustible liquids		See Flammable and Combustible Liquids		
Corrosive materials		See Compressed Gases		
Gases		55 gallons		
Liquids		1000 pounds		
Solids				
Explosive materials		See Explosives		
Flammable materials		See Compressed Gases		
Gases		See Flammable and Combustible Liquids		
Liquids		100 pounds		
Solids				

Highly toxic materials Gases Liquids Solids	See Compressed Gases Any amount Any amount			
Oxidizing materials Gases Liquids Class 4 Class 3 Class 2 Class 1 Solids Class 4 Class 3 Class 2 Class 1	See Compressed Gases Any amount 1 gallon <sup>a</sup> 10 gallons 55 gallons Any amount 10 pounds <sup>b</sup> 100 pounds 500 pounds			
Organic peroxides Liquids Class I Class II Class III Class IV Class V Solids Class I Class II Class III Class IV Class V	Any amount Any amount 1 gallon 2 gallons No permit required Any amount Any amount 10 pounds 20 pounds No permit required			
Pyrophoric materials Gases Liquids Solids	See Compressed Gases Any amount Any amount			
Toxic materials Gases Liquids Solids	See Compressed Gases 10 gallons 100 pounds			
Unstable (reactive) materials Liquids Class 4 Class 3 Class 2 Class 1 Solids Class 4 Class 3 Class 2 Class 1	Any amount Any amount 5 gallons 10 gallons Any amount Any amount 50 pounds 100 pounds			
Water-reactive Materials Liquids Class 3 Class 2 Class 1 Solids Class 3 Class 2 Class 1	Any amount 5 gallons 55 gallons Any amount 50 pounds 500 pounds			
<u>a. 20 gallons when Table 5003.1.1(1) Note k applies and hazard identification signs in accordance with Section 5003.5 are provided for quantities of 20 gallons or less.</u>				
<u>b. 20 pounds when Table 5003.1.1(1) Note k applies and hazard identification signs in accordance with Section 5003.5 are provided for quantities of 200 pounds or less.</u>				
<b>Open flames and candles.</b> An operational permit is required to remove paint with a torch; use a torch or open flame device in a hazardous fire area; or to use open				

flames or candles in connection with assembly areas, dining areas of restaurants or drinking establishments.

**Open flames and torches.** An operational permit is required to remove paint with a torch, or to use a torch or open-flame device in a wildfire risk area.

**Places of Assembly/educational occupancy.** An operational permit is required to operate a place of assembly/educational occupancy.

For SI: 1 cubic foot = 0.02832 m<sup>3</sup>, 1 gallon = 3.785 L., 1 pound = 0.454 kg.

**301.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~ for the activities or uses regulated by Sections 306, 307, 308 and 315.

**307.2 Permit required.** A permit shall be obtained from the *fire code official* in accordance with Section ~~105-6107.2~~ prior to kindling a fire for recognized silvicultural or range or wildlife management practices, prevention or control of disease or pests, or a bonfire. Application for such approval shall only be presented by and permits issued to the *owner* of the land upon which the fire is to be kindled.

**308.2 Permits required.** Permits shall be obtained from the *fire code official* in accordance with Section ~~105-6107.2~~ prior to engaging in the following activities involving open flame, fire and burning:

1. Use of a torch or flame-producing device to remove paint from a structure.
2. Use of open flame, fire or burning in connection with Group A or E occupancies.
3. Use or operation of torches and other devices, machines or processes liable to start or cause fire in or upon wildfire risk areas.

**315.2 Permit required.** A permit for miscellaneous combustible storage shall be required as set forth in Section ~~105-6107.2~~.

**501.2 Permits.** A permit shall be required as set forth in Sections ~~105-6107.2~~ and ~~105-7~~.

**601.2 Permits.** Permits shall be obtained for refrigeration systems, battery systems and solar photovoltaic power systems as set forth in Sections ~~105-6107.2~~ and ~~105-7~~.

**901.2 Construction documents.** The *fire code official* shall have the authority to require and receive copies of construction documents and calculations for all *fire protection systems where such documents exist*. ~~and to require permits be issued for the installation, rehabilitation or modification of any fire protection system to be installed, rehabilitated or modified.~~ *Construction documents for fire protection systems shall be submitted for review and approval prior to system installation.*

**901.3 Permits.** Permits shall be required as set forth in Sections ~~105-6107.2~~ and ~~105-7~~.

**2001.3 Permits.** For permits to operate aircraft-refueling vehicles, application of flammable or combustible finishes and hot work, see Section ~~105-6107.2~~.

**2101.2 Permit required.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**2201.2 Permits.** Permits shall be required for *combustible dust*-producing operations as set forth in Section ~~105-6107.2~~.

**2301.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**2401.3 Permits.** Permits shall be required as set forth in Sections ~~105-6107.2~~ and ~~105-7~~.

**2501.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**2601.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**2701.5 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**2801.2 Permit.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**2901.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**3001.2 Permits.** Permits shall be required as set forth in Sections ~~105-6107.2~~ and ~~105-7~~.

**3103.4 Permits.** Permits shall be required as set forth in Sections ~~105-6107.2~~ and ~~105.7~~.

**3201.2 Permits.** A permit shall be required as set forth in Section ~~105-6107.2~~.

**3401.2 Permit required.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**5001.5 Permits.** Permits shall be required as set forth in Sections ~~105-6107.2~~ and ~~105.7~~.

**5101.2 Permit required.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**5201.3 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**5301.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**5401.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**5501.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**5601.2 Permit required.** Permits shall be required as set forth in Section ~~105-6107.2~~ and regulated in accordance with this section.

**5701.4 Permits.** Permits shall be required as set forth in Sections ~~105-6107.2~~ and ~~105.7~~.

**5801.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**5901.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**6001.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**6201.2 Permits.** Permits shall be required for organic peroxides as set forth in Section ~~105-6107.2~~.

**6301.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**6401.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**6501.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

**6601.2 Permits.** Permits shall be required as set forth in Section ~~105-6107.2~~.

Supporting Statement (including intent, need, and impact of the proposal):

NOTE: This original change was proposed by the FSBCC 12/5/2012. This revision reflects comments and clarifications requested by members of the BHCD Codes and Standards Committee. This revision's changes are noted by highlighted areas in the text of the proposal.

The overall objective for this proposed change is to ensure the proper and accurate coordination of the code's permit provisions and to clearly identify how reference standards are to be applied and when.

1. Section 103.2 amends by eliminating "permits" and "scope of enforcement" from this section. The corrected sections if the SFPC now correctly identify what section of the SFPC (107.2) identifies which operational permits are required. If the term "permits" remains, confusion is created that the permitting requirements in the explosives chapter are not enforceable. But with the proper reference to 107.2, it becomes clear that not only are permits potentially required, they are referenced back to the proper administrative provisions of chapter 1.

The "scope of enforcement" is also removed to clearly indicate those referenced standards (like NFPA) do have limitations on their scope. Without the deletion of this section, one could argue the door is left wide open to take the standard out of context or there is no basis for the standard to be used. The SFPC already has a catch all provision in 102.4 that clearly states any conflict between the SFPC and a reference standard – such as differences in scope –

that the SFPC prevails.

2. References to the permit section of Chapter 1 are often encountered in the technical chapters of the code. When encountered in a technical chapter, this proposed change will provide for the proper and accurate reference of the Chapter 1 permit provisions.
3. The changes to Table 107.2 are intended to incorporate the changes found in the 2012 edition of the IFC with the following notable differences:
  - a. An operational permit requirement for battery systems was deleted from the IFC in October 2004 through action by the ICC Code Correlation Committee (CCC). The stated reason for the CCC action was,

*"Section 105.6.5 is the only section in 105.6 that contains the word "install", which clearly indicates that the permit requirement is one of construction, not operation.*

*Section 105.6.5 was added to the code by code change F203-99 (AM). It originally said "...install or operate..." but the modification deleted the phrase "...or operate...". At that time, there was only one section, 105.6, that regulated all permits.*

*In the same code change cycle, code change F46-99 (AM) divided Section 105.6 into the current separate Required Operational Permits Section 105.6 and Required Construction Permits Section 105.7.*

*Since both code changes F46-99 and F203-99 were approved simultaneously, relocating the new construction-oriented permit requirements created by F203-99 for the installation of battery systems from Section 105.6 to the new Section 105.7 should have been accomplished as a correlation change prior to publication of the 2000 edition, however it was overlooked. This correlation change will place the permit requirement for installation of battery systems into the proper section."*

(The ICC references to Section 105.6 equate to SFPC Section 107.2.)
  - b. For fumigation, thermal and insecticidal fogging, the model code deleted the reference to "thermal" treatment but its felt this treatment must be retained. To produce high temperatures (thermal) within a building or space may still be a viable method for treating bed bug infestations. One of the methods of thermal pest control is the use of propane. If propane is used to treat bed bug infestations, then a permit may have to be obtained through or coordinated with other chapters of the code such as Chapter 61, Liquefied Petroleum Gas. The changes shown are for the benefit of clarity and distinction for the 3 methods of treatment; fumigation, thermal and fogging.
  - c. The SI units of measurement are relocated to the end of the table as opposed to repeating them in multiple locations. The units of measurement would still be applicable throughout the table.
  - d. Through an omission, the '09 edition of the SFPC did not have notes "a" and "b" as they relate to liquid and solid oxidizing hazardous materials. This change properly puts those notes back into the table.
  - e. As a statewide minimum, the added language regarding explosives, display fireworks and pyrotechnics reflects the combining of separate IFC model code lines and its list of required operational permits. This produces no fundamental or significant operational changes within or for the SFPC and **does not** impact "permissible fireworks".
  - f. The exception for the line for explosives is a reiteration for propellants and primers found in Chapter 56 and those contained in previous editions of the SFPC. There's no attempt to change those SFPC exceptions.
  - g. As a point of information, no edition of the referenced IFC model code has had educational occupancy listed for operational permits, hence the reason for deleting the reference for educational occupancies. The option to amend the code to include Group E is still available at the local level.
4. The change to Section 901.2 allows the fire official to require and receive copies of construction documents related to the installation, rehabilitation or modification of fire protections systems. It is those documents that establish the benchmark for which a level protection or performance is to be maintain for the life of the building and its systems.
5. Additional supporting information submitted 5/2013 in support of 103.2 changes:

Further analysis of the specific sections of the referenced codes and standards reveals that the following inspections are not required, nor can the owner/operator be compelled to conduct any inspections under the SFPC:

  - a. Fire hydrants to can not be inspected (507.5.2)
  - b. There can be no required inspection of emergency or standby power systems, and no records maintained (604.3). These requirements are in the IFC and NFPA 110, 111 – both are deleted by existing language.

- c. Commercial kitchen hoods including ducts and fans can no longer be required to be inspected. (609.3.3.1).
- d. Portable fire extinguishers are not required to be inspected, however the exception may now be required since issues dealing with "inspections" is not in the SFPC, so the exception is not included (906.2 Ex 2).
- e. The inspection of "fire detection, alarm and extinguishing system" as well as non-required systems are not required to be inspected (901.6).
- f. Fire resistance rated construction does not need to be inspected by the owner of the property (703.1).
- g. Records can no longer be "inspected" concerning the monitoring for excessive temperatures in dust piles (1908.6).
- h. Shells of pyrotechnic devices do not need to be inspected for damage after transport (3308.5.3)
- i. Magazines of explosive do not have to be routinely inspected for damaged, degrading or missing explosives (3304.9).
- j. Records of explosives transactions can not be inspected (3303.2).
- k. There is no requirement to inspect the fallout area of a fireworks display to collect any un-exploded shells (3308.9).

The Scoping provisions of the referenced NFPA Standards do not apply as 103.2 is currently written. Additionally, since the scope of NFPA 25 is effectively deleted, the exception is also eliminated making NFPA 25 applicable to ALL water based fire protection systems including NFPA13D systems.

Opposition to much of the change to this section has not been objectively illustrated. There have been no examples (like those listed above to the contrary) that show how the proposed change has a detrimental impact on the fire official's ability to enforce the code or any potential expansion of what was understood scope prior to the TRB ruling earlier this year.

Modification to section 906.2 clarifies this is not directed at the building official, but whoever has possession of these documents to ensure they are available for future fire code enforcement.

6. The change to section 107.2 clarifies that these permits are operational in nature and do not allow or require the fire official to issue permits under any other provision of state code other than the SFPC for the operations noted in Table 107.2 when adopted locally as part of the local fire code adoption process.

**Supporting documentation of the referenced adopted standards are also attached to this revised proposal.**

### Submittal Information

Date Submitted: 12/5/12 – Revision submitted 6/3/13

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
 Main Street Centre  
 600 E. Main St., Ste. 300  
 Richmond, VA 23219

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)  
 Fax Number: (804) 371-7092  
 Phone Numbers: (804) 371-7140 or (804) 371-7150



NFPA 25

Standard for the

Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems

2002 Edition

NOTICE: An asterisk (\*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet between the paragraphs that remain.

A reference in brackets [ ] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, Annex D lists the complete title and edition of the source documents for both mandatory and nonmandatory extracts. Editorial changes to extracted material consist of revising references to an appropriate division in this document or the inclusion of the document number with the division number when the reference is to the original document. Requests for interpretations or revisions of extracted text shall be sent to the appropriate technical committee.

Information on referenced publications can be found in Chapter 2 and Annex D.

Chapter 1 Administration

**1.1 Scope.** This document establishes the minimum requirements for the periodic inspection, testing, and maintenance of water-based fire protection systems, including land-based and marine applications. The types of systems addressed by this standard include, but are not limited to, sprinkler, stand-pipe and hose, fixed water spray, and foam water. Included are the water supplies that are part of these systems, such as private fire service mains and appurtenances, fire pumps and water storage tanks, and valves that control system flow. The document also addresses impairment handling and reporting. This standard applies to fire protection systems that have been properly installed in accordance with generally accepted practices. Where a system has not been installed in accordance with generally accepted practices, the corrective action is beyond the scope of this standard. The corrective action to ensure that the system performs in a satisfactory manner shall be in accordance with the appropriate installation standard.

**1.1.1** This standard shall not apply to sprinkler systems designed and installed in accordance with NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*.

**1.2\* Purpose.** The purpose of this document is to provide requirements that ensure a reasonable degree of protection for life and property from fire through minimum inspection, testing, and maintenance methods for water-based fire protection systems. In those cases where it is determined that an

existing situation involves a distinct hazard to life or property, the authority having jurisdiction shall be permitted to require inspection, testing, and maintenance methods in excess of those required by the standard.

**1.3\* Application.** It is not the intent of this document to limit or restrict the use of other inspection, testing, or maintenance programs that provide an equivalent level of system integrity and performance to that detailed in this document. The authority having jurisdiction shall be consulted and approval obtained for such alternative programs.

**1.4\* Units.** Metric units of measurement in this standard are in accordance with the modernized metric system known as the International System of Units (SI).

**1.4.1** If a value for measurement as given in this standard is followed by an equivalent value in other units, the first stated shall be regarded as the requirement. A given equivalent value shall be considered to be approximate.

**1.4.2** SI units have been converted by multiplying the quantity by the conversion factor and then rounding the result to the appropriate number of significant digits. Where nominal or trade sizes exist, the nominal dimension has been recognized in each unit.

Chapter 2 Referenced Publications

**2.1 General.** The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

**2.2 NFPA Publications.** National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 11, *Standard for Low-Expansion Foam*, 1998 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 1999 edition.

NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*, 1999 edition.

NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, 2001 edition.

NFPA 16, *Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems*, 1999 edition.

NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection*, 1999 edition.

NFPA 22, *Standard for Water Tanks for Private Fire Protection*, 1998 edition.

NFPA 72®, *National Fire Alarm Code®*, 1999 edition.

NFPA 110, *Standard for Emergency and Standby Power Systems*, 2002 edition.

NFPA 307, *Standard for the Construction and Fire Protection of Marine Terminals, Piers, and Wharves*, 2000 edition.

NFPA 409, *Standard on Aircraft Hangars*, 2001 edition.

NFPA 1962, *Standard for the Care, Use, and Service Testing of Fire Hose Including Couplings and Nozzles*, 1998 edition.

**2.3 Other Publications.**

**2.3.1 ASTM Publication.** American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM D 3359, *Standard Test Methods for Measuring Adhesion by Tape Test*, 1997.

**10.2 Plans.** Where plans are required, they shall be prepared by qualified persons trained in the design and application of these systems.

**10.2.1** The plans shall be drawn to an indicated scale or be suitably dimensioned and shall be reproducible.

**10.2.2** The plans shall contain sufficient detail to enable the authority having jurisdiction to evaluate the hazard or hazards and to evaluate the effectiveness of the system.

**10.2.2.1** The details on the hazards shall include the materials involved, the location and arrangement, and the exposure to the hazard.

**10.2.3** The details on the system shall include sufficient information and calculations on the following:

- (1) Amount of dry chemical
- (2) The size, length, and arrangement of connected piping, or piping and hose
- (3) The description and location of nozzles so that the adequacy of the system can be determined

**10.2.3.1** Flow rates of nozzles used shall be provided for engineered systems.

**10.2.3.2** Information shall be submitted pertaining to the location and function of detection devices, operating devices, auxiliary equipment, and electrical circuitry, if used.

**10.2.3.3** Sufficient information shall be indicated to properly identify the apparatus and devices used.

**10.3 Approval of Plans.** Where plans are required, they shall be submitted to the authority having jurisdiction for approval before work starts.

**10.3.1** Where field conditions necessitate any substantial change from the approved plan, the corrected as-installed plans shall be submitted to the authority having jurisdiction for approval.

**10.4 Approval of Installations.** The completed system shall be tested by qualified personnel.

**10.4.1** The tests shall determine that the system has been properly installed and will function as intended.

**10.4.1.1** Only listed equipment and devices shall be used in these systems.

**10.4.2** The installer shall certify that the installation has been made in accordance with the approved plans and the listing of a testing laboratory.

**10.4.3** Acceptance tests shall include a discharge of dry chemical in sufficient amounts to verify that the system is properly installed and functional.

**10.4.3.1** The method of verification shall be acceptable to the authority having jurisdiction.

**10.4.3.2** Piping shall not be hydrostatically tested.

**10.4.3.3** Where pressure testing is required, it shall be by means of a dry gas.

**10.4.3.4** The labeling of devices with proper designations and instructions shall be checked.

**10.4.3.5** The use of dry chemical for the approval test shall be permitted to be waived by the authority having jurisdiction.

**10.4.4** After any discharge of dry chemical, all piping and nozzles shall be blown clean using compressed dry air or nitrogen.

**10.4.4.1** The system shall be properly charged and placed in the normal "set" condition.

**10.5 Manual.** The owner shall be provided with a copy of the manufacturer's listed installation and maintenance manual or listed owner's manual.

## Chapter 11 Inspection, Maintenance, and Recharging

### 11.1 General Requirements.

**11.1.1** Where dry chemical pressure containers are not attached to piping or hand hose lines, the discharge outlet shall be provided with a protective diffusing safety cap to protect personnel from recoil and high-flow discharge in case of accidental actuation.

**11.1.1.1** Protective caps also shall be used on empty pressure containers to protect threads.

**11.1.1.2** Protective caps shall be provided by the manufacturer of the equipment.

**11.1.2 Storage.** Storage of charging supplies of dry chemical shall be in a constantly dry area, and the dry chemical shall be contained in metal drums or other containers that will prevent the entrance of moisture even in small quantities.

**11.1.2.1** Prior to the dry chemical chamber being charged, the dry chemical shall be checked carefully to determine that it is in a flowing condition.

**11.1.3\*** A trained person who has undergone the instructions necessary to perform the maintenance and recharge service reliably and has the applicable manufacturer's installation and maintenance manual and service bulletins shall service the dry chemical extinguishing system at intervals not more than 6 months apart as outlined in Section 11.3.

**11.1.4** All dry chemical extinguishing systems shall be inspected in accordance with the owner's manual and maintained and recharged in accordance with the manufacturer's listed installation and maintenance manual and service bulletins.

### 11.1.5 Recharge Agents.

**11.1.5.1 Quality.** The dry chemical used in the system shall be supplied by the equipment manufacturer.

**11.1.5.1.1** The characteristics of the system are dependent on the composition of the dry chemical and the type of expellant gas, as well as other factors.

**11.1.5.1.2** It is imperative to use the dry chemical provided by the equipment manufacturer and the type of expellant gas specified by the equipment manufacturer.

**11.1.5.1.3** Where carbon dioxide or nitrogen is used as the expellant gas, it shall be of good commercial grade and free of water and other contaminants that might cause container corrosion.

**11.1.6** System access for inspection or maintenance that requires opening panels in fire chases or ducts, or both, shall not be permitted while any appliance(s) or equipment protected by that system is in operation.

## 11.2 Owner's Inspection.

11.2.1 On a monthly basis, inspection shall be conducted in accordance with the manufacturer's listed installation and maintenance manual or owner's manual.

11.2.1.1 As a minimum, this "quick check" or inspection shall include verification of the following:

- (1) The extinguishing system is in its proper location.
- (2) The manual actuators are unobstructed.
- (3) The tamper indicators and seals are intact.
- (4) The maintenance tag or certificate is in place.
- (5) The system shows no physical damage or condition that might prevent operation.
- (6) The pressure gauge(s), if provided, is in operable range.
- (7) The nozzle blowoff caps, where provided, are intact and undamaged.
- (8) Neither the protected equipment nor the hazard has been replaced, modified, or relocated.

11.2.2 If any deficiencies are found, appropriate corrective action shall be taken immediately.

11.2.3 Personnel making inspections shall keep records for those extinguishing systems that were found to require corrective actions.

11.2.4 At least monthly, the date the inspection is performed and the initials of the person performing the inspection shall be recorded. The records shall be retained until the next semi-annual maintenance.

## 11.3 Maintenance.

11.3.1\* At least semiannually, maintenance shall be conducted in accordance with the manufacturer's listed installation and maintenance manual.

11.3.1.1 As a minimum, such maintenance shall include the following:

- (1) A check to see that the hazard has not changed
- (2) An examination of all detectors, expellant gas container(s), agent container(s), releasing devices, piping, hose assemblies, nozzles, signals, and all auxiliary equipment
- (3)\*Verification that the agent distribution piping is not obstructed
- (4) Examination of the dry chemical (If there is evidence of caking, the dry chemical shall be discarded and the system shall be recharged in accordance with the manufacturer's instructions.)

11.3.1.2 Dry chemical in stored pressure systems shall not require semiannual examination but shall be examined at least every 6 years.

11.3.1.3 Where semiannual maintenance of any dry chemical containers or system components reveals conditions such as, but not limited to, corrosion or pitting in excess of the manufacturer's limits, structural damage or fire damage, or repairs by soldering, welding, or brazing, the affected part(s) shall be replaced or hydrostatically tested in accordance with the recommendations of the manufacturer or the listing agency. The hydrostatic testing of dry chemical containers shall follow the applicable procedures outlined in Section 11.5.

11.3.1.4\* All dry chemical systems shall be tested, which shall include the operation of the detection system, signals, and releasing devices, including manual stations and other associated equipment.

11.3.1.5 Where the maintenance of the system(s) reveals defective parts that could cause an impairment or failure of proper operation of the system(s), the affected parts shall be replaced or repaired in accordance with the manufacturer's recommendations.

11.3.1.6 The maintenance report, including any recommendations, shall be filed with the owner or with the designated party responsible for the system.

11.3.1.7\* Each dry chemical system shall have a tag or label indicating the month and year the maintenance is performed and identifying the person performing the service. Only the current tag or label shall remain in place.

11.3.2\* Fixed temperature-sensing elements of the fusible metal alloy type shall be replaced at least annually from the date of installation.

11.3.2.1 Upon removal the links shall be destroyed.

11.3.2.2 The year of manufacture and the date of installation of the fixed temperature-sensing element shall be marked on the system inspection tag.

11.3.2.3 The tag shall be signed or initialed by the installer.

11.3.3 Fixed temperature-sensing elements other than the fusible metal alloy type shall be permitted to remain continuously in service, provided they are inspected and cleaned or replaced if necessary in accordance with the manufacturer's instructions every 12 months or more frequently to ensure proper operation of the system.

## 11.4 Recharging.

11.4.1 All extinguishing systems shall be recharged after use or as indicated by an inspection or a maintenance check.

11.4.2 Systems shall be recharged in accordance with the manufacturer's listed installation and maintenance manual.

11.5 Hydrostatic Testing. Hydrostatic testing shall be performed by persons trained in pressure-testing procedures and safeguards and having available suitable testing equipment, facilities, and an appropriate service manual(s).

11.5.1\* The following parts of dry chemical extinguishing systems shall be subjected to a hydrostatic pressure test at intervals not exceeding 12 years:

- (1) Dry chemical containers
- (2) Auxiliary pressure containers
- (3) Hose assemblies

*Exception No. 1: Dry chemical containers that are part of extinguishing systems having an agent capacity exceeding 150 lb (68 kg).*

*Exception No. 2: Auxiliary pressure containers not exceeding 2 in. (0.05 m) outside diameter and less than 2 ft (0.6 m) in length.*

*Exception No. 3: Auxiliary pressure containers bearing the DOT "3E" marking.*

11.5.2 Dry chemical containers, auxiliary pressure containers, and hose assemblies shall be subjected to a hydrostatic test pressure equal to the marked factory test pressure or the test pressure specified in the manufacturer's listed installation and maintenance manual.

11.5.2.1 No leakage, rupture, or movement of hose couplings shall be permitted.

**8.3.2** Smoking shall be strictly prohibited, except in designated smoking areas.

**8.3.3\*** Welding, cutting, and similar spark-producing operations shall not be permitted in areas that contain aerosol products until a written permit authorizing the work has been issued.

**8.3.3.1** The permit shall be issued by a person in authority following an inspection of the area to assure that proper precautions have been taken and will be followed until completion of the work.

**8.4 Aisles.** Storage in aisles shall be prohibited so as to permit access for fire fighting, salvage, and removal of stored commodities.

### **8.5 Waste Disposal.**

**8.5.1** Filled or partly filled aerosol containers shall be separated from all other rubbish and trash.

**8.5.1.1** Filled or partly filled aerosol containers shall be placed in noncombustible waste containers.

**8.5.2** Filled or partly filled aerosol containers shall not be disposed of in compactors, balers, or incinerators that crush the container or heat its contents.

**8.5.2.1** Equipment and facilities that are specifically designed for the disposal of aerosol containers shall be permitted to dispose of filled or partly filled aerosol containers.

### **8.6 Inspection and Maintenance.**

**8.6.1** A written and documented preventive maintenance program shall be developed for equipment, machinery, and processes that are critical to fire-safe operation of the facility.

**8.6.2** Critical detection systems and their components, emergency trips and interlocks, alarms, and safety shutdown systems shall be inspected on a regularly scheduled basis and any deficiencies shall be immediately corrected.

**8.6.2.1** Items in this inspection schedule include, but are not limited to, the following:

- (1) Gas detection systems
- (2) Deflagration suppression systems
- (3) Deflagration vent systems
- (4) Ventilation and local exhaust systems
- (5) Propellant charging room door interlocks
- (6) Process safety devices
- (7) Fire alarm systems

**8.7\* Static Electricity.** All process equipment and piping involved in the transfer of flammable liquids or gases shall be connected to a static-dissipating earth ground system to prevent accumulations of static charge.

## **Annex A Explanatory Material**

*Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.*

**A.1.1.2** An example of an aerosol product that is not flammable and, therefore, not covered by this code is whipped cream: the base product is a water-based material and the propellant is nitrous oxide, which is nonflammable.

**A.1.1.3** See NFPA 58, *Liquefied Petroleum Gas Code*.

**A.1.2** This code provides minimum acceptable requirements for fire prevention and protection in facilities that manufacture and store aerosol products and in mercantile occupancies where aerosol products are displayed and sold. As explained in A.5.1 the hazards presented by each stage of the manufacturing process will vary, depending on the flammability of the base product and on the flammability of the propellant. Considerable judgment will be required of the designer and of the authority having jurisdiction to provide an adequate level of fire protection. (*See also Annex B, Mechanism of Fire Growth in Aerosol Containers.*)

**A.1.4** This section should not be interpreted as discouraging the upgrading of existing aerosol manufacturing or storage facilities. Improvements to fire protection systems in existing facilities should be allowed without requiring retroactive compliance with all of the requirements of this code. It is the intent of this code, however, that major renovations to such a facility should meet, to the greatest extent practical, the requirements of this code.

**A.3.2.1 Approved.** The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials; nor does it approve or evaluate testing laboratories. In determining the acceptability of installations, procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure, or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

**A.3.2.2 Authority Having Jurisdiction (AHJ).** The phrase "authority having jurisdiction," or its acronym AHJ, is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

**A.3.2.3 Code.** The decision to designate a standard as a "code" is based on such factors as the size and scope of the document, its intended use and form of adoption, and whether it contains substantial enforcement and administrative provisions.

**A.3.3.1 Aerosol.** The base product can be dispensed from the container in such form as a mist, spray, foam, gel, or aerated powder.

**A.3.3.2 Aerosol Container.** Maximum sizes, minimum strengths, and other critical limitations for aerosol containers are set by the U.S. Department of Transportation (49 CFR). These regulations assure that aerosol products can be safely

passage by vehicles. Signs shall be of an *approved* size, weather resistant and be maintained until replaced by permanent signs.

**SECTION 506**  
**KEY BOXES / ELEVATOR KEYS**

SEE SFPC #

**506.1 Where required.** Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the *fire code official* is authorized to require a key box to be installed in an *approved* location. The key box shall be of an *approved* type and shall contain keys to gain necessary access as required by the *fire code official*.

**506.1.1 Locks.** An *approved* lock shall be installed on gates or similar barriers when required by the *fire code official*.

**506.2 Key box maintenance.** The operator of the building shall immediately notify the *fire code official* and provide the new key when a lock is changed or rekeyed. The key to such lock shall be secured in the key box.

→ 506.2 = SFPC = KEYS TO ELEVATORS

**SECTION 507**  
**FIRE PROTECTION WATER SUPPLIES**

**507.1 Required water supply.** An *approved* water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction.

**507.2 Type of water supply.** A water supply shall consist of reservoirs, pressure tanks, elevated tanks, water mains or other fixed systems capable of providing the required fire flow.

**507.2.1 Private fire service mains.** Private fire service mains and appurtenances shall be installed in accordance with NFPA 24.

**507.2.2 Water tanks.** Water tanks for private fire protection shall be installed in accordance with NFPA 22.

**507.3 Fire flow.** Fire flow requirements for buildings or portions of buildings and facilities shall be determined by an *approved* method.

SEE SFPC - SPRINKLER ALLOWANCES.

**507.4 Water supply test.** The *fire code official* shall be notified prior to the water supply test. Water supply tests shall be witnessed by the *fire code official* or *approved* documentation of the test shall be provided to the *fire code official* prior to final approval of the water supply system.

**507.5 Fire hydrant systems.** Fire hydrant systems shall comply with Sections 507.5.1 through 507.5.6.

**507.5.1 Where required.** Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an *approved* route around the exterior of the facility or building, on-site

fire hydrants and mains shall be provided where required by the *fire code official*.

**Exceptions:**

1. For Group R-3 and Group U occupancies, the distance requirement shall be 600 feet (183 m).
2. For buildings equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the distance requirement shall be 600 feet (183 m).

**507.5.2 Inspection, testing and maintenance.** Fire hydrant systems shall be subject to periodic tests as required by the *fire code official*. Fire hydrant systems shall be maintained in an operative condition at all times and shall be repaired where defective. Additions, repairs, *alterations* and servicing shall comply with *approved* standards.

**507.5.3 Private fire service mains and water tanks.** Private fire service mains and water tanks shall be periodically inspected, tested and maintained in accordance with NFPA 25 at the following intervals:

1. Private fire hydrants (all types): Inspection annually and after each operation; flow test and maintenance annually.
2. Fire service main piping: Inspection of exposed, annually; flow test every 5 years.
3. Fire service main piping strainers: Inspection and maintenance after each use.

**507.5.4 Obstruction.** Unobstructed access to fire hydrants shall be maintained at all times. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.

**507.5.5 Clear space around hydrants.** A 3-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants except as otherwise required or *approved*.

**507.5.6 Physical protection.** Where fire hydrants are subject to impact by a motor vehicle, guard posts or other *approved* means shall comply with Section 312.

**SECTION 508**  
**FIRE COMMAND CENTER**

**508.1 General.** Where required by other sections of this code and in all buildings classified as high-rise buildings by the *International Building Code*, a *fire command center* for fire department operations shall be provided and shall comply with Sections 508.1.1 through 508.1.5.

**508.1.1 Location and access.** The location and accessibility of the *fire command center* shall be *approved* by the fire chief.

**508.1.2 Separation.** The *fire command center* shall be separated from the remainder of the building by not less than a 1-hour *fire barrier* constructed in accordance with Section 707 of the *International Building Code* or *horizontal assem-*

**604.2.16 Group I-3 occupancies.** Power-operated sliding doors or power-operated locks for swinging doors in Group I-3 occupancies shall be operable by a manual release mechanism at the door, and either emergency power or a remote mechanical operating release shall be provided.

**Exception:** Emergency power is not required in facilities where provisions for remote locking and unlocking of occupied rooms in Occupancy Condition 4 are not required as set forth in the *International Building Code*.

**604.2.17 Airport traffic control towers.** A standby power system shall be provided in airport traffic control towers more than 65 feet (19 812 mm) in height. Power shall be provided to the following equipment:

1. Pressurization equipment, mechanical equipment and lighting.
2. Elevator operating equipment.
3. Fire alarm and smoke detection systems.

**604.2.18 Elevators.** In buildings and structures where standby power is required or furnished to operate an elevator, the operation shall be in accordance with Sections 604.2.18.1 through 604.2.18.4.

**604.2.18.1 Manual transfer.** Standby power shall be manually transferable to all elevators in each bank.

**604.2.18.2 One elevator.** Where only one elevator is installed, the elevator shall automatically transfer to standby power within 60 seconds after failure of normal power.

**604.2.18.3 Two or more elevators.** Where two or more elevators are controlled by a common operating system, all elevators shall automatically transfer to standby power within 60 seconds after failure of normal power where the standby power source is of sufficient capacity to operate all elevators at the same time. Where the standby power source is not of sufficient capacity to operate all elevators at the same time, all elevators shall transfer to standby power in sequence, return to the designated landing and disconnect from the standby power source. After all elevators have been returned to the designated level, at least one elevator shall remain operable from the standby power source.

**604.2.18.4 Venting.** Where standby power is connected to elevators, the machine room ventilation or air conditioning shall be connected to the standby power source.

**604.3 Maintenance.** Emergency and standby power systems shall be maintained in accordance with NFPA 110 and NFPA 111 such that the system is capable of supplying service within the time specified for the type and duration required.

**604.3.1 Schedule.** Inspection, testing and maintenance of emergency and standby power systems shall be in accordance with an *approved* schedule established upon completion and approval of the system installation.

**604.3.2 Written record.** Written records of the inspection, testing and maintenance of emergency and standby power systems shall include the date of service, name of the servicing technician, a summary of conditions noted and a

detailed description of any conditions requiring correction and what corrective action was taken. Such records shall be kept on the premises served by the emergency or standby power system and be available for inspection by the *fire code official*.

**604.3.3 Switch maintenance.** Emergency and standby power system transfer switches shall be included in the inspection, testing and maintenance schedule required by Section 604.3.1. Transfer switches shall be maintained free from accumulated dust and dirt. Inspection shall include examination of the transfer switch contacts for evidence of deterioration. When evidence of contact deterioration is detected, the contacts shall be replaced in accordance with the transfer switch manufacturer's instructions.

**604.4 Operational inspection and testing.** Emergency power systems, including all appurtenant components shall be inspected and tested under load in accordance with NFPA 110 and NFPA 111.

**Exception:** Where the emergency power system is used for standby power or peak load shaving, such use shall be recorded and shall be allowed to be substituted for scheduled testing of the generator set, provided that appropriate records are maintained.

**604.4.1 Transfer switch test.** The test of the transfer switch shall consist of electrically operating the transfer switch from the normal position to the alternate position and then return to the normal position.

**604.5 Supervision of maintenance and testing.** Routine maintenance, inspection and operational testing shall be overseen by a properly instructed individual.

*604.6 TESTING OF EM. LIGHTS*

## SECTION 605 ELECTRICAL EQUIPMENT, WIRING AND HAZARDS

**605.1 Abatement of electrical hazards.** Identified electrical hazards shall be abated. Identified hazardous electrical conditions in permanent wiring shall be brought to the attention of the responsible code official. Electrical wiring, devices, appliances and other equipment that is modified or damaged and constitutes an electrical shock or fire hazard shall not be used.

**605.2 Illumination.** Illumination shall be provided for service equipment areas, motor control centers and electrical panelboards.

**605.3 Working space and clearance.** A working space of not less than 30 inches (762 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height shall be provided in front of electrical service equipment. Where the electrical service equipment is wider than 30 inches (762 mm), the working space shall not be less than the width of the equipment. No storage of any materials shall be located within the designated working space.

### Exceptions:

1. Where other dimensions are required or allowed by NFPA 70.

**608.6 Ventilation.** Ventilation of stationary storage battery systems shall comply with Sections 608.6.1 and 608.6.2.

**608.6.1 Room ventilation.** Ventilation shall be provided in accordance with the *International Mechanical Code* and the following:

1. For flooded lead-acid, flooded Ni-Cad and VRLA batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room; or
2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot (1 ft<sup>3</sup>/min/ft<sup>2</sup>) [0.0051 m<sup>3</sup>/s × m<sup>2</sup>] of floor area of the room.

**Exception:** Lithium-ion and lithium metal polymer batteries shall not require ventilation.

**608.6.2 Cabinet ventilation.** When VRLA batteries are installed inside a cabinet, the cabinet shall be *approved* for use in occupied spaces and shall be mechanically or naturally vented by one of the following methods:

1. The cabinet ventilation shall limit the maximum concentration of hydrogen to 1 percent of the total volume of the cabinet during the worst-case event of simultaneous "boost" charging of all the batteries in the cabinet; or
2. When calculations are not available to substantiate the ventilation rate, continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot [1 ft<sup>3</sup>/min/ft<sup>2</sup> or 0.0051 m<sup>3</sup>/(s · m<sup>2</sup>)] of floor area covered by the cabinet. The room in which the cabinet is installed shall also be ventilated as required in Section 608.6.1.

**608.6.3 Supervision.** Mechanical ventilation systems where required by Sections 608.6.1 and 608.6.2 shall be supervised by an *approved* central, proprietary or remote station service or shall initiate an audible and visual signal at a constantly attended on-site location.

**608.7 Signage.** Signs shall comply with Sections 608.7.1 and 608.7.2.

**608.7.1 Equipment room and building signage.** Doors into electrical equipment rooms or buildings containing stationary battery systems shall be provided with *approved* signs. The signs shall state that:

1. The room contains energized battery systems.
2. The room contains energized electrical circuits.
3. The battery electrolyte solutions, where present, are *corrosive* liquids.

**608.7.2 Cabinet signage.** Cabinets shall have exterior labels that identify the manufacturer and model number of the system and electrical rating (voltage and current) of the contained battery system. There shall be signs within the cabinet that indicate the relevant electrical, chemical and fire hazards.

**608.8 Seismic protection.** The battery systems shall be seismically braced in accordance with the *International Building Code*.

**608.9 Smoke detection.** An *approved* automatic smoke detection system shall be installed in accordance with Section 907.2 in rooms containing stationary battery systems.

## SECTION 609 COMMERCIAL KITCHEN HOODS

**[M] 609.1 General.** Commercial kitchen exhaust hoods shall comply with the requirements of the *International Mechanical Code*.

**[M] 609.2 Where required.** A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors.

**609.3 Operations and maintenance.** Commercial cooking systems shall be operated and maintained in accordance with Sections 609.3.1 through 609.3.4.

**609.3.1 Ventilation system.** The ventilation system in connection with hoods shall be operated at the required rate of air movement, and classified grease filters shall be in place when equipment under a kitchen grease hood is used.

**609.3.2 Grease extractors.** Where grease extractors are installed, they shall be operated when the commercial-type cooking equipment is used.

**609.3.3 Cleaning.** Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals as required by Sections 609.3.3.1 through 609.3.3.3.

**609.3.3.1 Inspection.** Hoods, grease-removal devices, fans, ducts and other appurtenances shall be inspected at intervals specified in Table 609.3.3.1 or as *approved* by the *fire code official*. Inspections shall be completed by qualified individuals.

**TABLE 609.3.3.1  
COMMERCIAL COOKING SYSTEM INSPECTION FREQUENCY**

TYPE OF COOKING OPERATIONS	FREQUENCY OF INSPECTION
High-volume cooking operations such as 24-hour cooking, charbroiling or wok cooking	3 months
Low-volume cooking operations such as places of religious worship, seasonal businesses and senior centers	12 months
Cooking operations utilizing solid-fuel burning cooking appliances	1 month
All other cooking operations	6 months

**609.3.3.2 Grease accumulation.** If during the inspection it is found that hoods, grease-removal devices, fans, ducts or other appurtenances have an accumulation of grease, such components shall be cleaned.

**609.3.3.3 Records.** Records for inspections shall state the individual and company performing the inspection, a description of the inspection and when the inspection took place. Records for cleanings shall state the individual and company performing the cleaning and when the cleaning took place. Such records shall be completed

TABLE 906.1—continued  
ADDITIONAL REQUIRED PORTABLE FIRE EXTINGUISHERS

SECTION	SUBJECT
2003.5	Organic-coating areas
2106.3	Industrial ovens
2205.5	Motor fuel-dispensing facilities
2210.6.4	Marine motor fuel-dispensing facilities
2211.6	Repair garages
2306.10	Rack storage
2404.12	Tents and membrane structures
2508.2	Tire rebuilding/storage
2604.2.6	Welding and other hot work
2903.6	Combustible fibers
3403.2.1	Flammable and combustible liquids, general
3404.3.3.1	Indoor storage of flammable and combustible liquids
3404.3.7.5.2	Liquid storage rooms for flammable and combustible liquids
3405.4.9	Solvent distillation units
3406.2.7	Farms and construction sites—flammable and combustible liquids storage
3406.4.10.1	Bulk plants and terminals for flammable and combustible liquids
3406.5.4.5	Commercial, industrial, governmental or manufacturing establishments—fuel dispensing
3406.6.4	Tank vehicles for flammable and combustible liquids
3606.5.7	Flammable solids
3808.2	LP-gas
4504.4	Marinas

**906.2 General requirements.** Portable fire extinguishers shall be selected, installed and maintained in accordance with this section and NFPA 10.

**Exceptions:**

1. The travel distance to reach an extinguisher shall not apply to the spectator seating portions of Group A-5 occupancies.
2. Thirty-day inspections shall not be required and maintenance shall be allowed to be once every three years for dry-chemical or halogenated agent portable fire extinguishers that are supervised by a *listed* and *approved* electronic monitoring device, provided that all of the following conditions are met:
  - 2.1. Electronic monitoring shall confirm that extinguishers are properly positioned, properly charged and unobstructed.

- 2.2. Loss of power or circuit continuity to the electronic monitoring device shall initiate a trouble signal.
- 2.3. The extinguishers shall be installed inside of a building or cabinet in a noncorrosive environment.
- 2.4. Electronic monitoring devices and supervisory circuits shall be tested every three years when extinguisher maintenance is performed.
- 2.5. A written log of required hydrostatic test dates for extinguishers shall be maintained by the *owner* to verify that hydrostatic tests are conducted at the frequency required by NFPA 10.

3. In Group I-3, portable fire extinguishers shall be permitted to be located at staff locations.

**906.3 Size and distribution.** The size and distribution of portable fire extinguishers shall be in accordance with Sections 906.3.1 through 906.3.4.

**906.3.1 Class A fire hazards.** Portable fire extinguishers for occupancies that involve primarily Class A fire hazards, the minimum sizes and distribution shall comply with Table 906.3(1).

TABLE 906.3(1)  
FIRE EXTINGUISHERS FOR CLASS A FIRE HAZARDS

	LIGHT (Low) HAZARD OCCUPANCY	ORDINARY (Moderate) HAZARD OCCUPANCY	EXTRA (High) HAZARD OCCUPANCY
Minimum Rated Single Extinguisher	2-A <sup>a</sup>	2-A	4-A <sup>a</sup>
Maximum Floor Area Per Unit of A	3,000 square feet	1,500 square feet	1,000 square feet
Maximum Floor Area For Extinguisher <sup>b</sup>	11,250 square feet	11,250 square feet	11,250 square feet
Maximum Travel Distance to Extinguisher	75 feet	75 feet	75 feet

- For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m<sup>2</sup>, 1 gallon = 3.785 L.
- a. Two 2½-gallon water-type extinguishers shall be deemed the equivalent of one 4-A rated extinguisher.
  - b. Annex E.3.3 of NFPA 10 provides more details concerning application of the maximum floor area criteria.
  - c. Two water-type extinguishers each with a 1-A rating shall be deemed the equivalent of one 2-A rated extinguisher for Light (Low) Hazard Occupancies.

**906.3.2 Class B fire hazards.** Portable fire extinguishers for occupancies involving flammable or *combustible liquids* with depths of less than or equal to 0.25-inch (6.35 mm) shall be selected and placed in accordance with Table 906.3(2).

Portable fire extinguishers for occupancies involving flammable or *combustible liquids* with a depth of greater than 0.25-inch (6.35 mm) shall be selected and placed in accordance with NFPA 10.

# CHAPTER 9

## FIRE PROTECTION SYSTEMS

### SECTION 901 GENERAL

**901.1 Scope.** The provisions of this chapter shall specify where *fire protection systems* are required and shall apply to the design, installation, inspection, operation, testing and maintenance of all *fire protection systems*.

**901.2 Construction documents.** The *fire code official* shall have the authority to require *construction documents* and calculations for all *fire protection systems* and to require permits be issued for the installation, rehabilitation or modification of any *fire protection system*. *Construction documents* for *fire protection systems* shall be submitted for review and approval prior to system installation.

**901.2.1 Statement of compliance.** Before requesting final approval of the installation, where required by the *fire code official*, the installing contractor shall furnish a written statement to the *fire code official* that the subject *fire protection system* has been installed in accordance with *approved plans* and has been tested in accordance with the manufacturer's specifications and the appropriate installation standard. Any deviations from the design standards shall be noted and copies of the approvals for such deviations shall be attached to the written statement.

**901.3 Permits.** Permits shall be required as set forth in Section 105.6 and 105.7.

**901.4 Installation.** *Fire protection systems* shall be maintained in accordance with the original installation standards for that system. Required systems shall be extended, altered or augmented as necessary to maintain and continue protection whenever the building is altered, remodeled or added to. *Alterations to fire protection systems* shall be done in accordance with applicable standards.

**901.4.1 Required fire protection systems.** *Fire protection systems* required by this code or the *International Building Code* shall be installed, repaired, operated, tested and maintained in accordance with this code.

SEE  
SFPC  
▲

**901.4.2 Nonrequired fire protection systems.** Any *fire protection system* or portion thereof not required by this code or the *International Building Code* shall be allowed to be furnished for partial or complete protection provided such installed system meets the requirements of this code and the *International Building Code*.

**901.4.3 Additional fire protection systems.** In occupancies of a hazardous nature, where special hazards exist in addition to the normal hazards of the occupancy, or where the *fire code official* determines that access for fire apparatus is unduly difficult, the *fire code official* shall have the authority to require additional safeguards. Such safeguards include, but shall not be limited to, the following: automatic fire detection systems, fire alarm systems, automatic fire-extinguishing systems, standpipe systems, or portable or fixed extinguishers. Fire protection equipment required

under this section shall be installed in accordance with this code and the applicable referenced standards.

**901.4.4 Appearance of equipment.** Any device that has the physical appearance of life safety or fire protection equipment but that does not perform that life safety or fire protection function shall be prohibited.

**901.5 Installation acceptance testing.** Fire detection and alarm systems, fire-extinguishing systems, fire hydrant systems, fire standpipe systems, fire pump systems, private fire service mains and all other *fire protection systems* and appurtenances thereto shall be subject to acceptance tests as contained in the installation standards and as *approved* by the *fire code official*. The *fire code official* shall be notified before any required acceptance testing.

**901.5.1 Occupancy.** It shall be unlawful to occupy any portion of a building or structure until the required fire detection, alarm and suppression systems have been tested and

~~approved.~~  
SEE SFPC — SEE LOCAL Ⓞ

**901.6 Inspection, testing and maintenance.** Fire detection, alarm and extinguishing systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Nonrequired *fire protection systems* and equipment shall be inspected, tested and maintained or removed.

**901.6.1 Standards.** *Fire protection systems* shall be inspected, tested and maintained in accordance with the referenced standards listed in Table 901.6.1.

**TABLE 901.6.1  
FIRE PROTECTION SYSTEM MAINTENANCE STANDARDS**

SYSTEM	STANDARD
Portable fire extinguishers	NFPA 10
Carbon dioxide fire-extinguishing system	NFPA 12
Halon 1301 fire-extinguishing systems	NFPA 12A
Dry-chemical extinguishing systems	NFPA 17
Wet-chemical extinguishing systems	NFPA 17A
Water-based fire protection systems	NFPA 25
Fire alarm systems	NFPA 72
Water-mist systems	NFPA 750
Clean-agent extinguishing systems	NFPA 2001

**901.6.2 Records.** Records of all system inspections, tests and maintenance required by the referenced standards shall be maintained on the premises for a minimum of three years and shall be copied to the *fire code official* upon request.

**901.6.2.1 Records information.** Initial records shall include the name of the installation contractor, type of components installed, manufacturer of the components,

## CHAPTER 7

# FIRE-RESISTANCE-RATED CONSTRUCTION

### SECTION 701 GENERAL

**701.1 Scope.** The provisions of this chapter shall specify the requirements for and the maintenance of fire-resistance-rated construction. New buildings shall comply with the *International Building Code*.

**701.2 Unsafe conditions.** Where any components in this chapter are not maintained and do not function as intended or do not have the *fire resistance* required by the code under which the building was constructed, remodeled or altered, such component(s) or portion thereof shall be deemed an unsafe condition, in accordance with Section 110.1.1. Components or portions thereof determined to be unsafe shall be repaired or replaced to conform to that code under which the building was constructed, remodeled, altered or this chapter, as deemed appropriate by the *fire code official*.

Where the extent of the conditions of components is such that any building, structure or portion thereof presents an imminent danger to the occupants of the building, structure or portion thereof, the *fire code official* shall act in accordance with Section 110.2.

### SECTION 702 DEFINITIONS

**702.1 Definitions.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

**[B] DRAFTSTOP.** A material, device or construction installed to restrict the movement of air within open spaces of concealed areas of building components such as crawl spaces, floor/ceiling assemblies, roof/ceiling assemblies and attics.

**[B] FIRE-RESISTANT JOINT SYSTEM.** An assemblage of specific materials or products that are designed, tested and fire-resistance rated in accordance with either ASTM E 1966 or UL 2079 to resist for a prescribed period of time the passage of fire through joints made in or between fire-resistance-rated assemblies.

**[B] FIREBLOCKING.** Building materials, or materials *approved* for use as fireblocking, installed to resist the free passage of flame to other areas of the building through concealed spaces.

### SECTION 703 FIRE-RESISTANCE-RATED CONSTRUCTION

**703.1 Maintenance.** The required *fire-resistance rating* of fire-resistance-rated construction (including walls, firestops, shaft enclosures, partitions, *smoke barriers*, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems) shall be maintained. Such elements shall be visually inspected by the

*owner* annually and properly repaired, restored or replaced when damaged, altered, breached or penetrated. Where concealed, such elements shall not be required to be visually inspected by the *owner* unless the concealed space is accessible by the removal or movement of a panel, access door, ceiling tile or similar movable entry to the space. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with *approved* methods capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of *approved* construction meeting the fire protection requirements for the assembly.

**703.1.1 Fireblocking and draftstopping.** Required *fire-blocking* and draftstopping in combustible concealed spaces shall be maintained to provide continuity and integrity of the construction.

**703.1.2 Smoke barriers and smoke partitions.** Required *smoke barriers* and smoke partitions shall be maintained to prevent the passage of smoke. All openings protected with *approved* smoke barrier doors or smoke dampers shall be maintained in accordance with NFPA 105.

**703.1.3 Fire walls, fire barriers and fire partitions.** Required *fire walls*, *fire barriers* and *fire partitions* shall be maintained to prevent the passage of fire. All openings protected with *approved* doors or fire dampers shall be maintained in accordance with NFPA 80.

**703.2 Opening protectives.** Opening protectives shall be maintained in an operative condition in accordance with NFPA 80. Fire doors and *smoke barrier* doors shall not be blocked or obstructed or otherwise made inoperable. Fusible links shall be replaced promptly whenever fused or damaged. Fire door assemblies shall not be modified.

**703.2.1 Signs.** Where required by the *fire code official*, a sign shall be permanently displayed on or near each fire door in letters not less than 1 inch (25 mm) high to read as follows:

1. For doors designed to be kept normally open: FIRE DOOR—DO NOT BLOCK.
2. For doors designed to be kept normally closed: FIRE DOOR—KEEP CLOSED.

**703.2.2 Hold-open devices and closers.** Hold-open devices and automatic door closers, where provided, shall be maintained. During the period that such device is out of service for repairs, the door it operates shall remain in the closed position.

**703.2.3 Door operation.** Swinging fire doors shall close from the full-open position and latch automatically. The door closer shall exert enough force to close and latch the door from any partially open position.

**907.9 Inspection, testing and maintenance.** The maintenance and testing schedules and procedures for fire alarm and fire detection systems shall be in accordance with Sections 907.9.1 through 907.9.5 and NFPA 72.

**907.9.1 Maintenance required.** Whenever required for compliance with the provisions of this code, devices, equipment, systems, conditions, arrangements, levels of protection or other features shall thereafter be continuously maintained in accordance with applicable NFPA requirements or as directed by the *fire code official*.

**907.9.2 Testing.** Testing shall be performed in accordance with the schedules in NFPA 72 or more frequently where required by the *fire code official*.

**Exception:** Devices or equipment that are inaccessible for safety considerations shall be tested during scheduled shutdowns where *approved* by the *fire code official*, but not less than every 18 months.

**907.9.3 Smoke detector sensitivity.** Smoke detector sensitivity shall be checked within one year after installation and every alternate year thereafter. After the second calibration test, where sensitivity tests indicate that the detector has remained within its *listed* and marked sensitivity range (or 4-percent obscuration light grey smoke, if not marked), the length of time between calibration tests shall be permitted to be extended to a maximum of five years. Where the frequency is extended, records of detector-caused nuisance alarms and subsequent trends of these alarms shall be maintained. In zones or areas where nuisance alarms show any increase over the previous year, calibration tests shall be performed.

**907.9.4 Method.** To verify that each smoke detector is within its *listed* and marked sensitivity range, it shall be tested using one of the following methods:

1. A calibrated test method;
2. The manufacturer's calibrated sensitivity test instrument;
3. *Listed* control equipment arranged for the purpose;
4. A smoke detector/control unit arrangement whereby the detector causes a signal at the control unit where the detector's sensitivity is outside its acceptable sensitivity range; or
5. Another calibrated sensitivity test method acceptable to the *fire code official*.

Detectors found to have a sensitivity outside the *listed* and marked sensitivity range shall be cleaned and recalibrated or replaced.

**Exceptions:**

1. Detectors *listed* as field adjustable shall be permitted to be either adjusted within the *listed* and marked sensitivity range and cleaned and recalibrated or they shall be replaced.
2. This requirement shall not apply to single-station smoke alarms.

**907.9.4.1 Testing device.** Smoke detector sensitivity shall not be tested or measured using a device that administers an unmeasured concentration of smoke or other aerosol into the detector.

**907.9.5 Maintenance, inspection and testing.** The building owner shall be responsible to maintain the fire and life safety systems in an operable condition at all times. Service personnel shall meet the qualification requirements of NFPA 72 for maintaining, inspecting and testing such systems. A written record shall be maintained and shall be made available to the *fire code official*.

**SECTION 908  
EMERGENCY ALARM SYSTEMS**

**908.1 Group H occupancies.** Emergency alarms for the detection and notification of an emergency condition in Group H occupancies shall be provided as required in Chapter 27.

**908.2 Group H-5 occupancy.** Emergency alarms for notification of an emergency condition in an HPM facility shall be provided as required in Section 1803.12. A continuous gas detection system shall be provided for HPM gases in accordance with Section 1803.13.

**908.3 Highly toxic and toxic materials.** Where required by Section 3704.2.2.10, a gas detection system shall be provided for indoor storage and use of highly toxic and toxic *compressed gases*.

**908.4 Ozone gas-generator rooms.** A gas detection system shall be provided in ozone gas-generator rooms in accordance with Section 3705.3.2.

**908.5 Repair garages.** A flammable-gas detection system shall be provided in repair garages for vehicles fueled by nonodorized gases in accordance with Section 2211.7.2.

**908.6 Refrigeration systems.** Refrigeration system machinery rooms shall be provided with a refrigerant detector in accordance with Section 606.8.

**SECTION 909  
SMOKE CONTROL SYSTEMS**

**909.1 Scope and purpose.** This section applies to mechanical or passive smoke control systems when they are required for new buildings or portions thereof by provisions of the *International Building Code* or this code. The purpose of this section is to establish minimum requirements for the design, installation and acceptance testing of smoke control systems that are intended to provide a tenable environment for the evacuation or relocation of occupants. These provisions are not intended for the preservation of contents, the timely restoration of operations, or for assistance in fire suppression or overhaul activities. Smoke control systems regulated by this section serve a different purpose than the smoke- and heat-venting provisions found in Section 910. Mechanical smoke control systems shall not be considered exhaust systems under Chapter 5 of the *International Mechanical Code*.

**909.2 General design requirements.** Buildings, structures, or parts thereof required by the *International Building Code* or

**1908.6 Static pile protection.** Static piles shall be monitored by an *approved* means to measure temperatures within the static piles. Internal pile temperatures shall be monitored and recorded weekly. Records shall be kept on file at the facility and made available for inspection. An operational plan indicating procedures and schedules for the inspection, monitoring and restricting of excessive internal temperatures in static piles shall be submitted to the *fire code official* for review and approval.

**1908.7 Pile fire protection.** Automatic sprinkler protection shall be provided in conveyor tunnels and combustible enclosures that pass under a pile. Combustible conveyor systems and enclosed conveyor systems shall be equipped with an *approved automatic sprinkler system*.

**1908.8 Fire extinguishers.** Portable fire extinguishers complying with Section 906 and with a minimum rating of 4-A:60-B:C shall be provided on all vehicles and equipment operating on piles and at all processing equipment.

**1908.9 Material-handling equipment.** *Approved* material-handling equipment shall be available for moving wood chips, hogged material, wood fines and raw product during fire-fighting operations.

**1908.10 Emergency plan.** The *owner* or operator shall develop a plan for monitoring, controlling and extinguishing spot fires and submit the plan to the *fire code official* for review and approval.

### SECTION 1909 EXTERIOR STORAGE OF FINISHED LUMBER PRODUCTS

**1909.1 General.** Exterior storage of finished lumber products shall comply with Sections 1909.1 through 1909.5.

**1909.2 Size of piles.** Exterior lumber storage shall be arranged to form stable piles with a maximum height of 20 feet (6096 mm). Piles shall not exceed 150,000 cubic feet (4248 m<sup>3</sup>) in volume.

**1909.3 Fire apparatus access roads.** Fire apparatus access roads in accordance with Section 503 shall be located so that a maximum grid system unit of 50 feet by 150 feet (15 240 mm by 45 720 mm) is established.

**1909.4 Security.** Permanent lumber storage areas shall be surrounded with an *approved* fence. Fences shall be a minimum of 6 feet (1829 mm) in height.

**Exception:** Lumber piles inside of buildings and production mills for lumber, plywood and veneer.

**1909.5 Fire protection.** An *approved* hydrant and hose system or portable fire-extinguishing equipment suitable for the fire hazard involved shall be provided for open storage yards. Hydrant and hose systems shall be installed in accordance with NFPA 24. Portable fire extinguishers complying with Section 906 shall be located so that the travel distance to the nearest unit does not exceed 75 feet (22 860 mm).

2. The blaster shall allow sufficient time for smoke and fumes to dissipate and for dust to settle before returning to or approaching the blast area.
3. The blaster shall inspect the entire blast site for misfires before allowing other personnel to return to the blast area.

**3307.15 Misfires.** Where a misfire is suspected, all initiating circuits shall be traced and a search made for unexploded charges. Where a misfire is found, the blaster shall provide proper safeguards for excluding all personnel from the blast area. Misfires shall be reported to the blasting supervisor immediately. Misfires shall be handled under the direction of the person in charge of the blasting operation in accordance with NFPA 495.

AOD 3307.16

### SECTION 3308 FIREWORKS DISPLAY

**3308.1 General.** Outdoor fireworks displays, use of pyrotechnics before a proximate audience and pyrotechnic special effects in motion picture, television, theatrical and group entertainment productions shall comply with Sections 3308.2 through 3308.10 and NFPA 1123 or NFPA 1126.

**3308.2 Permit application.** Prior to issuing permits for a fireworks display, plans for the fireworks display, inspections of the display site and demonstrations of the display operations shall be approved. A plan establishing procedures to follow and actions to be taken in the event that a shell fails to ignite in, or discharge from, a mortar or fails to function over the fallout area or other malfunctions shall be provided to the fire code official.

**3308.2.1 Outdoor fireworks displays.** In addition to the requirements of Section 403, permit applications for outdoor fireworks displays using Division 1.3G fireworks shall include a diagram of the location at which the fireworks display will be conducted, including the site from which fireworks will be discharged; the location of buildings, highways, overhead obstructions and utilities; and the lines behind which the audience will be restrained.

**3308.2.2 Use of pyrotechnics before a proximate audience.** Where the separation distances required in Section 3308.4 and NFPA 1123 are unavailable or cannot be secured, fireworks displays shall be conducted in accordance with NFPA 1126 for proximate audiences. Applications for use of pyrotechnics before a proximate audience shall include plans indicating the required clearances for spectators and combustibles, crowd control measures, smoke control measures and requirements for standby personnel and equipment when provision of such personnel or equipment is required by the fire code official.

**3308.3 Approved fireworks displays.** Approved fireworks displays shall include only the approved fireworks 1.3G, fireworks 1.4G, fireworks 1.4S and pyrotechnic articles, 1.4G, which shall be handled by an approved, competent operator. The approved fireworks shall be arranged, located, discharged and fired in a manner that will not pose a hazard to property or endanger any person.

**3308.4 Clearance.** Spectators, spectator parking areas, and dwellings, buildings or structures shall not be located within the display site.

#### Exceptions:

1. This provision shall not apply to pyrotechnic special effects and fireworks displays using Division 1.4G materials before a proximate audience in accordance with NFPA 1126.
2. This provision shall not apply to unoccupied dwellings, buildings and structures with the approval of the building owner and the fire code official.

**3308.5 Storage of fireworks at display site.** The storage of fireworks at the display site shall comply with the requirements of this section and NFPA 1123 or NFPA 1126.

**3308.5.1 Supervision and weather protection.** Beginning as soon as fireworks have been delivered to the display site, they shall not be left unattended.

**3308.5.2 Weather protection.** Fireworks shall be kept dry after delivery to the display site.

**3308.5.3 Inspection.** Shells shall be inspected by the operator or assistants after delivery to the display site. Shells having tears, leaks, broken fuses or signs of having been wet shall be set aside and shall not be fired. Aerial shells shall be checked for proper fit in mortars prior to discharge. Aerial shells that do not fit properly shall not be fired. After the fireworks display, damaged, deteriorated or dud shells shall either be returned to the supplier or destroyed in accordance with the supplier's instructions and Section 3304.10.

**Exception:** Minor repairs to fuses shall be allowed. For electrically ignited displays, attachment of electric matches and similar tasks shall be allowed.

**3308.5.4 Sorting and separation.** After delivery to the display site and prior to the fireworks display, all shells shall be separated according to size and their designation as salutes.

**Exception:** For electrically fired displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size or their designation as salutes.

**3308.5.5 Ready boxes.** Display fireworks, 1.3G, that will be temporarily stored at the site during the fireworks display shall be stored in ready boxes located upwind and at least 25 feet (7620 mm) from the mortar placement and separated according to size and their designation as salutes.

**Exception:** For electrically fired fireworks displays, or fireworks displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size, their designation as salutes or for the use of ready boxes.

**3308.6 Installation of mortars.** Mortars for firing fireworks shells shall be installed in accordance with NFPA 1123 and shall be positioned so that shells are propelled away from spectators and over the fallout area. Under no circumstances shall mortars be angled toward the spectator viewing area. Prior to placement, mortars shall be inspected for defects, such as

**3304.7.1 Security.** Magazines shall be kept locked in the manner prescribed in NFPA 495 at all times except during placement or removal of *explosives* or inspection.

**3304.7.2 Open flames and lights.** Smoking, matches, flame-producing devices, open flames, firearms and firearms cartridges shall not be allowed inside of or within 50 feet (15 240 mm) of magazines.

**3304.7.3 Brush.** The area located around a magazine shall be kept clear of brush, dried grass, leaves, trash, debris and similar combustible materials for a distance of 25 feet (7620 mm).

**3304.7.4 Combustible storage.** Combustible materials shall not be stored within 50 feet (15 240 mm) of magazines.

**3304.7.5 Unpacking and repacking explosive materials.** Containers of *explosive materials*, except fiberboard containers, and packages of damaged or deteriorated *explosive materials* or fireworks shall not be unpacked or repacked inside or within 50 feet (15 240 mm) of a magazine or in close proximity to other *explosive materials*.

**3304.7.5.1 Storage of opened packages.** Packages of *explosive materials* that have been opened shall be closed before being placed in a magazine.

**3304.7.5.2 Nonsparking tools.** Tools used for the opening and closing of packages of *explosive materials*, other than metal slitters for opening paper, plastic or fiberboard containers, shall be made of nonsparking materials.

**3304.7.5.3 Disposal of packaging.** Empty containers and paper and fiber packaging materials that previously contained *explosive materials* shall be disposed of or reused in a *approved* manner.

**3304.7.6 Tools and equipment.** Metal tools, other than nonferrous transfer conveyors and ferrous metal conveyor stands protected by a coat of paint, shall not be stored in a magazine containing *explosive materials* or detonators.

**3304.7.7 Contents.** Magazines shall be used exclusively for the storage of *explosive materials*, blasting materials and blasting accessories.

**3304.7.8 Compatibility.** Corresponding grades and brands of *explosive materials* shall be stored together and in such a manner that the grade and brand marks are visible. Stocks shall be stored so as to be easily counted and checked. Packages of *explosive materials* shall be stacked in a stable manner not exceeding 8 feet (2438 mm) in height.

**3304.7.9 Stock rotation.** When *explosive material* is removed from a magazine for use, the oldest usable stocks shall be removed first.

**3304.8 Maintenance.** Maintenance of magazines shall comply with Sections 3304.8.1 through 3304.8.3.

**3304.8.1 Housekeeping.** Magazine floors shall be regularly swept and be kept clean, dry and free of grit, paper, empty packages and rubbish. Brooms and other cleaning utensils shall not have any spark-producing metal parts. Sweepings from magazine floors shall be disposed of in accordance with the manufacturers' *approved* instructions.

**3304.8.2 Repairs.** *Explosive materials* shall be removed from the magazine before making repairs to the interior of a magazine. *Explosive materials* shall be removed from the magazine before making repairs to the exterior of the magazine where there is a possibility of causing a fire. *Explosive materials* removed from a magazine under repair shall either be placed in another magazine or placed a safe distance from the magazine, where they shall be properly guarded and protected until repairs have been completed. Upon completion of repairs, the *explosive materials* shall be promptly returned to the magazine. Floors shall be cleaned before and after repairs.

**3304.8.3 Floors.** Magazine floors stained with liquid shall be dealt with according to instructions obtained from the manufacturer of the *explosive material* stored in the magazine.

**3304.9 Inspection.** Magazines containing *explosive materials* shall be opened and inspected at maximum seven-day intervals. The inspection shall determine whether there has been an unauthorized or attempted entry into a magazine or an unauthorized removal of a magazine or its contents.

**3304.10 Disposal of explosive materials.** *Explosive materials* shall be disposed of in accordance with Sections 3304.10.1 through 3304.10.7.

**3304.10.1 Notification.** The *fire code official* shall be notified immediately when deteriorated or leaking *explosive materials* are determined to be dangerous or unstable and in need of disposal.

**3304.10.2 Deteriorated materials.** When an *explosive material* has deteriorated to an extent that it is in an unstable or dangerous condition, or when a liquid has leaked from an *explosive material*, the *person* in possession of such material shall immediately contact the material's manufacturer to obtain disposal and handling instructions.

**3304.10.3 Qualified person.** The work of destroying *explosive materials* shall be directed by *persons* experienced in the destruction of *explosive materials*.

**3304.10.4 Storage of misfires.** *Explosive materials* and fireworks recovered from blasting or display misfires shall be placed in a magazine until an experienced *person* has determined the proper method for disposal.

**3304.10.5 Disposal sites.** Sites for the destruction of *explosive materials* and fireworks shall be *approved* and located at the maximum practicable safe distance from inhabited buildings, public highways, operating buildings and all other exposures to ensure keeping air blast and ground vibration to a minimum. The location of disposal sites shall be no closer to magazines, inhabited buildings, railways, highways and other rights-of-way than is allowed by Tables 3304.5.2(1), 3304.5.2(2) and 3304.5.2(3). When possible, *barricades* shall be utilized between the destruction site and inhabited buildings. Areas where *explosives* are detonated or burned shall be posted with adequate warning signs.

**3304.10.6 Reuse of site.** Unless an *approved* burning site has been thoroughly saturated with water and has passed a safety inspection, 48 hours shall elapse between the com-

one contains or is designed to contain *explosives*, or the distance between a magazine and an operating building.

**Minimum separation distance ( $D_0$ ).** The minimum separation distance between adjacent buildings occupied in conjunction with the manufacture, transportation, storage or use of *explosive materials* where one of the buildings contains *explosive materials* and the other building does not.

**RAILWAY.** A steam, electric or other railroad or railway that carries passengers for hire.

**READY BOX.** A weather-resistant container with a self-closing or automatic-closing cover that protects fireworks shells from burning debris. Tarpaulins shall not be considered as ready boxes.

**SMALL ARMS AMMUNITION.** A shotgun, rifle or pistol cartridge and any cartridge for propellant-actuated devices. This definition does not include military ammunition containing bursting charges or incendiary, trace, spotting or pyrotechnic projectiles.

**SMALL ARMS PRIMERS.** Small percussion-sensitive *explosive* charges, encased in a cap, used to ignite propellant powder.

**SMOKELESS PROPELLANTS.** Solid propellants, commonly referred to as smokeless powders, used in small arms ammunition, cannons, rockets, propellant-actuated devices and similar articles.

**SPECIAL INDUSTRIAL EXPLOSIVE DEVICE.** An explosive power pack containing an *explosive* charge in the form of a cartridge or construction device. The term includes but is not limited to explosive rivets, explosive bolts, *explosive* charges for driving pins or studs, cartridges for *explosive*-actuated power tools and charges of *explosives* used in automotive air bag inflators, jet tapping of open hearth furnaces and jet perforation of oil well casings.

**THEFT RESISTANT.** Construction designed to deter illegal entry into facilities for the storage of *explosive materials*.

### SECTION 3303 RECORD KEEPING AND REPORTING

**3303.1 General.** Records of the receipt, handling, use or disposal of *explosive materials*, and reports of any accidents, thefts or unauthorized activities involving *explosive materials* shall conform to the requirements of this section.

**3303.2 Transaction record.** The permittee shall maintain a record of all transactions involving receipt, removal, use or disposal of *explosive materials*. Such a record shall be maintained for a period of five years, and shall be furnished to the *fire code official* for inspection upon request.

**Exception:** Where only Division 1.4G (consumer fireworks) are handled, records need only be maintained for a period of three years.

**3303.3 Loss, theft or unauthorized removal.** The loss, theft or unauthorized removal of *explosive materials* from a magazine or permitted facility shall be reported to the *fire code official*, local law enforcement authorities and the U.S.

Department of Treasury, Bureau of Alcohol, Tobacco and Firearms within 24 hours.

**Exception:** Loss of Division 1.4G (consumer fireworks) need not be reported to the Bureau of Alcohol, Tobacco and Firearms.

**3303.4 Accidents.** Accidents involving the use of *explosives*, *explosive materials* and fireworks, which result in injuries or property damage, shall be reported to the *fire code official* immediately.

**3303.5 Misfires.** The pyrotechnic display operator or blaster in charge shall keep a record of all aerial shells that fail to fire or charges that fail to detonate.

**3303.6 Hazard communication.** Manufacturers of *explosive materials* and fireworks shall maintain records of chemicals, chemical compounds and mixtures required by DOL 29 CFR, Part 1910.1200, and Section 407.

**3303.7 Safety rules.** Current safety rules covering the operation of magazines, as described in Section 3304.7, shall be posted on the interior of the magazine in a visible location.

### SECTION 3304 EXPLOSIVE MATERIALS STORAGE AND HANDLING

**3304.1 General.** Storage of *explosives* and *explosive materials*, small arms ammunition, small arms primers, propellant-actuated cartridges and smokeless propellants in magazines shall comply with the provisions of this section.

**3304.2 Magazine required.** *Explosives* and *explosive materials*, and Division 1.3G fireworks shall be stored in magazines constructed, located, operated and maintained in accordance with the provisions of Section 3304 and NFPA 495 or NFPA 1124.

#### Exceptions:

1. Storage of fireworks at display sites in accordance with Section 3308.5 and NFPA 1123 or NFPA 1126.
2. Portable or mobile magazines not exceeding 120 square feet (11 m<sup>2</sup>) in area shall not be required to comply with the requirements of the *International Building Code*.

**3304.3 Magazines.** The storage of *explosives* and *explosive materials* in magazines shall comply with Table 3304.3.

**3304.3.1 High explosives.** *Explosive materials* classified as Division 1.1 or 1.2 or formerly classified as Class A by the U.S. Department of Transportation shall be stored in Type 1, 2 or 3 magazines.

#### Exceptions:

1. Black powder shall be stored in a Type 1, 2, 3 or 4 magazine.
2. Cap-sensitive *explosive material* that is demonstrated not to be bullet sensitive shall be stored in a Type 1, 2, 3, 4 or 5 magazine.

## EXPLOSIVES AND FIREWORKS

dents, bent ends, damaged interiors and damaged plugs. Defective mortars shall not be used.

**3308.7 Handling.** Aerial shells shall be carried to mortars by the shell body. For the purpose of loading mortars, aerial shells shall be held by the thick portion of the fuse and carefully loaded into mortars.

**3308.8 Fireworks display supervision.** Whenever in the opinion of the *fire code official* or the operator a hazardous condition exists, the fireworks display shall be discontinued immediately until such time as the dangerous situation is corrected.

**3308.9 Post-fireworks display inspection.** After the fireworks display, the firing crew shall conduct an inspection of the fallout area for the purpose of locating unexploded aerial shells or live components. This inspection shall be conducted before public access to the site shall be allowed. Where fireworks are displayed at night and it is not possible to inspect the site thoroughly, the operator or designated assistant shall inspect the entire site at first light.

A report identifying any shells that fail to ignite in, or discharge from, a mortar or fail to function over the fallout area or otherwise malfunction, shall be filed with the *fire code official*.

**3308.10 Disposal.** Any shells found during the inspection required in Section 3308.9 shall not be handled until at least 15 minutes have elapsed from the time the shells were fired. The fireworks shall then be doused with water and allowed to remain for at least 5 additional minutes before being placed in a plastic bucket or fiberboard box. The disposal instructions of the manufacturer as provided by the fireworks supplier shall then be followed in disposing of the fireworks in accordance with Section 3304.10.

### SECTION 3309 TEMPORARY STORAGE OF CONSUMER FIREWORKS

**3309.1 General.** Where the temporary storage of consumer fireworks, 1.4G is allowed by Section 3301.1.3, Exception 4, such storage shall comply with the applicable requirements of NFPA 1124.

NFPA 10  
Standard for  
Portable Fire Extinguishers  
2010 Edition

**IMPORTANT NOTE:** This NFPA document is made available for use subject to important notices and legal disclaimers. These notices and disclaimers appear in all publications containing this document and may be found under the heading "Important Notices and Disclaimers Concerning NFPA Documents." They can also be obtained on request from NFPA or viewed at [www.nfpa.org/disclaimers](http://www.nfpa.org/disclaimers).

**NOTICE:** An asterisk (\*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet (\*) between the paragraphs that remain.

A reference in brackets [ ] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex K. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex K.

### Chapter 1 Administration

**1.1\* Scope.** The provisions of this standard apply to the selection, installation, inspection, maintenance, and testing of portable extinguishing equipment.

**1.1.1** Portable fire extinguishers are intended as a first line of defense to cope with fires of limited size.

**1.1.2** The selection and installation of extinguishers is independent of whether the building is equipped with automatic sprinklers, standpipe and hose, or other fixed protection equipment. (See 5.5.5, 6.1.1.1, 6.2.1.1, and 6.2.1.5.)

**1.1.3** The requirements given herein are minimum.

**1.1.4** The requirements do not apply to permanently installed systems for fire extinguishment, even where portions of such systems are portable (such as hose and nozzles attached to a fixed supply of extinguishing agent).

**1.2\* Purpose.** This standard is prepared for use by and guidance of persons charged with selecting, purchasing, installing, approving, listing, designing, and maintaining portable fire extinguishing equipment.

requirements of other NFPA standards for specific occupancies.

**1.2.2** Nothing in this standard shall be construed as a restriction on new technologies or alternative arrangements, provided that the level of protection as herein described is not lowered and is acceptable to the authority having jurisdiction.

#### 1.3 Units.

**1.3.1** Metric units of measurement in this standard are in accordance with the modernized metric system known as the International System of Units (SI).

**1.3.1.1** The units are listed in Table 1.3.1.1 with conversion factors.

Table 1.3.1.1 Metric Units of Measurement

Name of Unit	Abbreviation	Conversion Factor
Liter	L	1 gal = 3.785 L
Millimeter	mm	1 in. = 25.4 mm
Meter	m	1 ft = 0.305 m
Kilogram	kg	1 lb (mass) = 0.454 kg
Degree Celsius	°C	$\frac{5}{9}(F - 32) = °C$
Bar	bar	1 psi = 0.0689 bar

**1.3.1.2** If a value for measurement as given in this standard is followed by an equivalent value in other units, the first stated is to be regarded as the requirement.

**1.3.1.3** A given equivalent value shall be permitted to be considered approximate.

**1.3.2** The conversion procedure for the SI units is to multiply the quantity by the conversion factor and then round the result to the appropriate number of significant digits.

### Chapter 2 Referenced Publications

**2.1 General.** The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

**2.2 NFPA Publications.** National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2010 edition.

NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*, 2008 edition.

NFPA 32, *Standard for Drycleaning Plants*, 2007 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2008 edition.

NFPA 72<sup>®</sup>, *National Fire Alarm and Signaling Code*, 2010 edition.

NFPA 86, *Standard for Ovens and Furnaces*, 2007 edition.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 2008 edition.

NFPA 120, *Standard for Fire Prevention and Control in Coal Mines*, 2010 edition.

NFPA 122, *Standard for Fire Prevention and Control in Metal/Nonmetal Mining and Metal Mineral Processing Facilities*, 2010 edi-

**Table 6.3.1.1 Fire Extinguisher Size and Placement for Class B Hazards**

Type of Hazard	Basic Minimum Extinguisher Rating	Maximum Travel Distance to Extinguishers	
		ft	m
Light (low)	5-B	30	9.14
	10-B	50	15.25
Ordinary (moderate)	10-B	30	9.14
	20-B	50	15.25
Extra (high)	40-B	30	9.14
	80-B	50	15.25

**Notes:**

(1) The specified ratings do not imply that fires of the magnitudes indicated by these ratings will occur, but rather they are provided to give the operators more time and agent to handle difficult spill fires that have the potential to occur.

(2) For fires involving water-soluble flammable liquids, see 5.5.3.

(3) For specific hazard applications, see Section 5.5.

**6.3.1.5** Two or more fire extinguishers of lower rating shall not be used to fulfill the protection requirements of Table 6.3.1.1 except as permitted by 6.3.1.3 and 6.3.1.4.

**6.3.1.6** The protection requirements shall be permitted to be fulfilled with fire extinguishers of higher ratings, provided the travel distance to such larger fire extinguishers does not exceed 50 ft (15.25 m).

**6.3.2 Flammable Liquids of Appreciable Depth.**

**6.3.2.1** Portable fire extinguishers shall not be installed as the sole protection for flammable liquid hazards of appreciable depth where the surface area exceeds 10 ft<sup>2</sup> (0.93 m<sup>2</sup>).

**6.3.2.2\*** Where personnel who are trained in extinguishing fires in the protected hazards are located on the premises and capable of responding immediately, the maximum surface area shall not exceed 20 ft<sup>2</sup> (1.86 m<sup>2</sup>).

**6.3.2.3** For flammable liquid hazards of appreciable depth, a Class B fire extinguisher shall be provided on the basis of at least 2 numerical units of Class B extinguishing potential per 1 ft<sup>2</sup> (0.09 m<sup>2</sup>) of flammable liquid surface of the largest hazard area.

**6.3.2.4** AFFF- or FFFP-type fire extinguishers shall be permitted to be provided on the basis of 1-B of protection per 1 ft<sup>2</sup> (0.09 m<sup>2</sup>) of hazard. (For fires involving water-soluble flammable liquids, see 5.5.3.)

**6.3.2.5** Two or more fire extinguishers of lower ratings, other than AFFF- or FFFP-type fire extinguishers, shall not be used in lieu of the fire extinguisher required for the largest hazard area.

**6.3.2.6** Up to three AFFF- or FFFP-type fire extinguishers shall be permitted to fulfill the requirements, provided the sum of the Class B ratings meets or exceeds the value required for the largest hazard area.

**6.3.2.7** Travel distances for portable fire extinguishers shall not exceed 50 ft (15.25 m). (See Annex E.)

**6.3.2.7.1** Scattered or widely separated hazards shall be individually protected.

**6.3.2.7.2** A fire extinguisher in the proximity of a hazard shall be located to be accessible in the presence of a fire without undue danger to the operator.

**6.4\* Installations for Class C Hazards.**

**6.4.1** Fire extinguishers with Class C ratings shall be required where energized electrical equipment can be encountered.

**6.4.2** The requirement in 6.4.1 shall include situations where fire either directly involves or surrounds electrical equipment.

**6.4.3** Because fire is a Class A or Class B hazard, the fire extinguishers shall be sized and located on the basis of the anticipated Class A or Class B hazard.

**6.5 Installations for Class D Hazards.**

**6.5.1** Fire extinguishers or extinguishing agents with Class D ratings shall be provided for fires involving combustible metals.

**6.5.2** Fire extinguishers or extinguishing agents (media) shall be located not more than 75 ft (22.9 m) of travel distance from the Class D hazard. (See Section E.6.)

**6.5.3** Portable fire extinguishers or extinguishing agents (media) for Class D hazards shall be provided in those work areas where combustible metal powders, flakes, shavings, chips, or similarly sized products are generated.

**6.5.4** Size determination shall be on the basis of the specific combustible metal, its physical particle size, area to be covered, and recommendations by the fire extinguisher manufacturer based on data from control tests.

**6.6 Installations for Class K Hazards.**

**6.6.1** Class K fire extinguishers shall be provided for hazards where there is a potential for fires involving combustible cooking media (vegetable or animal oils and fats).

**6.6.2** Maximum travel distance shall not exceed 30 ft (9.15 m) from the hazard to the extinguishers.

**6.6.3** All solid fuel cooking appliances (whether or not under a hood) with fire boxes of 5 ft<sup>3</sup> (0.14 m<sup>3</sup>) volume or less shall have at least a listed 2-A rated water-type fire extinguisher or a 1.5 gal (6 L) wet chemical fire extinguisher that is listed for Class K fires.

**Chapter 7 Inspection, Maintenance, and Recharging of Portable Fire Extinguishers**

**7.1\* General.**

**7.1.1 Responsibility.** The owner or designated agent or occupant of a property in which fire extinguishers are located shall be responsible for inspection, maintenance, and recharging. (See 7.1.2.)

**7.1.2 Personnel.**

**7.1.2.1\*** Persons performing maintenance and recharging of extinguishers shall be certified.

**7.1.2.1.1** Persons training to become certified shall be permitted to perform maintenance and recharging of extinguishers under the direct supervision and in the immediate presence of a certified person.

**7.1.2.1.2\*** Certification requires that a person pass a test administered by an organization acceptable to the AHJ.

7.1.2.1.3 The test shall at a minimum be based upon knowledge of the chapters and annexes of this standard.

7.1.2.1.4 The testing process shall permit persons to use the standard during the test.

7.1.2.1.5 Persons passing the test required in 7.1.2.1.2 shall be issued a document or a certificate.

7.1.2.1.6 The document or certificate shall be made available when requested by the authority having jurisdiction.

7.1.2.2 Persons performing maintenance and recharging of extinguishers shall be trained and shall have available the appropriate manufacturer's servicing manual(s), the correct tools, recharge materials, lubricants, and manufacturer's replacement parts or parts specifically listed for use in the fire extinguisher.

7.1.2.3\* Persons performing 90-day inspections shall not be required to be certified.

7.1.3 Replacement While Servicing. Fire extinguishers removed from service for maintenance or recharging shall be replaced by a fire extinguisher suitable for the type of hazard being protected and shall be of at least equal rating.

#### 7.1.4 Tags or Labels.

7.1.4.1 Tags or labels intended for recording inspections, maintenance, or recharging shall not be placed on the front of the fire extinguishers.

7.1.4.2 Labels indicating fire extinguisher use or classification or both shall be permitted to be placed on the front of the fire extinguisher.

#### 7.1.5 Electronic Monitoring Systems.

7.1.5.1 When used in conjunction with fire alarm systems, fire extinguisher electronic monitoring devices shall be inspected and maintained in accordance with *NFPA 72, National Fire Alarm and Signaling Code*, and 7.3.2.5.

7.1.5.2 When used in conjunction with non-fire alarm systems, fire extinguisher electronic monitoring devices shall be inspected and maintained as required in 7.1.5.2.1 through 7.1.5.2.3 and the manufacturer's listed installation and maintenance manual(s).

7.1.5.2.1 The connection to the electronic monitoring device shall be continuously supervised for integrity.

7.1.5.2.2 The power source for the electronic monitoring device shall be supervised for continuity of power.

7.1.5.2.3 The monitoring device shall be tested and maintained annually in accordance with 7.3.2.5.

### 7.2 Inspection.

#### 7.2.1 Frequency.

7.2.1.1\* Fire extinguishers shall be manually inspected when initially placed in service.

7.2.1.2\* Fire extinguishers shall be inspected either manually or by means of an electronic monitoring device/system at a minimum of 90-day intervals.

7.2.1.3\* Fire extinguishers shall be inspected at more frequent intervals when circumstances require.

7.2.2 Procedures. Periodic inspection or electronic monitoring of fire extinguishers shall include a check of at least the following items:

- (1) Location in designated place
- (2) No obstruction to access or visibility
- (3) Pressure gauge reading or indicator in the operable range or position
- (4) Fullness determined by weighing or hefting for self-expelling-type extinguishers, cartridge-operated extinguishers, and pump tanks
- (5) Condition of tires, wheels, carriage, hose, and nozzle for wheeled extinguishers
- (6) Indicator for nonrechargeable extinguishers using push-to-test pressure indicators

7.2.2.1 In addition to 7.2.2, fire extinguishers shall be visually inspected in accordance with 7.2.2.2 if they are located where any of the following conditions exist:

- (1) High frequency of fires in the past
- (2) Severe hazards
- (3) Locations that make fire extinguishers susceptible to mechanical injury or physical damage
- (4) Exposure to abnormal temperatures or corrosive atmospheres

7.2.2.2 Where required by 7.2.2.1, the following inspection procedures shall be in addition to those addressed in 7.2.2:

- (1) Verifying that operating instructions on nameplates are legible and face outward
- (2) Checking for broken or missing safety seals and tamper indicators
- (3) Examination for obvious physical damage, corrosion, leakage, or clogged nozzle

7.2.3 Corrective Action. When an inspection of any fire extinguisher reveals a deficiency in any of the conditions listed in 7.2.2, immediate corrective action shall be taken.

7.2.3.1 Rechargeable Fire Extinguishers. When an inspection of any rechargeable fire extinguisher reveals a deficiency in any of the conditions listed in 7.2.2(3) or 7.2.2(4), the extinguisher shall be subjected to applicable maintenance procedures.

7.2.3.2 Nonrechargeable Dry Chemical Fire Extinguisher. When an inspection of any nonrechargeable dry chemical fire extinguisher reveals a deficiency in any of the conditions listed in 7.2.2(3), 7.2.2(4), or 7.2.2(6), the extinguisher shall be removed from further use, discharged, and destroyed at the direction of the owner or returned to the manufacturer.

7.2.3.3 Nonrechargeable Halon Agent Fire Extinguisher. When an inspection of any nonrechargeable fire extinguisher containing a halon agent reveals a deficiency in any of the conditions listed in 7.2.2(3), 7.2.2(4), or 7.2.2(6), the extinguisher shall be removed from service, not discharged, and returned to the manufacturer, a fire equipment dealer, or a distributor to permit recovery of the halon.

#### 7.2.4 Inspection Record Keeping.

## NFPA 72

## National Fire Alarm and Signaling Code

## 2010 Edition

**IMPORTANT NOTE:** This NFPA document is made available for use subject to important notices and legal disclaimers. These notices and disclaimers appear in all publications containing this document and may be found under the heading "Important Notices and Disclaimers Concerning NFPA Documents." They can also be obtained on request from NFPA or viewed at [www.nfpa.org/disclaimers](http://www.nfpa.org/disclaimers).

**NOTICE:** An asterisk (\*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet (•) between the paragraphs that remain.

A reference in brackets [ ] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex H. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

A reference in parentheses ( ) following a paragraph indicates the committee responsibility for that section or paragraph. Committee acronyms are keyed to the acronyms shown with the committee lists at the front of the document.

Information on referenced publications can be found in Chapter 2 and Annex H.

## Chapter 1 Administration

## 1.1 Scope

1.1.1 NFPA 72 covers the application, installation, location, performance, inspection, testing, and maintenance of fire alarm systems, supervising station alarm systems, public emergency alarm reporting systems, fire warning equipment and emergency communications systems (ECS), and their components.

1.1.2 The provisions of this chapter apply throughout the Code unless otherwise noted.

## 1.2\* Purpose.

1.2.1 The purpose of this Code is to define the means of signal initiation, transmission, notification, and annunciation; the levels of performance; and the reliability of the various types of fire alarm systems, supervising station alarm systems, public emergency alarm reporting systems, fire warning equipment, emergency communications systems, and their components.

1.2.2 This Code defines the features associated with these systems and also provides information necessary to modify or upgrade an existing system to meet the requirements of a particular system classification.

1.2.3 This Code establishes minimum required levels of performance, extent of redundancy, and quality of installation but does not establish the only methods by which these requirements are to be achieved.

1.2.4\* This Code shall not be interpreted to require a level of protection that is greater than that which would otherwise be required by the applicable building or fire code.

## 1.3 Application.

1.3.1 Alarm systems shall be classified as follows:

- (1) Fire alarm systems
  - (a) Household fire alarm systems
  - (b) Protected premises (local) fire alarm systems
- (2) Supervising station alarm systems
  - (a) Central station (service) alarm systems
  - (b) Remote supervising station alarm systems
  - (c) Proprietary supervising station alarm systems
- (3) Public emergency alarm reporting systems
  - (a) Auxiliary alarm systems — local energy type
  - (b) Auxiliary alarm systems — shunt type

1.3.2 Emergency communications systems shall be classified as follows:

- (1) One-way emergency communications systems
  - (a) Distributed recipient mass notification systems
  - (b) In-building fire emergency voice/alarm communications systems
  - (c) In-building mass notification systems
  - (d) Wide area mass notification systems
- (2) Two-way emergency communications systems
  - (a) In-building emergency communications systems

1.3.3 Any reference or implied reference to a particular type of hardware shall be for the purpose of clarity and shall not be interpreted as an endorsement.

1.3.4 The intent and meaning of the terms used in this Code shall be, unless otherwise defined herein, the same as those of NFPA 70, *National Electrical Code*<sup>®</sup>.

## 1.4 Retroactivity.

1.4.1 Unless otherwise noted, it is not intended that the provisions of this document be applied to facilities, equipment, structures, or installations that were existing or approved for construction or installation prior to the effective date of the document.

1.4.2 In those cases where it is determined by the authority having jurisdiction that the existing situation involves a distinct hazard to life or property, retroactive application of the provisions of this document shall be permitted.

## 1.5 Equivalency.

1.5.1 Nothing in this Code shall prevent the use of systems, methods, devices, or appliances of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this Code.

**NFPA 13**  
**Standard for the**  
**Installation of Sprinkler Systems**  
**2010 Edition**

***IMPORTANT NOTE:** This NFPA document is made available for use subject to important notices and legal disclaimers. These notices and disclaimers appear in all publications containing this document and may be found under the heading "Important Notices and Disclaimers Concerning NFPA Documents." They can also be obtained on request from NFPA or viewed at [www.nfpa.org/disclaimers](http://www.nfpa.org/disclaimers).*

**NOTICE:** An asterisk (\*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet (•) between the paragraphs that remain.

A reference in brackets [ ] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex F. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex F.

## Chapter 1 Administration

### 1.1\* Scope.

1.1.1 This standard shall provide the minimum requirements for the design and installation of automatic fire sprinkler systems and exposure protection sprinkler systems covered within this standard.

1.1.2 This standard is written with the assumption that the sprinkler system shall be designed to protect against a single fire originating within the building.

### 1.2\* Purpose.

1.2.1 The purpose of this standard shall be to provide a reasonable degree of protection for life and property from fire through standardization of design, installation, and testing requirements for sprinkler systems, including private fire service mains, based on sound engineering principles, test data, and field experience.

1.2.2 Sprinkler systems and private fire service mains are specialized fire protection systems and shall require knowledgeable and experienced design and installation.

### 1.3 Application.

1.3.1 This standard shall apply to the following:

- (1) Character and adequacy of water supplies
- (2) Selection of sprinklers
- (3) Fittings
- (4) Piping
- (5) Valves
- (6) All materials and accessories, including the installation of private fire service mains

1.3.2 This standard shall also apply to "combined service mains" used to carry water for both fire service and other uses as well as to mains for fire service use only.

**1.4 Retroactivity.** The provisions of this standard reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this standard at the time the standard was issued.

1.4.1 Unless otherwise specified, the provisions of this standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the standard. Where specified, the provisions of this standard shall be retroactive.

1.4.2 In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this standard deemed appropriate.

1.4.3 The retroactive requirements of this standard shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

**1.5 Equivalency.** Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard.

1.5.1 Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.

1.5.2 The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

### 1.6 New Technology.

1.6.1 Nothing in this standard shall be intended to restrict new technologies or alternate arrangements, provided the level of safety prescribed by this standard is not lowered.

1.6.2 Materials or devices not specifically designated by this standard shall be utilized in complete accord with all conditions, requirements, and limitations of their listings.

### 1.7 Units and Symbols.

#### 1.7.1 Units.

1.7.1.1 Metric units of measurement in this standard shall be in accordance with the modernized metric system known as the International System of Units (SI).

1.7.1.2 Two units (liter and bar), outside of but recognized by SI, are commonly used in international fire protection.

1.7.1.3 These units with conversion factors shall be used as listed in Table 1.7.1.3.

1.7.1.4 If a value for measurement as given in this standard is followed by an equivalent value in other units, the first stated shall be regarded as the requirement.

25.7.3.12.2 In addition, a system that is required to have more than one pump shall be designed to accommodate the following features:

- (1)\*Pump controls and system sensors shall be arranged such that the secondary pump will automatically operate if the primary pump fails to operate or deliver the required water pressure and flow. [Figure A.25.7.3.12.2(1) is an example of an acceptable dual pump arrangement.]
- (2) Both pumps shall be served from normal and emergency power sources. However, where approved by the authority having jurisdiction, the secondary pump shall be permitted to be nonelectrically driven.
- (3) Pump failure or operation shall be indicated at the central safety station.

25.7.3.13\* If not specifically prohibited, the fire pump that supplies the fire main shall be permitted to be used as the second pump, provided the following conditions are met:

- (1) The pump is adequately sized to meet the required fire hose and sprinkler system pressure and flow demands simultaneously.
- (2) The fire main system is segregated from the sprinkler system by a normally closed valve that is designed to automatically open upon failure of the designated fire pump.
- (3) The fire pump that supplies the fire main is automatically started in the event of dedicated fire pump failure or loss of pressure in the sprinkler main. (See Figure A.25.7.3.13.)

#### 25.7.4 Water Supply Configurations.

25.7.4.1 The pressure tank and fire pump shall be located in a position reasonably remote from any machinery space of Category A.

25.7.4.2 All valves within the water supply piping system shall be supervised.

25.7.4.3 Only freshwater shall be used as the initial charge within the piping network.

25.7.4.4 The sprinkler system shall be cross-connected with the ship's fire main system and fitted with a lockable screw-down nonreturn valve such that backflow from the sprinkler system to the fire main is prevented.

25.7.4.5 The piping, tanks, and pumps that make up the water supply shall be installed in accordance with the applicable requirements of 46 CFR, Subchapter F, "Marine Engineering."

25.7.4.6\* When a shore water supply is to be used during extended dockside periods, the water supply shall be qualified in the manner described in 23.2.1.

25.7.4.7 Tests shall be conducted in accordance with the requirements of the local shore-based authority having jurisdiction.

25.7.4.8 The water supply information listed in Section 11.3 shall then be provided to the authority having jurisdiction.

#### 25.8 System Acceptance.

25.8.1 **Hydrostatic Tests.** In addition to the interior piping, the test required by 24.2.1.10 shall also be conducted on all external water supply connections including international shore and fireboat connections.

25.8.2 **Alarm Test.** A waterflow test shall result in an alarm at the central safety station within 30 seconds after flow through the test connection begins.

#### 25.8.3 Operational Tests.

25.8.3.1 Pressure tank and pump operation, valve actuation, and waterflow shall also be tested.

25.8.3.2 Pump operation and performance shall be tested in accordance with Chapter 14 of NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection*.

#### 25.9 System Instructions and Maintenance.

25.9.1 Instructions for operation, inspection, maintenance, and testing shall be kept on the vessel.

25.9.2 Records of inspections, tests, and maintenance required by NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, shall also be kept on the vessel.

### Chapter 26 System Inspection, Testing, and Maintenance

26.1\* **General.** A sprinkler system installed in accordance with this standard shall be properly inspected, tested, and maintained by the property owner or their authorized representative in accordance with NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, to provide at least the same level of performance and protection as designed.

#### 26.2\* Inactive Sprinkler Systems Abandoned in Place.

26.2.1 Where all or part of an inactive sprinkler system is abandoned in place, components including sprinklers, hose valves and hoses, and alarm devices shall be removed.

26.2.2 Control valves abandoned in place shall have the operating mechanisms removed.

26.2.3 Sprinkler system piping and/or valves abandoned in place shall be uniquely identified to differentiate them from active system piping and valves.

### Annex A Explanatory Material

*Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.*

A.1.1 This standard provides a range of sprinkler system approaches, design development alternatives, and component options that are all acceptable. Building owners and their designated representatives are advised to carefully evaluate proposed selections for appropriateness and preference.

A.1.2 Since its inception, this document has been developed on the basis of standardized materials, devices, and design practices. However, Section 1.2 and other subsections such as 6.3.6 and 8.4.8 allow the use of materials and devices not specifically designated by this standard, provided such use is within parameters established by a listing organization. In using such materials or devices, it is important that all conditions, requirements, and limitations of the listing be fully understood and accepted and that the installation be in complete accord with such listing requirements.

**NFPA 13R**  
**Standard for the**  
**Installation of Sprinkler Systems in**  
**Residential Occupancies up to and Including**  
**Four Stories in Height**  
**2007 Edition**

**IMPORTANT NOTE:** This NFPA document is made available for use subject to important notices and legal disclaimers. These notices and disclaimers appear in all publications containing this document and may be found under the heading "Important Notices and Disclaimers Concerning NFPA Documents." They can also be obtained on request from NFPA or viewed at [www.nfpa.org/disclaimers](http://www.nfpa.org/disclaimers).

**NOTICE:** An asterisk (\*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet (•) between the paragraphs that remain.

Information on referenced publications can be found in Chapter 2 and Annex B.

**Chapter 1 Administration**

**1.1\* Scope.** This standard shall cover the design and installation of automatic sprinkler systems for protection against fire hazards in residential occupancies up to and including four stories in height.

**1.2\* Purpose.** The purpose of this standard shall be to provide design and installation requirements for a sprinkler system to aid in the detection and control of fires in residential occupancies and thus provide improved protection against injury, life loss, and property damage. A sprinkler system designed and installed in accordance with this standard shall be expected to prevent flashover (total involvement) in the room of fire origin, where sprinklered, and to improve the chance for occupants to escape or be evacuated.

**1.3 Retroactivity.** The provisions of this standard reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this standard at the time the standard was issued. Unless otherwise specified, the provisions of this standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the standard. Where specified, the provisions of this standard shall be retroactive. In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this standard deemed appropriate. The retroactive requirements of this standard shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

**1.4 Equivalency.** Nothing in this standard is intended to restrict new technologies or alternative arrangements, provided that the level of safety prescribed by the standard is not reduced.

**1.5 Units.**

**1.5.1\*** Metric units of measurement in this standard shall be in accordance with the modernized metric system known as the International System of Units (SI).

**1.5.2** The liter and bar units shall be permitted to be used in this standard.

**1.5.3** The conversion factors for liter, pascal, and bar shall be in accordance with Table 1.5.3.

**Table 1.5.3 Metric Conversions**

Name of Unit	Unit Symbol	Conversion Factor
liter	L	1 gal = 3.785 L
pascal	Pa	1 psi = 6894.757 Pa
bar	bar	1 psi = 0.0689 bar
bar	bar	1 bar = 10 <sup>5</sup> Pa

**1.5.4\*** Where a value for measurement as specified in this standard is followed by an equivalent value in other units, the first stated value shall be regarded as the requirement.

**1.5.5** The equivalent value for a measurement in SI shall be converted by multiplying the value by the conversion factor and then rounding the result to the appropriate number of significant digits.

**Chapter 2 Referenced Publications**

**2.1 General.** The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

**2.2 NFPA Publications.** National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2007 edition.

NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection*, 2007 edition.

NFPA 22, *Standard for Water Tanks for Private Fire Protection*, 2003 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2002 edition.

NFPA 101<sup>®</sup>, *Life Safety Code*<sup>®</sup>, 2006 edition.

NFPA 220, *Standard on Types of Building Construction*, 2006 edition.

NFPA 251, *Standard Methods of Tests of Fire Resistance of Building Construction and Materials*, 2006 edition.

**2.3 Other Publications.**

**2.3.1 ANSI Publications.** American National Standards Institute, Inc., 25 West 43rd Street, 4th Floor, New York, NY 10036.

ANSI A17.1, *Safety Code for Elevators and Escalators*, 2004.

ANSI B36.10M, *Welded and Seamless Wrought Steel Pipe*, 1996.

6.9.4 Sprinklers shall be installed in any closet used for heating and air-conditioning equipment.

6.9.5 Sprinklers shall not be required in any porches, balconies, corridors, and stairs that are open and attached.

6.9.6\* Sprinklers shall not be required in attics, penthouse equipment rooms, elevator machine rooms, concealed spaces dedicated exclusively to and containing only dwelling unit ventilation equipment, crawl spaces, floor/ceiling spaces, noncombustible elevator shafts where the elevator cars comply with ANSI A17.1, *Safety Code for Elevators and Escalators*, and other concealed spaces that are not used or intended for living purposes or storage and do not contain fuel-fired equipment.

6.9.7 Sprinklers shall not be required in closets on exterior balconies, regardless of size, as long as there are no doors or unprotected penetrations from the closet directly into the dwelling unit.

#### 6.10\* Maintenance.

6.10.1 The owner shall be responsible for the condition of a sprinkler system and shall keep the system in normal operating condition.

6.10.2 Sprinkler systems shall be inspected, tested, and maintained in accordance with NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*.

### Annex A Explanatory Material

*Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.*

A.1.1 NFPA 13R is appropriate for use as an option to NFPA 13, *Standard for the Installation of Sprinkler Systems*, only in those residential occupancies, as defined in this standard, up to and including four stories in height. It is the intent of this standard that if NFPA 13R is appropriate for use, that it be used throughout the entire building. It is recognized that an occupancy incidental to the operations of the residential occupancy might exist within that residential occupancy. Such incidental occupancy would be considered part of the predominant (residential) occupancy and subject to the provisions of the predominant (residential) occupancy by 6.1.14.2 of NFPA 101, *Life Safety Code*, and similar provisions in many local building and fire codes. Use of NFPA 13R throughout the entire building in this case is allowed.

Where buildings are greater than four stories in height, or where buildings are of mixed use where residential is not the predominant occupancy, residential portions of such buildings should be protected with residential or quick-response sprinklers in accordance with 8.4.5 of NFPA 13. Other portions of such buildings should be protected in accordance with NFPA 13. Where buildings of mixed use can be totally separated so that the residential portion is considered a separate building under the local code, NFPA 13R can be used in the residential portion while NFPA 13 is used in the rest of the building.

The criteria in this standard are based on full-scale fire tests of rooms containing typical furnishings found in residential living rooms, kitchens, and bedrooms. The furnishings were arranged as typically found in dwelling units in a manner similar to that shown in Figure A.1.1(a), Figure A.1.1(b), and Figure A.1.1(c). Sixty full-scale fire tests were conducted in a two-story dwelling in Los Angeles, California, and 16 tests were conducted in a 14 ft (4.3 m) wide mobile home in Charlotte, North Carolina. Sprinkler systems designed and installed according to this standard are

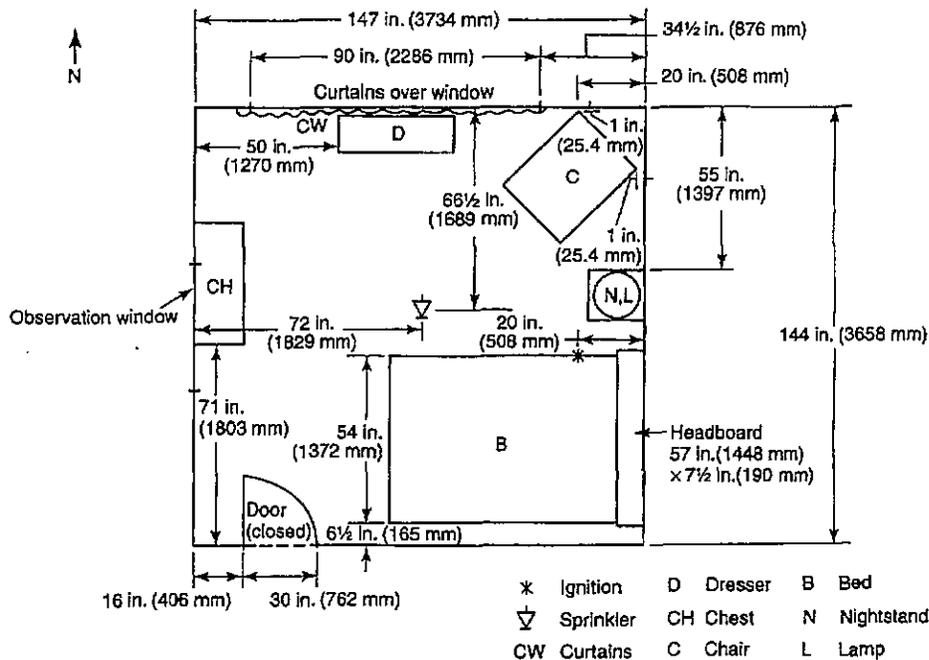


FIGURE A.1.1(a) Bedroom.

**NFPA 13D**

**Standard for the**

**Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes**

**2002 Edition**

**NOTICE:** An asterisk (\*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet between the paragraphs that remain.

Information on referenced publications can be found in Chapter 2 and Annex B.

**Chapter 1 Administration**

**1.1\* Scope.** This standard shall cover the design and installation of automatic sprinkler systems for protection against the fire hazards in one- and two-family dwellings and manufactured homes.

**1.2\* Purpose.** The purpose of this standard shall be to provide a sprinkler system that aids in the detection and control of residential fires and thus provides improved protection against injury, life loss, and property damage. A sprinkler system designed and installed in accordance with this standard shall be expected to prevent flashover (total involvement) in the room of fire origin, where sprinklered, and to improve the chance for occupants to escape or be evacuated. The layout, calculation, and installation of systems installed in accordance with this standard shall only be performed by people knowledgeable and trained in such systems.

**1.3 Retroactivity** The provisions of this standard reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this standard at the time the standard was issued. Unless otherwise specified, the provisions of this standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the standard. Where specified, the provisions of this standard shall be retroactive. In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this standard deemed appropriate. The retroactive requirements of this standard shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

**1.4 Equivalency.** Nothing in this standard is intended to restrict new technologies or alternative arrangements, pro-

vided that the level of safety prescribed by the standard is not reduced.

**1.5 Units.**

**1.5.1\*** Metric units of measurement in this standard shall be in accordance with the modernized metric system known as the International System of Units (SI).

**1.5.2** The liter and bar units shall be permitted to be used in this standard.

**1.5.3** The conversion factors for liter, pascal, and bar shall be in accordance with Table 1.5.3.

**Table 1.5.3 Metric Conversions**

Name of Unit	Unit Symbol	Conversion Factor
liter	L	1 gal = 3.785 L
pascal	Pa	1 psi = 6894.757 Pa
bar	bar	1 psi = 0.0689 bar
bar	bar	1 bar = 10 <sup>5</sup> Pa

**1.5.4\*** Where a value for measurement as specified in this standard is followed by an equivalent value in other units, the first stated value shall be regarded as the requirement.

**1.5.5** The equivalent value for a measurement in SI shall be converted by multiplying the value by the conversion factor and then rounding the result to the appropriate number of significant digits.

**Chapter 2 Referenced Publications**

**2.1 General.** The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

**2.2 NFPA Publications.** National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2002 edition.

NFPA 72®, *National Fire Alarm Code*®, 2002 edition.

NFPA 220, *Standard on Types of Building Construction*, 1999 edition.

**2.3 Other Publications.**

**2.3.1 ANSI Publication.** American National Standards Institute, Inc., 11 West 42nd Street, 13th floor, New York, NY 10036.

ANSI B36.10M, *Welded and Seamless Wrought Steel Pipe*, 1996.

**2.3.2 ASME Publications.** American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990.

ASME B16.1, *Cast Iron Pipe Flanges and Flanged Fittings*, 1989.

ASME B16.3, *Malleable Iron Threaded Fittings*, 1992.

ASME B16.4, *Gray Iron Threaded Fittings*, 1992.

ASME B16.5, *Pipe Flanges and Flanged Fittings*, 1996.

ASME B16.9, *Factory-Made Wrought Steel Butt-Welding Fittings*, 1993.

ASME B16.11, *Forged Fittings, Socket-Welding and Threaded*, 1996.

projections containing interior space, but do not include bay windows.

### 3.3.6 Pressure.

**3.3.6.1 Supply Pressure.** The pressure within the supply (e.g., city or private supply water source).

**3.3.6.2 System Pressure.** The pressure within the system (e.g., above the control valve).

**3.3.6.3 System Working Pressure.** The maximum anticipated static (nonflowing) or flowing pressure applied to sprinkler system components exclusive of surge pressures.

**3.3.7 Pump.** A mechanical device that transfers or raises, or transfers and raises, the pressure of a fluid (water).

### 3.3.8 Sprinkler.

**3.3.8.1 Automatic Sprinkler.** A fire suppression or control device that operates automatically when its heat-actuated element is heated to its thermal rating or above, allowing water to discharge over a specific area.

**3.3.8.2 Residential Sprinkler.** A type of fast-response sprinkler that meets the criteria of NFPA 13, *Standard for the Installation of Sprinkler Systems*, that has been specifically investigated for its ability to enhance survivability in the room of fire origin and is listed for use in the protection of dwelling units.

### 3.3.9 Systems.

**3.3.9.1 Antifreeze System.** An antifreeze system is an automatic sprinkler system containing an antifreeze solution and connected to a water supply. The antifreeze solution, followed by water, discharges immediately from sprinklers opened by a fire.

**3.3.9.2 Dry Pipe Sprinkler System.** A sprinkler system employing automatic sprinklers that are attached to a piping system containing air or nitrogen under pressure, the release of which (as from the opening of a sprinkler) permits the water pressure to open a valve known as a dry pipe valve, and the water then flows into the piping system and out the opened sprinkler.

**3.3.9.3 Multipurpose Piping System.** A piping system within a residential occupancy intended to serve both domestic and fire protection needs.

**3.3.9.4 Network System.** A type of multipurpose system utilizing a common piping system supplying domestic fixtures and fire sprinklers where each sprinkler is supplied by a minimum of three separate paths.

**3.3.9.5 Preaction Sprinkler System.** A sprinkler system employing automatic sprinklers that are attached to a piping system that contains air that might or might not be under pressure, with a supplemental detection system installed in the same areas as the sprinklers.

**3.3.9.6 Preengineered System.** A packaged sprinkler system including all components connected to the water supply and designed to be installed according to pretested limitations.

**3.3.9.7 Sprinkler System.** For fire protection purposes, an integrated system of underground and overhead piping designed in accordance with fire protection engineering standards. The installation includes one or more automatic water supplies. The portion of the sprinkler system aboveground is a network of specially sized or hydraulically designed piping installed in a building, structure, or area, generally overhead,

and to which sprinklers are attached in a systematic pattern. The system is usually activated by heat from a fire and discharges water over the fire area.

**3.3.9.8 Wet Pipe Sprinkler System.** A sprinkler system employing automatic sprinklers attached to a piping system containing water and connected to a water supply so that water discharges immediately from sprinklers opened by heat from a fire.

### 3.3.10 Valve.

**3.3.10.1 Check Valve.** A valve that allows flow in one direction only.

**3.3.10.2\* Control Valve.** A valve employed to control (shut) a supply of water to a sprinkler system.

**3.3.11 Waterflow Alarm.** A sounding device activated by a waterflow detector or alarm check valve.

**3.3.12 Waterflow Detector.** An electric signaling indicator or alarm check valve actuated by waterflow in one direction only.

## Chapter 4 General Requirements

### 4.1 Compartments.

**4.1.1** A compartment, for the purposes of this standard, shall be a space that is completely enclosed by walls and a ceiling.

**4.1.2** A compartment enclosure shall be permitted to have openings in walls, provided the openings have a minimum lintel depth of 8 in. (203 mm) from the ceiling.

### 4.2 Maintenance.

**4.2.1\*** The installer shall provide to the owner/occupant instructions on inspecting, testing, and maintaining the system.

**4.2.2** Operated or damaged sprinklers shall be replaced with sprinklers having the same performance characteristics as the original equipment.

**4.2.3** Any sprinklers that have been painted outside of the factory shall be replaced with a new listed sprinkler.

**4.2.4\* Antifreeze Systems.** Before freezing weather each year, the following procedure shall be performed:

- (1) Solution in the entire antifreeze system emptied into convenient containers
- (2) Solution brought to the proper specific gravity by adding concentrated liquid as needed, or a new solution be prepared, in accordance with 8.3.3
- (3) System refilled with the new or remixed solution

### 4.3\* Hydrostatic Tests.

**4.3.1** Where a fire department pumper connection is not provided, the system shall be hydrostatically tested for leakage at normal system operating pressure.

**4.3.2** Where a fire department pumper connection is provided, the system shall pass a hydrostatic pressure test performed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*.

### 4.4 Sprinkler Temperature Ratings.

**4.4.1** Sprinklers having a temperature rating of 135°F to 170°F (57°C to 77°C) shall be classified as ordinary temperature-rated sprinklers.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information (Check one):  Individual  Government Entity  Company

Name: Ed Altizer Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive

Email Address: ed.altizer@vdfp.virginia.gov Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC Sections 107.5.1, 107.6, and 107.13

Proposed Change (including all relevant section numbers, if multiple sections):

Delete and relocate with modifications as follows:

~~107.5.1 Specials conditions for the State Fire Marshal's Office: Permits issued by the State Fire Marshal's Office for the use of explosives in special operations or under emergency conditions shall be valid for 1 week from the date of issuance and shall not be renewable.~~

~~107.6 State Fire Marshal: Permits will not be required by the State Fire Marshal except those permits listed in Section 107.13 and 107.14 of this code.~~

~~Exception: Such permits shall not be required for the storage of explosives or blasting agents by the Virginia Department of State Police provided notification to the State Fire Marshal is made annually by the Chief Arson Investigator listing all storage locations within areas where enforcement is provided by the State Fire Marshal's office.~~

Change to read as follows:

**107.13. State explosives, blasting agents, theatrical flame effects and firework permit fees:** Except as modified herein, Applications for firework or pyrotechnic displays shall be submitted to and received by the State Fire Marshal's Office not less than 15 days prior to the planned event. Fees for permits issued by the State Fire Marshal's office for the storage, use, sale or manufacture of explosives or blasting agents, and for the display of fireworks and flame effects on state owned property shall be as follows: State Fire Marshal's Office permit fees shall be as follows:

1. \$125 per year per magazine to store explosives and blasting agents.
2. \$200 per year per city or county to use explosives and blasting agents.
3. \$150 per year to sell explosives and blasting agents.
4. \$200 per year to manufacture explosives, blasting agents and fireworks.
5. \$350 the first day of fireworks, pyrotechnics or proximate audience displays conducted in any state-owned building and \$150 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 15 days prior to the planned event, the permit fee shall be \$450 per day and \$150 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 7 days prior to the planned event, the permit fee shall be \$550 per day and \$150 per day for each consecutive day for identical multi-day events.

6. \$250 the first day of fireworks, pyrotechnics or proximate audience displays conducted out-of-doors on any state-owned property and \$150 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 15 days prior to the planned event, the permit fee shall be \$450 per day and \$150 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 7 days prior to the planned event, the permit fee shall be \$550 per day and \$150 per day for each consecutive day for identical multi-day events.

7. \$100 per ~~event~~ non-renewable permit, valid for one week from date of issuance, for the use of explosives in special operations or emergency conditions.

8. \$300 the first day for flame effects conducted in accordance with Section 308.3.6 indoors of any state-owned building or outdoors on state-owned property and \$150 per day for each consecutive day for identical multi-day events, or, if conducted as part of a firework (pyrotechnic) display, \$100 the first day and \$75 per day for each consecutive day for identical multi-day events. If an application for flame effects is received by the SFMO less than 15 days prior to the planned event, the permit fee shall be \$450 per day and \$150 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 7 days prior to the planned event, the permit fee shall be \$550 per day and \$150 per day for each consecutive day for identical multi-day events.

Exception: Permits shall not be required for the storage of explosives or blasting agents by the Virginia Department of State Police provided notification to the State Fire Marshal is made annually by the Chief Arson Investigator listing all storage locations within areas where enforcement is provided by the State Fire Marshal's office.

Supporting Statement (including intent, need, and impact of the proposal):

This a SFMO desired consolidation, clean-up and realignment without altering or affecting any technical provisions.

Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual     Government Entity     Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC Section 107.13

Proposed Change (including all relevant section numbers, if multiple sections):

Add sections as follows:

5. \$350 the first day of fireworks, pyrotechnics or proximate audience displays conducted in any state-owned building and \$150 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 15 days prior to the planned event, the permit fee shall be \$450 per day and \$150 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 7 days prior to the planned event, the permit fee shall be \$550 per day and \$150 per day for each consecutive day for identical multi-day events.

5.1 \$100 for the use of permissible fireworks inside any state-owned building.

6. \$250 the first day of fireworks, pyrotechnics or proximate audience displays conducted out-of-doors on any state-owned property and \$150 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 15 days prior to the planned event, the permit fee shall be \$450 per day and \$150 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 7 days prior to the planned event, the permit fee shall be \$550 per day and \$150 per day for each consecutive day for identical multi-day events.

6.1 \$100 for the use of permissible fireworks outdoors on any state-owned property.

Supporting Statement (including intent, need, and impact of the proposal):

In accordance with § 27-96.1 of the Code of Virginia and as restated in SFPC Section 3308.2, permissible fireworks may be used on private property with the permission of the property owner and without having to obtain a permit. State colleges and universities are not private property and do not have the benefit of such exception. There have been a few events or theatrical productions recently in state buildings and on state property where permissible fireworks were to be used. While permits were obtained, the amount of the permit fees and staff time invested using the current fee schedule may not have been in proper proportion for what actually took place. This change is to provide that proportion and more reflective of the SFMO time invested. For the events this change is intended to cover, the interest of the SFMO is more toward looking at the venue itself and to ensure its appropriateness and the overall fire safety of the venue, and not the use of these small items that are less dangerous than those used under permit for aerial (1123) and close proximity

devices (1126).

Basically this provides a reduced fee for permits using permissible fireworks on state property.

Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC Sections 107.6 and 107.14

Proposed Change (including all relevant section numbers, if multiple sections):

**107.6 State Fire Marshal:** Permits will not be required by the State Fire Marshal except those permits listed in Section 107.13 and the levy of annual compliance inspection fees listed in Section 107.14 of this code.

**Exception:** Such permits shall not be required for the storage of explosives or blasting agents by the Virginia Department of State Police provided notification to the State Fire Marshal is made annually by the Chief Arson Investigator listing all storage locations within areas where enforcement is provided by the State Fire Marshal's office.

**107.14 State annual compliance inspection permit fees.** ~~Annual fees for compliance inspections permits issued/performed~~ by the State Fire Marshal's Office ~~for the inspection of buildings~~ shall be as follows:

1. Night clubs

- 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 load exceed 300.

2. Private college dormitories with or without assembly areas. If containing assembly areas, such assembly areas are not included in the computation of square footage.

- 2.1. \$150 for 3,500 square feet (325.15 m<sup>2</sup>) or less.
- 2.2. \$200 for greater than 3,500 square feet (325.15 m<sup>2</sup>) up to 7,000 square feet (650 m<sup>2</sup>).
- 2.3. \$250 for greater that 7,000 square feet (650 m<sup>2</sup>) up to 10,000 square feet (929 m<sup>2</sup>).
- 2.4. \$250 plus \$50 for each additional 3,000 square feet (278 m<sup>2</sup>) where square footage exceeds 10,000 (929 m<sup>2</sup>).

3. Assembly areas that are part of private college dormitories.

- 3.1. \$50 for 10,000 square feet (929 m<sup>2</sup>) or less provided the assembly area is within or attached to a dormitory building.
- 3.2. \$100 for greater than 10,000 square feet (929 m<sup>2</sup>) up to 25,000 square feet (2322.5 m<sup>2</sup>) provided the assembly area is within or attached to a dormitory building, such as gymnasiums, auditoriums or cafeterias.
- 3.3. \$100 for up to 25,000 square feet (2322.5 m<sup>2</sup>) provided the assembly area is in a separate or separate buildings such as gymnasiums, auditoriums or cafeterias.

3.4. \$150 for greater than 25,000 square feet (2322.5 m<sup>2</sup>) for assembly areas within or attached to a dormitory building or in a separate or separate buildings such as gymnasiums, auditoriums or cafeterias.

4. Hospitals.

4.1. \$300 for 1 to 50 beds.

4.2. \$400 for 51 to 100 beds.

4.3. \$500 for 101 to 150 beds.

4.4. \$600 for 151 to 200 beds.

4.5. \$600 plus \$100 for each additional 100 beds where the number of beds exceeds 200.

5. ~~Child day centers, assisted living facilities and adult day care centers~~ licensed by the Virginia Department of Social Services based on licensed capacity as follow:

5.1. \$50 for 1 to 8.

5.2. \$75 for 9 to 20.

5.3. \$100 for 21 to 50.

5.4. \$200 for 51 to 100.

5.5. \$400 for 101 or more.

Exception: Annual compliance inspection permits fees for any building or groups of buildings on the same site may not exceed \$2500.

6. Registered complaints.

1<sup>st</sup> Visit (initial complaint) hourly rate per SFMO staff person - \$0.00

2<sup>nd</sup> Visit and all subsequent visits hourly rate per SFMO staff person - \$51.00

7. Storage/Retail Display of permissible fireworks.

7.1 Temporary Structures or Stands – 60 day period \$100.00

7.2 Permanent Structure – 60 day period \$190.00

7.3 Permanent Structure – year-round \$240.00

8. Bon Fires (Small & Large) on state owned property.

8.1 For a small bon fire pile with a total fuel area more than 3 feet in diameter and more than 2 feet in height but not more than 9 feet in diameter and not more than 6 feet in height, the permit fee is \$50.00. If an application for a bon fire permit is received by the SFMO less than 15 days prior to the planned event, the permit fee shall be \$100. If an application for bon fire permit is received by the SFMO less than 7 days prior to the planned event, the permit fee shall be \$150.

8.2 For a large bon fire pile with a total fuel area 9 feet or more in height and 6 feet or more in height the permit fee is \$150.00. If an application for a bon fire permit is received by the SFMO less than 15 days prior to the planned event, the permit fee shall be \$300. If an application for bon fire permit is received by the SFMO less than 7 days prior to the planned event, the permit fee shall be \$450.

Supporting Statement (including intent, need, and impact of the proposal):

The change to Section 107.6 is a coordinated change to what is proposed for Section 107.14.

The changes to Section 107.14 is based upon the statutory authority granted in § 27-98 of the Code of Virginia allowing the SFMO charge a fee to recover the actual cost of administering and enforcing the SFPC in jurisdictions for which the office serves as the enforcing authority.

The compliance inspections undertaken for the occupancies listed in Section 107.14, Items 6 and 7 are essentially for the same reasons inspections are performed in the occupancies listed in items 1 through 5; to ensure continued compliance.

Response to complaints results in inspections to ensure all required built-in fire safety features that were required by the USBC at the time of design and construction are properly maintained, including any retrofitting provisions required within the USBC, and that any conditions related to the storage, handling, and use of substances, materials and devices remain in compliance with the provision established in the SFPC.

Whether intentional or not, illegal fireworks are often found at retail outlets, and sometimes *under the counter*. The inspection related to permissible fireworks is a means to ensure illegal fireworks are not mixed into the retail stream and only permissible fireworks are available to the public.

The SFMO has seen an increase in ceremonial bon fires on state property and at some of the state's colleges and universities. The SFMO experience with these bon fires is similar to those of fireworks in terms of the amount of time invested to inspect the site for the appropriateness with greater time and attention given to the larger ones that may involve some level of engineering in the pile's assembly.

### Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
Main Street Centre  
600 E. Main St., Ste. 300  
Richmond, VA 23219

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC Sections 107.6, 107.13 and 107.14

Proposed Change (including all relevant section numbers, if multiple sections):

**107.13. State explosives, blasting agents, theatrical flame effects and firework permit fees:** Except as modified herein. Applications for firework or pyrotechnic displays shall be submitted to and received by the State Fire Marshal's Office not less than 15 days prior to the planned event. Fees for permits issued by the State Fire Marshal's office for the storage, use, sale or manufacture of explosives or blasting agents, and for the display of fireworks and flame effects on state-owned property shall be as follows:

1. ~~\$125~~150 per year per magazine to store explosives and blasting agents.
2. ~~\$200~~250 per year per city or county to use explosives and blasting agents.
3. ~~\$150~~200 per year to sell explosives and blasting agents.
4. ~~\$200~~250 per year to manufacture explosives, blasting agents and fireworks.
5. \$350 the first day of fireworks, pyrotechnics or proximate audience displays conducted in any state-owned building and ~~\$150~~200 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 15 days prior to the planned event, the permit fee shall be ~~\$450~~per 700 the first day and ~~\$150~~400 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 7 days prior to the planned event, the permit fee shall be ~~\$550~~per 1,050 the first day and ~~\$150~~900 per day for each consecutive day for identical multi-day events.
6. \$250 the first day of fireworks, pyrotechnics or proximate audience displays conducted out-of-doors on any state-owned property and ~~\$150~~200 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 15 days prior to the planned event, the permit fee shall be ~~\$450~~per 500 the first day and ~~\$150~~400 per day for each consecutive day for identical multi-day events. If an application is received by the SFMO less than 7 days prior to the planned event, the permit fee shall be ~~\$550~~per 750 the first day and ~~\$150~~600 per day for each consecutive day for identical multi-day events.
7. \$100 per event for the use of explosives in special operations or emergency conditions.
8. \$300 the first day for flame effects conducted in accordance with Section 308.3.6 indoors of any state-owned building or outdoors on state-owned property and ~~\$150~~200 per day for each consecutive day for identical multi-day events, or, if conducted as part of a firework (pyrotechnic) display, ~~\$100~~150 the first day and ~~\$75~~125 per day for each consecutive day for identical multi-day events. If an application for flame effects is received by the SFMO less than 15 days prior to the planned event, the permit fee shall be ~~\$450~~per 550 the first day and ~~\$150~~200 per day for each consecutive day for identical multi-day events or, if conducted as part of a firework (pyrotechnic) display, \$200 the first day and \$100 per day for each consecutive day for identical multi-day events.. If an application is

received by the SFMO less than 7 days prior to the planned event, the permit fee shall be ~~\$550 per~~ \$650 the first day and \$150 per day for each consecutive day for identical multi-day events or, if conducted as part of a firework (pyrotechnic) display, \$300 the first day and \$125 per day for each consecutive day for identical multi-day events.

**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:

(Items 1 through 4 remain unchanged.)

5. Child day centers, assisted living facilities and adult day care centers licensed by the Virginia Department of Social Services based on licensed capacity as follows:

- 5.1. \$50 for 1 to 8.
- 5.2. \$75 for 9 to 20.
- 5.3. \$100 for 21 to 50.
- 5.4. \$200 for 51 to 100.
- 5.5. \$4300 for 101 ~~or more~~ to 150.
- 5.6. \$400 for 151 to 200.
- 5.7. \$500 for 201 or more.

Exception: Annual inspection permits for any building or groups of buildings on the same site may not exceed \$2500.

Supporting Statement (including intent, need, and impact of the proposal):

Other than to continue to cover costs associated with administration and enforcement, the increases for Section 107.13, Items 5, 6 and 8 are to strengthen the incentive for submitting applications at least 15 days prior to planned events.

If the questions rises, why the difference in permit fees for outdoor and indoor pyrotechnics, it's because of the greater attention to safety that is demanded of using fireworks indoors and in close proximity to an audience. As a result the need to ensure compliance with the SFPC and referenced standards is heightened which translates to the investment of increased staff time and presence.

### Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
Main Street Centre  
600 E. Main St., Ste. 300  
Richmond, VA 23219

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual      X Government Entity       Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC Section 107.14

Proposed Change (including all relevant section numbers, if multiple sections):

**107.14 State ~~annual~~ compliance inspection permit fees. ~~Annual fees for compliance inspections permits issued performed by the State Fire Marshal's Office for the inspection of buildings shall be as follows:~~**

(Items #1 through 3 and 5 remain unchanged.)

4. Hospitals.

- 4.1. \$300 for 1 to 50 beds.
- 4.2. \$400 for 51 to 100 beds.
- 4.3. \$500 for 101 to 150 beds.
- 4.4. \$600 for 151 to 200 beds.
- 4.5. \$600 plus \$100 for each additional 100 beds where the number of beds exceeds 200.

Exception: ~~Annual fees~~ for any building or groups of buildings on the same site may not exceed \$2500 annually.

6. Boarding House (Transient), Group R3 or R5.

- 6.1 Non-proprietor occupied – 1 to 10 guests      \$150.00
- 6.2 Proprietor occupied – 1 to 5 guest rooms      \$190.00

7. Hotels/Motels

<u>Number of guest rooms</u>	<u>Fee</u>
<u>1 to 25, single story building</u>	<u>\$100.00</u>
<u>1 to 25, multi-story building</u>	<u>\$190.00</u>
<u>26 to 50, single story building</u>	<u>\$150.00</u>
<u>26 to 50, multi-story building</u>	<u>\$240.00</u>
<u>51 to 100</u>	<u>\$290.00</u>
<u>101 to 150</u>	<u>\$380.00</u>
<u>151 to 200</u>	<u>\$480.00</u>
<u>201 or more</u>	<u>\$570.00</u>

Supporting Statement (including intent, need, and impact of the proposal):

The change to the Exception in Item 4 is solely for the sake of clarity.

The compliance inspections undertaken for the occupancies listed in Items 6 and 7 are essentially for the same reasons inspections are performed in the occupancies listed in the unchanged Items 1, 2, 3 and 5.

Hotels, motels and boarding houses are an important component of the state's tourism industry and the safety of those who temporarily occupy those buildings is just as important to those who occupy health care facilities, day care centers, ALFs, schools, dorms and who seek entertainment within night clubs. The inspections are to ensure all required built-in fire safety features that were required by the USBC at the time of design and construction are properly maintained, including any retrofitting provisions, and that any conditions related to the storage, handling, and use of substances, materials and devices remain in compliance with the provisions established in the SFPC.

Recently, in response to a complaint, the SFMO inspected a motel in Caroline County. The problems found were so extreme and numerous that it was decided that five other adjacent hotels should also be inspected. The problems found included no fire alarm or sprinkler systems inspections and tests records. It was as if the systems had never been touched since installation. Additional problems included damaged fire walls, improper wiring, non-functional emergency lights, and many others.

One of the most serious problem found in all six hotels was, none of the system or room smoke detectors had been tested. In spot testing the detectors, only about 50% functioned at all. Two had fire alarm systems that were out of service. This was readily determined since pull stations were found to have been pulled, but no alarms were sounding.

The inspections altogether involved three inspectors and two managers. One particular motel had not made any progress in obtaining compliance after repeated inspections. Arrest warrants for two owners living outside the area were obtained through the local Commonwealth Attorney's Office and Magistrate's Office. Two additional owners could not be located. Upon the initial inspection, all follow-up inspections and legal actions, the lead inspector alone has spent approximately 20 man-hours for the worst of the 6 hotels, and 65 man-hours on all 6 hotel inspections. Not including the local building official's office, additional hours were invested by the two additional SFMO inspectors and managers.

Proper referral, timeliness of referral, and involvement of the local building official throughout the case involving these 6 hotels was instrumental and invaluable in obtaining compliance.

Another instance this year occurred in an Orange County hotel where numerous fire violations were found including finding propane tanks being stored in a stairwell.

In 2012 in a Nelson County hotel, the fire alarm system was found to be out of service, and the smoke detectors were not working. There were many problems found including, damaged stairs, emergency lights out of service, rooms used for excess storage, and other problems. The owner was summoned to court and through an injunction, was forced to fix the problems found.

Recently, a hotel in Southwest Virginia was found lacking current inspection reports for the sprinkler and fire alarm systems. Fortunately, compliance was gained without any legal action beyond the issuance of a notice of violation.

These recent examples generated through complaints demonstrate the need for pro-active inspections for gaining and maintaining compliance in facilities that are so important to Commonwealth's tourism industry and to the safety of those who occupy the hotels and motels. Past practice has shown that pro-active inspections and the educational opportunities it presents have longer lasting positive effects as opposed to responding to complaints. Past practice and experience has also shown that being proactive in conducting these inspections every year, or even every two years, is, in the end, cheaper for all involved and with a lower time investment by the SFMO. Complaint driven responses produce a larger

time investment for SFMO staff and do not produce the desired long term results of continued compliance and cooperation.

Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC Section 107.16.1

Proposed Change (including all relevant section numbers, if multiple sections):

Add new section 107.16.1 to read:

**107.16.1 SFMO certification and permit fees not refundable.** No refund of any part of the amount paid as a permit or certification fee will be made where the applicant, permit or certification holder, for any reason, discontinued an activity, changed conditions, or changed circumstances for which the permit or certification was issued. However, the permit or certification fee submitted with an application will be refunded if the permit or certification is cancelled, revoked or suspended subsequent to having been issued through administrative error, or if a permit being applied for is to be obtained from a locally appointed fire official.

Supporting Statement (including intent, need, and impact of the proposal):

The supporting position of this change should be self-evident; the SFMO and agency have invested time and effort to process applications for permit or certifications and that effort should remain properly funded. By the same token, if the SFMO and agency have committed an administrative error that is not the fault of the applicant, or an application were mistakenly submitted to the SFMO when instead, a local fire official is the proper issuing authority; the means is provided to process a refund.

Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



Code Change - F107.16.1, SFMO.docx

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual     Government Entity     Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): New SFPC Section 5601.4.3.1

Proposed Change (including all relevant section numbers, if multiple sections):  
Add new Section 5601.4.3.1 to read:

**5601.4.3.1 Fee for replacement certificate.** A written request for a replacement blaster or pyrotechnician certificate shall be accompanied the payment of an administrative fee in the amount of twenty dollars (\$20.00) made payable to the Treasurer of Virginia. Verbal requests shall not be accepted.

Supporting Statement (including intent, need, and impact of the proposal):

If a certificate has been lost, destroyed or rendered illegible, there is an associated cost for staff to receive a request and issue a replacement certificate. This fee is to cover the staff/administrative cost.

Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
Main Street Centre  
600 E. Main St., Ste. 300  
Richmond, VA 23219

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Henry Rosenbaum

Representing: Henrico County - Division of Fire

Mailing Address: PO Box 90775, Henrico VA 23273-0775

Email Address: Ros08@co.henrico.va.us

Telephone Number: 804 501-4914

Proposal Information

Code(s) and Section(s): 2012 SFPC - Definitions - Occupancy Classification - Residential Group R

Proposed Change (including all relevant section numbers, if multiple sections):

B. Add the following definition under the term "Occupancy Classification--Residential Group R":  
~~R-5 Detached one and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories high with separate means of egress and their accessory structures. The terms "R-5" and "one and two-family dwelling" where used in this code shall be interchangeable.~~

Replace with:

**Residential Group R-5.** Residential occupancies in detached one- and two-family dwellings, townhouses and accessory structures within the scope of the International Residential Code, also referred to as the "IRC." IRC.

Supporting Statement (including intent, need, and cost impact of the proposal):

This definition will match the insertion of "Occupancy Classification - Residential Group R" in the Virginia Statewide Fire Prevention Code (SFPC) 2012 with the Virginia Uniform State Building Code (USBC) 2012.

The ICC fire code and building code do not have a Group R-5 definition, in their occupancy classifications. Virginia has added a Group R-5 in past codes. There has always been a difference in the wording between the SFPC and the USBC. The following are from 2012 Virginia base documents.

**SFPC**

B. Add the following definition under the term "Occupancy Classification--Residential Group R":

~~R-5 Detached one and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories high with separate means of egress and their accessory structures. The terms "R-5" and "one and two-family dwelling" where used in this code shall be interchangeable.~~

**USBC**

I. Add Section 310.7 to the IBC to read:

310.7 Residential Group R-5. Residential occupancies in detached one- and two-family dwellings, townhouses and accessory structures within the scope of the International Residential Code, also referred to as the "IRC." IRC.

There is precisely a difference in the wording and interpretation between the SFPC and the USBC codes. The intent of this code change is to bring consistency between the Virginia SFPC and the Virginia USBC in 2012.

Submittal Information

Date Submitted: July 1, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson

Representing: Fire Services Board Code Committee

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-748-1426

Proposal Information

Code(s) and Section(s): SFPC Section 108.3

Proposed Change (including all relevant section numbers, if multiple sections):

**108.3 Conditions of a permit.** An operational permit shall constitute permission to maintain, store or handle materials; or to conduct processes in accordance with the SFPC, and shall not be construed as authority to omit or amend any of the provisions of this code. ~~The building official shall issue permits to install equipment utilized in connection with such activities; or to install or modify any fire protection system or equipment or any other construction, equipment installation or modification in accordance with the provisions of this code where a permit is required by Section 108.5. Such permission shall not be construed as authority to omit or amend any of the provisions of this code.~~

Note: The building official shall issue permits to install equipment utilized in connection with such activities; or to install or modify any fire protection system or equipment or any other construction, equipment installation or modification in accordance with the provisions of this code where a permit is required by Section 108.5. Such permission shall not be construed as authority to omit or amend any of the provisions of this code.

Supporting Statement (including intent, need, and impact of the proposal):

The language and authority on who issues a permit to install or modify fire protection systems, equipment, and other building components already resides in the USBC and is clearly stated in SFPC Section 102.6 which renders the language proposed for deletion as repetitive. At best, if it were to be retained in the SFPC, it would be more appropriate for this language to be in the form of an informational note to whoever uses the SFPC.

In addition, the 2<sup>nd</sup> sentence does not relate to the 1<sup>st</sup> sentence when asking the question, what is meant by "such activities"? Not does it make sense within the 2<sup>nd</sup> sentence itself. It appears the sentence is incomplete.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson

Representing: Fire Services Board Code Committee

Mailing Address: \_\_\_\_\_

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): SFPC Section 202 and 308.1.6.3

Proposed Change (including all relevant section numbers, if multiple sections):

Add the following definition to Section 202 to read:

**SKY LANTERN. An unmanned device with a fuel source that incorporates an open flame in order to make the device airborne.**

Add new Section 308.1.6.3 to read:

**308.1.6.3 Sky lanterns. No person shall release or cause to be released an untethered sky lantern.**

Supporting Statement (including intent, need, and impact of the proposal):

This change is to provide specificity based on a TRB interpretation issued two years ago. This change also was approved at the Dallas, TX Code Committee hearings with a minor modification included here on a vote of 14-0.

Sky lanterns contain an open flame used to heat the air inside the device to make it airborne. Once airborne, these devices are subject to winds and other atmospheric conditions so that the location of the landfall is completely unknown and uncontrolled by the user. Obviously, uncontrolled open flame devices descending out of the sky have the significant potential to start wildfires and structural fires.

Submittal Information

Date Submitted: June 3, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

Code Change - F308.1.6.3, FSBCC.doc

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson

Representing: Fire Services Board Code Committee

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): SFPC Section 403.3.1 and 403.2

Proposed Change (including all relevant section numbers, if multiple sections):

**403.3.1 Training.** Training for crowd managers shall be approved.

**403.2 Duties.** The duties of crowd managers shall include, but not be limited to:

1. Conduct an inspection of the area of responsibility and identify and address any egress barriers.
2. Conduct an inspection of the area of responsibility to identify and mitigate any fire hazards.
3. Verify compliance with all permit conditions, including those governing pyrotechnics and other special effects.
4. Direct and assist the event attendees in evacuation during an emergency.
5. Assist emergency response personnel where requested.
6. Other duties required by the fire code official.
7. Other duties as specified in the fire safety plan.

Supporting Statement (including intent, need, and impact of the proposal):

The code requires "trained crowd managers", but doesn't provide any guidance or describe what that training should include. The basic training outlined by this new provision gives guidance to the public and users of the SFPC with what type of basic training is required to ensure the safety of the patrons in the areas where these managers are required.

This does not require any additional staffing in these venues, only that the staff that are there are able to identify and respond to hazards and risks associated with large gatherings.

This has been an ongoing issue for enforcement personnel and businesses as well. This change is intended to address that void. This is the same change heard at the ICC CAH recently held in Dallas and was approved as submitted on a 13-1 vote.

Submittal Information

Code Change - F403.3.1, FSBCC.docx

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Placeholder Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Proposal Information Revised August 27, 2013 SFPC

Proposed Change (including all relevant section numbers, if multiple sections): SFPC IFC 403.3

IFC 403.3 Crowd Managers: Trained crowd managers shall be provided for **A occupancies** ~~facilities or events~~ where more than 1,000 persons congregate. The minimum number of crowd managers shall be established at a ratio of one crowd manager **over 1,000** to every 250 persons. Rest remain the same.

**Exception: For A-2 nightclubs a trained crowd manager shall be provided for each 250 persons.**

Supporting statement

Crowd managers are currently required when the occupancy load is above 1,000. Some interpret that when the occupancy load is 1001 or greater that you then need 5 crowd managers and then one for each 250 thereafter. Revisions to the 2015 IFC will make that the case with no more 1,000 exception other than for churches. The consequence of such as change will mean large assemblages such as classrooms would need crowd managers or a reception after the wedding or restaurants over 250 occupants or even malls unless the fire officials approves a modification. Does an B office building need crowd managers if there are 1500 employees? The present language say facilities where persons congregate? The code change preserves the 1,000 exception and clearly states crowd managers are necessary only after 1001 and you don't say 5 are needed at 1001 but one and then one for each 250 thereafter. If the intent is for assemblies that seems to be the case in IFC 403.1 then "facilities" seems to be not the best descriptor for when crowd managers need to be provided. Also, it might be okay to lower the crowd managers to only the highest risk A occupancies like A-2 nightclubs where it might be appropriate to have one CM for each 250 persons.

Submittal Information

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR State Building Codes Office  
600 East Main Street,

Email Address: [vernon.hodge@dhcd.virginia.gov](mailto:vernon.hodge@dhcd.virginia.gov) 55a

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual     Government Entity     Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC Section 307.1

Proposed Change (including all relevant section numbers, if multiple sections):

**307.1 General.** A person shall not kindle or maintain or authorize to be kindled or maintained any *open burning* unless conducted and *approved* in accordance with Sections 307.1.1 through 307.5.

**Exception: Approved outdoor live fire training using equipment or appliances accessible or available to the general public, and complies with Section 307.4.**

Supporting Statement (including intent, need, and cost impact of the proposal):

If a building's owner or occupant wishes to train building occupants or other personnel in the use of hose systems, portable fire extinguishers, or any other appliance used to suppress or extinguish incipient fires, this exception will exclude the use of live fire from being labeled as "open burning" and any provisions that would inhibit or restrict such training.

Submittal Information

Date Submitted: 6/21/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



Code Change - F307.1, SFMO.docx

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson

Representing: Fire Services Board Code Committee

Mailing Address: \_\_\_\_\_

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): SFPC Chapter 4 revision

Proposed Change (including all relevant section numbers, if multiple sections):

Revise Section 403 as follows (includes text relocated from Sections 404.2 and 408 and now merged into Section 403):

**SECTION 403408**  
**USE AND OCCUPANCY-RELATED EMERGENCY PREPAREDNESS REQUIREMENTS**

**403.1408.4 General.** In addition to the requirements of Section 401, occupancies, uses and outdoor locations shall comply with the emergency preparedness requirements set forth in Sections 403.2 through 403.11. Where a fire safety and evacuation plan is required by Sections 403.2 through 403.11, evacuation drills shall be in accordance with Section 405 and employee training shall be in accordance with Section 406. ~~In addition to the other requirements of this chapter, the provisions of this section are applicable to specific occupancies listed herein.~~

**403.2408.2 Group A occupancies.** An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group A occupancies, other than those occupancies used exclusively for purposes of religious worship with an occupant load less than 2,000, and for buildings containing both a Group A occupancy and an atrium. Group A occupancies shall also comply with the requirements of Sections ~~403.2.1 through 403.2.4~~ 408.2.1 and 408.2.2 and Sections 401 through 406.

**403.2.1408.2.1 Seating plan.** In addition to the requirements of Section 404.2, ~~the fire safety and evacuation plans for assembly occupancies shall include the information required by Section 404.3 and a detailed seating plan,~~ occupant load and occupant load limit. Deviations from the approved plans shall be allowed provided the occupant load limit for the occupancy is not exceeded and the aisles and exit accessways remain unobstructed.

**403.2.2408.2.2 Announcements.** In theaters, motion picture theaters, auditoriums and similar assembly occupancies in Group A used for noncontinuous programs, an audible announcement shall be made not more than 10 minutes prior to the start of each program to notify the occupants of the location of the exits to be used in the event of a fire or other emergency.

**Exception:** In motion picture theaters, the announcement is allowed to be projected upon the screen in a manner *approved by the fire code official*.

**403.2.2.1 Night clubs.** Night clubs shall comply with Sections 408.2.2.1.1 and 408.2.2.1.2.

**408.2.2.1.1 Audible announcements.** Audible announcements shall be made to the occupants no longer than 10 minutes prior to the start of the entertainment and at each intermission to notify the occupants of the location of the exits to be used in the event of a fire or other emergency.

**408.2.2.1.2. Occupant load count.** Upon request of the fire code official, the owner or operator, or both, will be required to keep a running count of the occupant load to provide to the fire code official during performance hours of operation, entertainment hours of operation, or both.

**403.2.3 Fire watch personnel.** Fire watch personnel shall be provided where required by Section 403.11.1.

**403.2.4 Crowd managers.** Crowd managers shall be provided where required by Section 403.11.3.

**403.3 Group B occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for buildings containing a Group B occupancy where the Group B occupancy has an *occupant load* of 500 or more persons or more than 100 persons above or below the lowest *level of exit discharge*.

**403.4 Group E occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group E occupancies and for buildings containing both a Group E occupancy and an atrium. Group E occupancies shall also comply with Section 403.4.1

~~**403.4.1-408.3 Group E occupancies and Group R-2 college and university buildings.** Group E occupancies shall comply with the requirements of Sections 403.4.1.1 through 403.4.1.3, 408.3.1 through 408.3.4 and Sections 401 through 406. Group R-2 college and university buildings shall comply with the requirements of Sections 408.3.1 and 408.3.3 and Sections 401 through 406.~~

~~**403.4.1.1-408.3.1 First emergency evacuation drill.** The first emergency evacuation drill of each school year shall be conducted within 10 days of the beginning of classes.~~

~~**408.3.2 Emergency evacuation drill deferral.** In severe climates, the *fire code official* shall have the authority to modify the emergency evacuation drill frequency specified in Section 405.2.~~

~~**403.4.1.2-408.3.3 Time of day.** Emergency evacuation drills shall be conducted at different hours of the day or evening, during the changing of classes, when the school is at assembly, during the recess or gymnastic periods, or during other times to avoid distinction between drills and actual fires. In Group R-2 college and university buildings, one required drill shall be held during hours after sunset or before sunrise.~~

~~**403.4.1.3-408.3.4 Assembly points.** Outdoor assembly areas shall be designated and shall be located a safe distance from the building being evacuated so as to avoid interference with fire department operations. The assembly areas shall be arranged to keep each class separate to provide accountability of all individuals.~~

**403.5 Group F occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for buildings containing a Group F occupancy where the Group F occupancy has an *occupant load* of 500 or more persons or more than 100 persons above or below the lowest *level of exit discharge*.

**403.6 Group H Occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group H occupancies. Group H-5 occupancies shall also comply with Section 403.6.1.

**403.6.1.408.4 Group H-5 occupancies.** Group H-5 occupancies shall comply with the requirements of Sections 403.6.1.1 through 403.6.1.4408.4.1 through 408.4.4 and Sections 401 through 407.

**403.6.1.1408.4.1 Plans and diagrams.** In addition to the requirements of Section 404 and Section 407.6, plans and diagrams shall be maintained in *approved* locations indicating the approximate plan for each area, the amount and type of HPM stored, handled and used, locations of shutoff valves for HPM supply piping, emergency telephone locations and locations of exits.

**403.6.1.2408.4.2 Plan updating.** The plans and diagrams required by Section 404, 403.6.1.1 and 407.6408.4.4 shall be maintained up to date and the *fire code official* and fire department shall be informed of all major changes.

**403.6.1.3408.4.3 Emergency response team.** Responsible persons shall be designated ~~the~~ as an on-site emergency response team and trained to be liaison personnel for the fire department. These persons shall aid the fire department in preplanning emergency responses, identifying locations where HPM is stored, handled and used, and be familiar with the chemical nature of such material. An adequate number of personnel for each work shift shall be designated.

**403.6.1.4408.4.4 Emergency drills.** Emergency drills of the on-site emergency response team shall be conducted on a regular basis but not less than once every three months. Records of drills conducted shall be maintained.

**403.7 Group I occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group I occupancies. Group I occupancies shall also comply with Sections 403.7.1 through 403.7.3

**403.7.1408.5 Group I-1 occupancies.** Group I-1 occupancies shall comply with the requirements of Sections 403.7.1.1 through 403.7.1.6408.5.1 through 408.5.5 and Sections 401 through 406.

**403.7.1.1408.5.1 Fire safety and evacuation plan.** The fire safety and evacuation plan required by Section 404 shall include special ~~staff~~ employee actions, including fire protection procedures necessary for residents, and shall be amended or revised upon admission of any resident with unusual needs.

**403.7.1.2408.5.2 Staff-Employee training.** Employees shall be periodically instructed and kept informed of their duties and responsibilities under the plan. Such instruction shall be reviewed by the ~~staff-employees~~ at intervals not exceeding least every two months. A copy of the plan shall be readily available at all times within the facility.

**403.7.1.3408.5.3 Resident training.** Residents capable of assisting in their own evacuation shall be trained in the proper actions to take in the event of a fire. The training shall include actions to take if the primary escape route is blocked. Where the resident is given rehabilitation or habilitation training, training in fire prevention and actions to take in the event of a fire shall be a part of the rehabilitation training program. Residents shall be trained to assist each other in case of fire to the extent their physical and mental abilities permit them to do so without additional personal risk.

**403.7.1.4408.5.4 Drill frequency.** Emergency evacuation drills shall be conducted at least six times per year, two times per year on each shift. Twelve drills shall be conducted in the first year of operation.

**403.7.1.5 Drill times.** ~~Drills times are not required to comply with the time requirements of Section 405.4.~~

**403.7.1.6408.5.5 Resident participation in drills.** Emergency evacuation drills shall involve the actual evacuation of residents to a selected assembly point.

**403.7.2408.6 Group I-2 occupancies.** ~~Group I-2 occupancies shall comply with the requirements of Sections 403.7.2.1 through 403.7.2.3408.6.1 and 408.6.2 and Sections 401 through 406.~~

**403.7.2.1 Drill times.** ~~Drills times are not required to comply with the time requirements of Section 405.4.~~

**4037.2.2408.6.4 Evacuation not required.** During emergency evacuation drills, the movement of patients to safe areas or to the exterior of the building is not required.

**403.7.2.3408.6.2 Coded alarm signal.** When emergency evacuation drills are conducted after visiting hours or when patients or residents are expected to be asleep, a coded announcement is allowed instead of audible alarms.

**403.7.3408.7 Group I-3 occupancies.** ~~Group I-3 occupancies shall comply with the requirements of Sections 403.7.3.1 through 403.7.3.4408.7.1 through 408.7.4 and Sections 401 through 406.~~

**403.7.3.1408.7.4 Employee training.** Employees shall be instructed in the proper use of portable fire extinguishers and other manual fire suppression equipment. Training of new ~~staff employees~~ shall be provided promptly upon entrance on duty. Refresher training shall be provided at least annually.

**403.7.3.2408.7.2 Employee sStaffing.** Group I-3 occupancies shall be provided with 24-hour staffing. ~~Staff~~An employee shall be within three floors or 300 feet (91 440 mm) horizontal distance of the access door of each resident housing area. In ~~Use~~-Conditions 3, 4 and 5, as defined in "Occupancy Classification – Institutional Group I-3" in Chapter 2, the arrangement shall be such that the ~~staff employee~~ involved can start release of locks necessary for emergency evacuation or rescue and initiate other necessary emergency actions within 2 minutes of an alarm.

**Exception:** An employee Staff shall not be required to be within three floors or 300 feet (9144 mm) in areas in which all locks are unlocked remotely and automatically in accordance with Section 408.4 of the *International Building Code*.

**403.7.3.3408.7.3 Notification.** Provisions shall be made for residents in ~~Use~~-Conditions 3, 4 and 5, as defined in "Occupancy Classification – Institutional Group I-3" in Chapter 2, to readily notify an employee staff of an emergency.

**403.7.3.4408.7.4 Keys.** Keys necessary for unlocking doors installed in a *means of egress* shall be individually identifiable by both touch and sight.

**403.8 Group M occupancies.** An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for buildings containing a Group M occupancy, where the Group M occupancy has an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge, and for buildings containing both a Group M occupancy and an atrium.

**403.9 Group R occupancies.**

**403.9.1408.8 Group R-1 occupancies.** An approved fire safety and evacuation plan in accordance with Section

404 shall be prepared and maintained for Group R-1 occupancies. Group R-1 occupancies shall also comply with the requirements of Sections 403.9.1.1 through 403.9.1.3, 408.8.1 through 408.8.3 and Sections 404 through 406.

**403.9.1.1408.8.1 Evacuation diagrams.** A diagram depicting two evacuation routes shall be posted on or immediately adjacent to every required egress door from each hotel or motel sleeping unit.

**403.9.1.2408.8.2 Emergency duties.** Upon discovery of a fire or suspected fire, hotel and motel employees shall perform the following duties:

1. Activate the fire alarm system, where provided.
2. Notify the public fire department.
3. Take other action as previously instructed.

**403.9.1.3408.8.3 Fire safety and evacuation instructions.** Information shall be provided in the fire safety and evacuation plan required by Section 404 to allow guests to decide whether to evacuate to the outside, evacuate to an *area of refuge*, remain in place, or any combination of the three.

**403.9.2408.9 Group R-2 occupancies.** Group R-2 occupancies shall comply with the requirements of Sections 403.9.2.1 through 403.9.2.3, 408.9.1 through 408.9.4 and Sections 404 through 406.

**403.9.2.1. College and University Buildings.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group R-2 college and university buildings. Group R-2 college and university buildings shall also comply with Sections 403.9.2.1 and 403.9.2.2.

**403.9.2.1.1 First emergency evacuation drill.** The first emergency evacuation drill of each school year shall be conducted within 10 days of the beginning of classes.

**403.9.2.1.2 Time of day.** Emergency evacuation drills shall be conducted at different hours of the day or evening, during the changing of classes, when the school is at assembly, during the recess or gymnastic periods, or during other times to avoid distinction between drills and actual fires. One required drill shall be held during hours after sunset or before sunrise.

**403.9.2.2408.9.4 Emergency guide.** Fire emergency guides shall be provided for Group R-2 occupancies. Guide contents, maintenance and distribution shall comply with Sections 403.9.2.2.1 through 403.9.2.2.3

**403.9.2.2.1 Guide contents.** A fire emergency guides shall be provided which describes the location, function and use of fire protection equipment and appliances accessible to residents, including fire alarm systems, smoke alarms, and portable fire extinguishers. The guides shall also include an emergency evacuation plan for each *dwelling unit*.

**403.9.2.2.2408.9.3 Emergency guide mMaintenance.** Emergency guides shall be reviewed and *approved* by the *fire code official* in accordance with Section 404.2. Evacuation diagrams shall be reviewed and updated in accordance with Section 404.4.

**403.9.2.2.3408.9.4 Emergency guide dDistribution.** A copy of the emergency guide shall be given to each tenant prior to initial occupancy.

**403.9.2.3 Evacuation diagrams for dormitories.** A diagram depicting two evacuation routes shall be posted on or immediately adjacent to every required egress door from each dormitory sleeping unit.

Evacuation diagrams shall be reviewed and updated as needed to maintain accuracy.

**403.9.3.408.10 Group R-4 occupancies.** An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group R-4 occupancies. Group R-4 occupancies shall also comply with the requirements of Sections 403.9.3.1 through 403.9.3.6 ~~408.10.1 through 408.10.5~~ and Sections 401 through 406.

**403.9.3.1408.10.1 Fire safety and evacuation plan.** The fire safety and evacuation plan required by Section 404 shall include special ~~staff~~ employee actions, including fire protection procedures necessary for residents, and shall be amended or revised upon admission of a resident with unusual needs.

**403.9.3.2408.10.2 Staff-Employee training.** Employees shall be periodically instructed and kept informed of their duties and responsibilities under the plan. Such instruction shall be reviewed by employees at intervals not exceeding the staff at least every two months. A copy of the plan shall be readily available at all times within the facility.

**403.9.3.3408.10.3 Resident training.** Residents capable of assisting in their own evacuation shall be trained in the proper actions to take in the event of a fire. The training shall include actions to take if the primary escape route is blocked. Where the resident is given rehabilitation or habilitation training, training in fire prevention and actions to take in the event of a fire shall be a part of the rehabilitation training program. Residents shall be trained to assist each other in case of fire to the extent their physical and mental abilities permit them to do so without additional personal risk.

**403.9.3.4408.10.4 Drill frequency.** Emergency evacuation drills shall be conducted at least six times per year, two times per year on each shift. Twelve drills shall be conducted in the first year of operation.

**403.9.3.5 Drill times.** Drills times are not required to comply with the time requirements of Section 405.4.

**403.9.3.6408.10.5 Resident participation in drills.** Emergency evacuation drills shall involve the actual evacuation of residents to a selected assembly point and shall provide residents with experience in exiting through all required exits. All required exits shall be used during emergency evacuation drills.

**Exception:** Actual exiting from windows shall not be required. Opening the window and signaling for help shall be an acceptable alternative.

#### **403.10 Special uses.**

**403.10.1408.11 Covered and open mall buildings.** Covered and open mall buildings shall comply with the ~~provisions~~ requirements of Sections 403.10.1.1 through 403.10.1.6 ~~408.11.1 through 408.11.3.~~

**403.10.1.1 Malls and mall buildings exceeding 50,000 square feet.** An approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for covered malls exceeding 50,000 square feet (4645 m<sup>2</sup>) in aggregate floor area and for open mall buildings exceeding 50,000 square feet (4645 m<sup>2</sup>) in aggregate area within perimeter line.

**403.10.1.2408.11.1 Lease plan.** In addition to the requirements of Section 404.2.2, a lease plan that includes the following information shall be prepared for each covered and open mall building: ~~The plan shall include the following information in addition to that required by Section 404.3.2:~~

1. Each occupancy, including identification of tenant.
2. Exits from each tenant space.

3. Fire protection features, including the following:
  - 3.1. Fire department connections.
  - 3.2. *Fire command center.*
  - 3.3. Smoke management system controls.
  - 3.4. Elevators, elevator machine rooms and controls.
  - 3.5. Hose valve outlets.
  - 3.6. Sprinkler and standpipe control valves.
  - 3.7. Automatic fire-extinguishing system areas.
  - 3.8. Automatic fire detector zones.
  - 3.9. *Fire barriers.*

**403.10.1.3408-11.1.4 Lease plan aApproval.** The lease plan shall be submitted to the *fire code official* for approval, and shall be maintained on site for immediate reference by responding fire service personnel.

**403.10.1.4408-11.1.2 Lease plan rRevisions.** The lease plans shall be revised annually or as often as necessary to keep them current. Modifications or changes in tenants or occupancies shall not be made without prior approval of the *fire code official* and building official.

**403.10.1.5408-11.2 Tenant identification.** Tenant identification shall be provided for secondary exits from occupied tenant spaces that lead to an exit corridor or directly to the exterior of the building. Each occupied tenant space provided with a secondary exit to the exterior or exit corridor shall be provided with tenant identification by Tenant identification shall be posted on the exterior side of the exit or exit access door and shall identify the business name and/or address. Letters and numbers shall be posted on the corridor side of the door, be using plainly legible letters and numbers that and shall contrast with their background.

**Exception:** Tenant identification is not required for anchor stores.

**403.10.1.6 Unoccupied tenant spaces.** The fire safety and evacuation plan shall provide for compliance with the requirements for unoccupied tenant spaces in Section 311.

**408-11.3 Maintenance.** Unoccupied tenant spaces shall be:

- ~~1. Kept free from the storage of any materials.~~
- ~~2. Separated from the remainder of the building by partitions of at least 0.5-inch-thick (12.7 mm) gypsum board or an approved equivalent to the underside of the ceiling of the adjoining tenant spaces.~~
- ~~3. Without doors or other access openings other than one door that shall be kept key-locked in the closed position except during that time when opened for inspection.~~
- ~~4. Kept free from combustible waste and be broomswept clean.~~

**403.10.2 High-rise buildings.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for high-rise buildings.

**403.10.3 Underground buildings.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for underground buildings.

**403.10.4 SCRF.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for SRCFs.

**403.11 Special requirements for public safety.**

**SECTION 403 PUBLIC ASSEMBLAGES AND EVENTS**

**403.11.1403.4 Fire watch personnel.** When, in the opinion of the *fire code official*, it is essential for public safety in a place of assembly or any other place where people congregate, because of the number of persons, or the nature of the performance, exhibition, display, contest or activity, the *owner*, agent or lessee shall provide one or more fire watch personnel, as required and *approved*. ~~Fire watch personnel shall comply with Sections 403.11.1.1 and 403.11.1.2, to remain on duty during the times such places are open to the public, or when such activity is being conducted.~~

~~**403.1.1 Duties.** Fire watch personnel shall keep diligent watch for fires, obstructions to *means of egress* and other hazards during the time such place is open to the public or such activity is being conducted and take prompt measures for remediation of hazards, extinguishment of fires that occur and assist in the evacuation of the public from the structures.~~

**403.11.1.1 Duty Times.** Fire watch personnel shall remain on duty during the times places requiring a fire watch are open to the public, or when an activity requiring a fire watch is being conducted.

**403.11.1.2 Duties.** On-duty fire watch personnel shall have the following duties:

1. Keep diligent watch for fires, obstructions to *means of egress* and other hazards
2. Take prompt measures for remediation of hazards and extinguishment of fires that occur
3. Take prompt measures to assist in the evacuation of the public from the structures.

~~**403.11.2403.2 Public safety plan for gatherings.** In other than Group A or E occupancies, where the *fire code official* determines that an indoor or outdoor gathering of persons has an adverse impact on public safety through diminished access to buildings, structures, fire hydrants and fire apparatus access roads or where such gatherings adversely affect public safety services of any kind, the *fire code official* shall have the authority to order the development of or prescribe a public safety plan that provides an approved level of public safety and addresses the following items;~~ or prescribe a plan for, the provision of an *approved* level of public safety.

~~**403.2.1 Contents.** The public safety plan, where required by Section 403.2, shall address such items~~

- ~~1. as e~~Emergency vehicle ingress and egress
- ~~2. F~~fire protection
- ~~3. e~~Emergency egress or escape routes
- ~~4. e~~Emergency medical services
- ~~5. p~~Public assembly areas
- ~~6. and t~~The directing of both attendees and vehicles, (including the parking of vehicles)
- ~~7. v~~Vendor and food concession distribution
- ~~8. and t~~The need for the presence of law enforcement
- ~~9. and~~The need for fire and emergency medical services personnel at the event.

~~**403.11.3403.3 Crowd managers for gatherings exceeding 1,000 people.** Trained crowd managers shall be provided for. Where facilities or events involve a gathering of where more than 1,000 people, crowd managers shall be provided in accordance with Section 403.11.3.1, persons congregate. The minimum number of crowd managers shall be established at a ratio of one crowd manager to every 250 persons. Where *approved* by the *fire code official*, the ratio of crowd managers shall be permitted to be reduced where the facility is equipped throughout with an *approved automatic sprinkler system* or based upon the nature of the event.~~

**403.11.3.1 Number of crowd managers.** The minimum number of crowd managers shall be established at a ratio of one crowd manager for to every 250 persons.

**Exception:** Where *approved* by the *fire code official*, the ratio number of crowd managers shall

be permitted to be reduced where the facility is equipped throughout with an *approved automatic sprinkler system* or based upon the nature of the event.

Revise Section 404 as follows:

## SECTION 404 FIRE SAFETY, ~~AND EVACUATION~~ AND LOCKDOWN PLANS

**404.1 General.** Where required by Section 403, ~~Fire safety, evacuation and lockdown plans and associated drills shall comply with the requirements of Sections 404.2 through 404.4;~~ 404.5.1.

*(existing Section 404.2 is relocated and merged into Section 403 with the remaining sections renumbered)*

**404.2 Where required.** ~~An approved fire safety and evacuation plan shall be prepared and maintained for the following occupancies and buildings.~~

- ~~1. Group A, other than Group A occupancies used exclusively for purposes of religious worship that have an *occupant load* less than 2,000.~~
- ~~2. Group B buildings having an *occupant load* of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.~~
- ~~3. Group E.~~
- ~~4. Group F buildings having an *occupant load* of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.~~
- ~~5. Group H.~~
- ~~6. Group I.~~
- ~~7. Group R-1.~~
- ~~8. Group R-2 college and university buildings.~~
- ~~9. Group R-4.~~
- ~~10. High-rise buildings.~~
- ~~11. Group M buildings having an *occupant load* of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.~~
- ~~12. Covered malls exceeding 50,000 square feet (4645 m<sup>2</sup>) in aggregate floor area.~~
- ~~13. Open mall buildings exceeding 50,000 square feet (4645 m<sup>2</sup>) in aggregate area within perimeter line.~~
- ~~14. Underground buildings.~~
- ~~15. Buildings with an atrium and having an occupancy in Group A, E or M.~~
- ~~16. SRGF.3~~

Revise Section 405 as follows:

## SECTION 405 EMERGENCY EVACUATION DRILLS

**405.1 General.** ~~Emergency evacuation drills complying with the provisions of this section~~ Sections 405.2 through 405.9 shall be conducted at least annually in the occupancies listed in Section 404.2 where fire safety and evacuation plans are required by Section 403 or when required by the *fire code official*. Drills shall be designed in cooperation with the local authorities.

**Exception:** Emergency evacuation drills shall not be conducted in school buildings during periods of mandatory testing required by the Virginia Board of Education.

**405.2 Frequency.** Required emergency evacuation drills shall be held at the intervals specified in Table 405.2 or more frequently where necessary to familiarize all occupants with the drill procedure.

**405.2.1 High-rise buildings.** Fire exit drills shall be conducted annually by building staff personnel or the owner of the building in accordance with the fire safety plan and shall not affect other current occupants.

**405.3 Leadership.** Responsibility for the planning and conduct of drills shall be assigned to competent persons designated to exercise leadership.

**405.4 Time.** Drills shall be held at unexpected times and under varying conditions to simulate the unusual conditions that occur in case of fire.

**405.5 Record keeping.** Records shall be maintained of required emergency evacuation drills and include the following information:

1. Identity of the person conducting the drill.
2. Date and time of the drill.
3. Notification method used.
4. ~~Staff members~~ Employees on duty and participating.
5. Number of occupants evacuated.
6. Special conditions simulated.
7. Problems encountered.
8. Weather conditions when occupants were evacuated.
9. Time required to accomplish complete evacuation.

**TABLE 405.2  
FIRE AND EVACUATION DRILL  
FREQUENCY AND PARTICIPATION**

Group or Occupancy	Frequency	Participation
Group A	Quarterly	Employees
Group B <sup>c</sup>	Annually	Employees
Group E	Monthly <sup>z</sup>	All occupants
Group F	Annually	Employees
Group I	Quarterly on each shift	Employees <sup>b</sup>
Group R-1	Quarterly on each shift	Employees
Group R-2 <sup>d</sup>	Four annually	All occupants
Group R-4	Quarterly on each shift	Employees <sup>b</sup>
High-rise buildings	Annually	Employees
SRCF	Monthly	All occupants

a. ~~In severe climates, the fire code official shall have the authority to modify the emergency evacuation drill frequency. The frequency shall be allowed to be modified in accordance with Section 408.3.2.~~

b. Fire and evacuation drills in residential care assisted living facilities shall include complete evacuation of the premises in accordance with Section ~~403.9.3.6~~ 408.10.5. Where occupants receive habilitation or rehabilitation training, fire prevention and fire safety practices shall be included as part of the training program.

c. Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.

d. Applicable to Group R-2 college and university buildings in accordance with Section ~~403.9.2.1~~ 408-3.

**405.6 Notification.** Where required by the *fire code official*, prior notification of emergency evacuation drills shall be given to the *fire code official*.

**405.7 Initiation.** Where a fire alarm system is provided, emergency evacuation drills shall be initiated by activating the fire alarm system.

**405.8 Accountability.** As building occupants arrive at the assembly point, efforts shall be made to determine if all occupants have been successfully evacuated or have been accounted for.

**405.9 Recall and reentry.** An electrically or mechanically operated signal used to recall occupants after an evacuation shall be separate and distinct from the signal used to initiate the evacuation. The recall signal initiation means shall be manually operated and under the control of the person in charge of the premises or the official in charge of the incident. No one shall reenter the premises until authorized to do so by the official in charge.

Revise Section 406 as follows:

**406.1 General.** ~~Where fire safety and evacuation plans are required by Section 403, Employees in the occupancies listed in Section 404.2 shall be trained in the fire emergency procedures described in their fire evacuation and fire safety plans. Training shall be based on plans prepared in accordance with Section 404, these plans and as described in Section 404.3.~~

**406.2 Frequency.** Employees shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the *fire code official* upon request.

**406.3 Employee training program.** Employees shall be trained in fire prevention, evacuation and fire safety in accordance with Sections 406.3.1 through 406.3.4.

**406.3.1 Fire prevention training.** Employees shall be apprised of the fire hazards of the materials and processes to which they are exposed. Each employee shall be instructed in the proper procedures for preventing fires in the conduct of their assigned duties.

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

**406.3.3 Emergency lockdown training.** ~~Where a facility has a lockdown plan, employees shall be trained on their assigned duties and procedures in the event of an emergency lockdown.~~ (moved to Section 406.4)

**406.3.34 Fire safety training.** Employees assigned firefighting duties shall be trained to know the locations and proper use of portable fire extinguishers or other manual fire-fighting equipment and the protective clothing or equipment required for its safe and proper use.

~~406.4~~**406.3.3 Emergency lockdown training.** Where a facility has a lockdown plan, employees shall be trained on their assigned duties and procedures in the event of an emergency lockdown.

Delete Section 408 (existing Section 408 has been relocated to Section 403) and revise Section 311.1 as follows:

**311.1 General.** Temporarily unoccupied buildings, structures, premises or portions thereof, including tenant spaces, shall be safeguarded and maintained in accordance with Sections 311.1.1 through 311.5.65.

**Add a Section 311.6 as follows:**

**311.6. 408.11.3 Maintenance-Unoccupied tenant spaces in mall buildings.** Unoccupied tenant spaces in covered and open mall buildings shall be:

1. Kept free from the storage of any materials.
2. Separated from the remainder of the building by partitions of at least 0.5-inch-thick (12.7 mm) gypsum board or an *approved* equivalent to the underside of the ceiling of the adjoining tenant spaces.
3. Without doors or other access openings other than one door that shall be kept key locked in the closed position except during that time when opened for inspection.
4. Kept free from combustible waste and be broom swept clean.

Supporting Statement (including intent, need, and impact of the proposal):

This proposal restructures Chapter 4 to place all of the core requirements in the front of the chapter in Section 403. The current code splits such requirements between Section 404.2 and Section 408, making the code difficult to follow and apply. Section 403 in this proposal includes the requirements previously included in Sections 404.2 and 408, which have been merged by occupancy classification or as otherwise appropriate.

This is a replication of ICC Code Change F25-13 that was accepted "As Submitted" on a 14-0 vote at the Dallas CAH, April 2013.

**The overall intent of this proposal is editorial revision.** Provisions have been relocated and text has been edited in an effort to clarify what is believed to be the current intent without technical change and to improve readability. One section dealing with maintenance of unoccupied tenant spaces in malls was determined to be improperly located in Chapter 4 and was moved to Chapter 3 with other vacant use regulations.

In preparing this proposal, it was noted that the provisions for emergency evacuation drills for Group I-1 (403.7.1.6 of the rewrite) and Group R-4 (403.9.3.6 of the rewrite) are not consistent. This may have been deliberate when Chapter 4 was originally written, but it warrants a review to determine if the inconsistency is appropriate.

One change that was made corrects an error made by the Code Correlation Committee when they made what was believed to be an editorial addition to the code in Section 408.9.3 of the 2012 edition. That addition referenced Section 404.4 for review and updating of evacuation diagrams for any Group R-2 dormitory. The reference to Section 404.4 was incorrect because that section only relates to fire safety and evacuation plans, which are not required for Group R-2 except for college and university buildings. This error has been fixed in Section 403.9.2.3.

Because of the complexity of these revisions in legislative format, a clean copy of the final text is provided below to allow an easier review of the proposed text.

## **SECTION 403**

### **EMERGENCY PREPAREDNESS REQUIREMENTS**

**403.1 General.** In addition to the requirements of Section 401, occupancies, uses and outdoor locations shall comply with the emergency preparedness requirements set forth in Sections 403.2 through 403.11. Where a firesafety and evacuation plan is required by Sections 403.2 through 403.11, evacuation drills shall be in accordance with Section 405 and employee training shall be in accordance with Section 406.

**403.2 Group A occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group A occupancies, other than those occupancies used exclusively for purposes of religious worship with an *occupant load* less than 2,000, and for buildings containing both a Group A occupancy and an atrium. Group A occupancies shall also comply with Sections 403.2.1 through 403.2.4.

**403.2.1 Seating plan.** In addition to the requirements of Section 404.2, the fire safety and evacuation plans for assembly occupancies shall include a detailed seating plan, *occupant load* and *occupant load limit*. Deviations from the *approved* plans shall be allowed provided the *occupant load limit* for the occupancy is not exceeded and the *aisles* and exit accessways remain unobstructed.

**403.2.2 Announcements.** In theaters, motion picture theaters, auditoriums and similar assembly occupancies in Group A used for noncontinuous programs, an audible announcement shall be made not more than 10 minutes prior to the start of each program to notify the occupants of the location of the exits to be used in the event of a fire or other emergency.

**Exception:** In motion picture theaters, the announcement is allowed to be projected upon the screen in a manner *approved* by the *fire code official*.

**403.2.2.1 Night clubs.** Night clubs shall comply with Sections 408.2.2.1.1 and 408.2.2.1.2.

**408.2.2.1.1 Audible announcements.** Audible announcements shall be made to the occupants no longer than 10 minutes prior to the start of the entertainment and at each intermission to notify the occupants of the location of the exits to be used in the event of a fire or other emergency.

**408.2.2.1.2. Occupant load count.** Upon request of the fire code official, the owner or operator, or both, will be required to keep a running count of the occupant load to provide to the fire code official during performance hours of operation, entertainment hours of operation, or both.

**403.2.3 Fire watch personnel.** Fire watch personnel shall be provided where required by Section 403.11.1.

**403.2.4 Crowd managers.** Crowd managers shall be provided where required by Section 403.11.3.

**403.3 Group B occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for buildings containing a Group B occupancy where the Group B occupancy has an *occupant load* of 500 or more persons or more than 100 persons above or below the lowest *level of exit discharge*.

**403.4 Group E occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group E occupancies and for buildings containing both a Group E occupancy and an atrium. Group E occupancies shall also comply with Section 403.4.1

**403.4.1 Group E occupancy college and university buildings.** Group E occupancy college and university buildings shall comply with Sections 403.4.1.1 through 403.4.1.3

**403.4.1.1 First emergency evacuation drill.** The first emergency evacuation drill of each school year shall be conducted within 10 days of the beginning of classes.

**403.4.1.2 Time of day.** Emergency evacuation drills shall be conducted at different hours of the day or evening, during the changing of classes, when the school is at assembly, during the recess or gymnastic periods, or during other times to avoid distinction between drills and actual fires.

**403.4.1.3 Assembly points.** Outdoor assembly areas shall be designated and shall be located a safe distance from the building being evacuated so as to avoid interference with fire department operations. The assembly areas shall be arranged to keep each class separate to provide accountability of all individuals.

**403.5 Group F occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for buildings containing a Group F occupancy where the Group F occupancy has an *occupant load* of 500 or more persons or more than 100 persons above or below the lowest *level of exit discharge*.

**403.6 Group H Occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group H occupancies. Group H-5 occupancies shall also comply with Section 403.6.1.

**403.6.1 Group H-5 occupancies.** Group H-5 occupancies shall comply with Sections 403.6.1.1 through 403.6.1.4

**403.6.1.1 Plans and diagrams.** In addition to the requirements of Section 404 and Section 407.6, plans and diagrams shall be maintained in *approved* locations indicating the approximate plan for each area, the amount and type of HPM stored, handled and used, locations of shutoff valves for HPM supply piping, emergency telephone locations and locations of exits.

**403.6.1.2 Plan updating.** The plans and diagrams required by Section 404, 403.6.1.1 and 407.6 shall be maintained up to date and the *fire code official* and fire department shall be informed of major changes.

**403.6.1.3 Emergency response team.** Responsible persons shall be designated as an on-site emergency response team and trained to be liaison personnel for the fire department. These persons shall aid the fire department in preplanning emergency responses, identifying locations where HPM is stored, handled and used, and be familiar with the chemical nature of such material. An adequate number of personnel for each work shift shall be designated.

**403.6.1.4 Emergency drills.** Emergency drills of the on-site emergency response team shall be conducted on a regular basis but not less than once every three months. Records of drills conducted shall be maintained.

**403.7 Group I occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group I occupancies. Group I occupancies shall also comply with Sections 403.7.1 through 403.7.3

**403.7.1 Group I-1 occupancies.** Group I-1 occupancies shall comply with Sections 403.7.1.1 through 403.7.1.6

**403.7.1.1 Fire safety and evacuation plan.** The fire safety and evacuation plan required by Section 404 shall include special employee actions, including fire protection procedures necessary for residents, and shall be amended or revised upon admission of any resident with unusual needs.

**403.7.1.2 Employee training.** Employees shall be periodically instructed and kept informed of their duties and responsibilities under the plan. Such instruction shall be reviewed by employees at intervals not exceeding two months. A copy of the plan shall be readily available at all times within the facility.

**403.7.1.3 Resident training.** Residents capable of assisting in their own evacuation shall be trained in the proper actions to take in the event of a fire. The training shall include actions to take if the primary

escape route is blocked. Where the resident is given rehabilitation or habilitation training, training in fire prevention and actions to take in the event of a fire shall be a part of the rehabilitation training program. Residents shall be trained to assist each other in case of fire to the extent their physical and mental abilities permit them to do so without additional personal risk.

**403.7.1.4 Drill frequency.** Emergency evacuation drills shall be conducted at least six times per year, two times per year on each shift. Twelve drills shall be conducted in the first year of operation.

**403.7.1.5 Drill times.** Drill times are not required to comply with Section 405.4.

**403.7.1.6 Resident participation in drills.** Emergency evacuation drills shall involve the actual evacuation of residents to a selected assembly point.

**403.7.2 Group I-2 occupancies.** Group I-2 occupancies shall comply with Sections 403.7.2.1 through 403.7.2.3.

**403.7.2.1 Drill times.** Drill times are not required to comply with Section 405.4.

**403.7.2.2 Evacuation not required.** During emergency evacuation drills, the movement of patients to safe areas or to the exterior of the building is not required.

**403.7.2.3 Coded alarm signal.** When emergency evacuation drills are conducted after visiting hours or when patients or residents are expected to be asleep, a coded announcement is allowed instead of audible alarms.

**403.7.3 Group I-3 occupancies.** Group I-3 occupancies shall comply with Sections 403.7.3.1 through 403.7.3.4.

**403.7.3.1 Employee training.** Employees shall be instructed in the proper use of portable fire extinguishers and other manual fire suppression equipment. Training of new employees shall be provided promptly upon entrance on duty. Refresher training shall be provided at least annually.

**403.7.3.2 Employee staffing.** Group I-3 occupancies shall be provided with 24-hour staffing. An employee shall be within three floors or 300 feet (91 440 mm) horizontal distance of the access door of each resident housing area. In Conditions 3, 4 and 5, as defined in "Occupancy Classification – Institutional Group I-3" in Chapter 2, the arrangement shall be such that the employee involved can start release of locks necessary for emergency evacuation or rescue and initiate other necessary emergency actions within 2 minutes of an alarm.

**Exception:** An employee shall not be required to be within three floors or 300 feet (9144 mm) in areas in which all locks are unlocked remotely and automatically in accordance with Section 408.4 of the *International Building Code*.

**403.7.3.3 Notification.** Provisions shall be made for residents in Conditions 3, 4 and 5, as defined in "Occupancy Classification – Institutional Group I-3" in Chapter 2, to readily notify an employee of an emergency.

**403.7.3.4 Keys.** Keys necessary for unlocking doors installed in a *means of egress* shall be individually identifiable by both touch and sight.

**403.8 Group M occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for buildings containing a Group M occupancy, where the Group M occupancy has an

*occupant load* of 500 or more persons or more than 100 persons above or below the lowest *level of exit discharge*, and for buildings containing both a Group M occupancy and an atrium.

### **403.9 Group R occupancies.**

**403.9.1 Group R-1 occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group R-1 occupancies. Group R-1 occupancies shall also comply with Sections 403.9.1.1 through 403.9.1.3.

**403.9.1.1 Evacuation diagrams.** A diagram depicting two evacuation routes shall be posted on or immediately adjacent to every required egress door from each hotel or motel sleeping unit.

**403.9.1.2 Emergency duties.** Upon discovery of a fire or suspected fire, hotel and motel employees shall perform the following duties:

1. Activate the fire alarm system, where provided.
2. Notify the public fire department.
3. Take other action as previously instructed.

**403.9.1.3 Fire safety and evacuation instructions.** Information shall be provided in the fire safety and evacuation plan required by Section 404 to allow guests to decide whether to evacuate to the outside, evacuate to an *area of refuge*, remain in place, or any combination of the three.

**403.9.2 Group R-2 occupancies.** Group R-2 occupancies shall comply with Sections 403.9.2.1 through 403.9.2.3.

**403.9.2.1. College and University Buildings.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group R-2 college and university buildings. Group R-2 college and university buildings shall also comply with Sections 403.9.2.1 and 403.9.2.2.

**403.9.2.1.1 First emergency evacuation drill.** The first emergency evacuation drill of each school year shall be conducted within 10 days of the beginning of classes.

**403.9.2.1.2 Time of day.** Emergency evacuation drills shall be conducted at different hours of the day or evening, during the changing of classes, when the school is at assembly, during the recess or gymnastic periods, or during other times to avoid distinction between drills and actual fires. One required drill shall be held during hours after sunset or before sunrise.

**403.9.2.2 Emergency guide.** Fire emergency guides shall be provided for Group R-2 occupancies. Guide contents, maintenance and distribution shall comply with Sections 403.9.2.2.1 through 403.9.2.2.3

**403.9.2.2.1 Guide contents.** Fire emergency guides shall describe the location, function and use of fire protection equipment and appliances accessible to residents, including fire alarm systems, smoke alarms, and portable fire extinguishers. Guides shall also include an emergency evacuation plan for each *dwelling unit*.

**403.9.2.2.2 Emergency guide maintenance.** Emergency guides shall be reviewed and *approved* by the *fire code official*.

**403.9.2.2.3 Emergency guide distribution.** A copy of the emergency guide shall be given to each tenant prior to initial occupancy.

**403.9.2.3 Evacuation diagrams for dormitories.** A diagram depicting two evacuation routes shall be posted on or immediately adjacent to every required egress door from each dormitory sleeping unit. Evacuation diagrams shall be reviewed and updated as needed to maintain accuracy.

**403.9.3 Group R-4 occupancies.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group R-4 occupancies. Group R-4 occupancies shall also comply with Sections 403.9.3.1 through 403.9.3.6.

**403.9.3.1 Fire safety and evacuation plan.** The fire safety and evacuation plan required by Section 404 shall include special employee actions, including fire protection procedures necessary for residents, and shall be amended or revised upon admission of a resident with unusual needs.

**403.9.3.2 Employee training.** Employees shall be periodically instructed and kept informed of their duties and responsibilities under the plan. Such instruction shall be reviewed by employees at intervals not exceeding two months. A copy of the plan shall be readily available at all times within the facility.

**403.9.3.3 Resident training.** Residents capable of assisting in their own evacuation shall be trained in the proper actions to take in the event of a fire. The training shall include actions to take if the primary escape route is blocked. Where the resident is given rehabilitation or habilitation training, training in fire prevention and actions to take in the event of a fire shall be a part of the rehabilitation training program. Residents shall be trained to assist each other in case of fire to the extent their physical and mental abilities permit them to do so without additional personal risk.

**403.9.3.4 Drill frequency.** Emergency evacuation drills shall be conducted at least six times per year, two times per year on each shift. Twelve drills shall be conducted in the first year of operation.

**403.9.3.5 Drill times.** Drills times are not required to comply with Section 405.4.

**403.9.3.6 Resident participation in drills.** Emergency evacuation drills shall involve the actual evacuation of residents to a selected assembly point and shall provide residents with experience in exiting through all required exits. All required exits shall be used during emergency evacuation drills.

**Exception:** Actual exiting from windows shall not be required. Opening the window and signaling for help shall be an acceptable alternative.

#### **403.10 Special uses.**

**403.10.1 Covered and open mall buildings.** Covered and open mall buildings shall comply with the requirements of Sections 403.10.1.1 through 403.10.1.5.

**403.10.1.1 Malls and mall buildings exceeding 50,000 square feet.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for covered malls exceeding 50,000 square feet (4645 m<sup>2</sup>) in aggregate floor area and for open mall buildings exceeding 50,000 square feet (4645 m<sup>2</sup>) in aggregate area within perimeter line.

**403.10.1.2 Lease plan.** In addition to the requirements of Section 404.2.2, a lease plan that includes the following information shall be prepared for each covered and open mall building:

1. Each occupancy, including identification of tenant.
2. *Exits* from each tenant space.

3. Fire protection features, including the following:
  - 3.1. Fire department connections.
  - 3.2. *Fire command center*.
  - 3.3. Smoke management system controls.
  - 3.4. Elevators, elevator machine rooms and controls.
  - 3.5. Hose valve outlets.
  - 3.6. Sprinkler and standpipe control valves.
  - 3.7. Automatic fire-extinguishing system areas.
  - 3.8. Automatic fire detector zones.
  - 3.9. *Fire barriers*.

**403.10.1.3 Lease plan approval.** The lease plan shall be submitted to the *fire code official* for approval, and shall be maintained on site for immediate reference by responding fire service personnel.

**403.10.1.4 Lease plan revisions.** The lease plans shall be revised annually or as often as necessary to keep them current. Modifications or changes in tenants or occupancies shall not be made without prior approval of the *fire code official* and building official.

**403.10.1.5 Tenant identification.** Tenant identification shall be provided for secondary exits from occupied tenant spaces that lead to an *exit corridor* or directly to the exterior of the building. Tenant identification shall be posted on the exterior side of the exit or exit access door and shall identify the business name and/or address using plainly legible letters and numbers that contrast with their background.

**Exception:** Tenant identification is not required for anchor stores.

**403.10.1.6 Unoccupied tenant spaces.** The fire safety and evacuation plan shall provide for compliance with the requirements for unoccupied tenant spaces in Section 311.

**403.10.2 High-rise buildings.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for high-rise buildings.

**403.10.3 Underground buildings.** An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for underground buildings.

**403.10.4 SCRF.** And approved fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for SRCFs.

#### **403.11 Special requirements for public safety.**

**403.11.1 Fire watch personnel.** When, in the opinion of the *fire code official*, it is essential for public safety in a place of assembly or any other place where people congregate, because of the number of persons or the nature of the performance, exhibition, display, contest or activity, the *owner*, agent or lessee shall provide one or more fire watch personnel, as required and *approved*. Fire watch personnel shall comply with Sections 403.11.1.1 and 403.11.1.2.

**403.11.1.1 Duty Times.** Fire watch personnel shall remain on duty during the times places requiring a fire watch are open to the public, or when an activity requiring a fire watch is being conducted.

**403.11.1.2 Duties.** On-duty fire watch personnel shall have the following duties:

1. Keep diligent watch for fires, obstructions to *means of egress* and other hazards
2. Take prompt measures for remediation of hazards and extinguishment of fires that occur

3. Take prompt measures to assist in the evacuation of the public from the structures.

**403.11.2 Public safety plan for gatherings.** In other than Group A or E occupancies, where the *fire code official* determines that an indoor or outdoor gathering of persons has an adverse impact on public safety through diminished access to buildings, structures, fire hydrants and fire apparatus access roads or where such gatherings adversely affect public safety services of any kind, the *fire code official* shall have the authority to order the development of or prescribe a public safety plan that provides an approved level of public safety and addresses the following items:

1. Emergency vehicle ingress and egress
2. Fire protection
3. Emergency egress or escape routes
4. Emergency medical services
5. Public assembly areas
6. The directing of both attendees and vehicles, including the parking of vehicles
7. Vendor and food concession distribution
8. The need for the presence of law enforcement
9. The need for fire and emergency medical services personnel.

**403.11.3 Crowd managers for gatherings exceeding 1,000 people.** Where facilities or events involve a gathering of more than 1,000 people, crowd managers shall be provided in accordance with Section 403.11.3.1.

**403.11.3.1 Number of crowd managers.** The minimum number of crowd managers shall be established at a ratio of one crowd manager for every 250 persons.

**Exception:** Where *approved* by the *fire code official*, the number of crowd managers shall be permitted to be reduced where the facility is equipped throughout with an *approved automatic sprinkler system* or based upon the nature of the event.

## SECTION 404 FIRE SAFETY, EVACUATION AND LOCKDOWN PLANS

**404.1 General.** Where required by Section 403, fire safety, evacuation and lockdown plans shall comply with Sections 404.2 through 404.4.1.

*(existing Section 404.2 is relocated and merged into Section 403 with the remaining sections renumbered)*

## SECTION 405 EMERGENCY EVACUATION DRILLS

**405.1 General.** Emergency evacuation drills complying with Sections 405.2 through 405.9 shall be conducted at least annually where firesafety and evacuation plans are required by Section 403 or when required by the *fire code official*. Drills shall be designed in cooperation with the local authorities.

**405.2 Frequency.** Required emergency evacuation drills shall be held at the intervals specified in Table 405.2 or more frequently where necessary to familiarize all occupants with the drill procedure.

**405.3 Leadership.** Responsibility for the planning and conduct of drills shall be assigned to competent persons designated to exercise leadership.

**405.4 Time.** Drills shall be held at unexpected times and under varying conditions to simulate the unusual conditions that occur in case of fire.

**405.5 Record keeping.** Records shall be maintained of required emergency evacuation drills and include the following information:

1. Identity of the person conducting the drill.
2. Date and time of the drill.
3. Notification method used.
4. Employees on duty and participating.
5. Number of occupants evacuated.
6. Special conditions simulated.
7. Problems encountered.
8. Weather conditions when occupants were evacuated.
9. Time required to accomplish complete evacuation.

**TABLE 405.2  
FIRE AND EVACUATION DRILL  
FREQUENCY AND PARTICIPATION**

Group or Occupancy	Frequency	Participation
Group A	Quarterly	Employees
Group B <sup>c</sup>	Annually	Employees
Group E	Monthly <sup>z</sup>	All occupants
Group F	Annually	Employees
Group I	Quarterly on each shift	Employees <sup>b</sup>
Group R-1	Quarterly on each shift	Employees
Group R-2 <sup>d</sup>	Four annually	All occupants
Group R-4	Quarterly on each shift	Employees <sup>b</sup>
High-rise buildings	Annually	Employees
SRCF	Monthly	All occupants

- a. In severe climates, the *fire code official* shall have the authority to modify the emergency evacuation drill frequency.
- b. Fire and evacuation drills in residential care assisted living facilities shall include complete evacuation of the premises in accordance with Section 403.9.3.6. Where occupants receive habilitation or rehabilitation training, fire prevention and fire safety practices shall be included as part of the training program.
- c. Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
- d. Applicable to Group R-2 college and university buildings in accordance with Section 403.9.2.1.

**405.6 Notification.** Where required by the *fire code official*, prior notification of emergency evacuation drills shall be given to the *fire code official*.

**405.7 Initiation.** Where a fire alarm system is provided, emergency evacuation drills shall be initiated by activating the fire alarm system.

**405.8 Accountability.** As building occupants arrive at the assembly point, efforts shall be made to determine if all occupants have been successfully evacuated or have been accounted for.

**405.9 Recall and reentry.** An electrically or mechanically operated signal used to recall occupants after an evacuation shall be separate and distinct from the signal used to initiate the evacuation. The recall signal initiation means shall be manually operated and under the control of the person in charge of the premises or the official in charge of the incident.

No one shall reenter the premises until authorized to do so by the official in charge.

## SECTION 406 EMPLOYEE TRAINING AND RESPONSE PROCEDURES

**406.1 General.** Where fire safety and evacuation plans are required by Section 403, employees shall be trained in fire emergency procedures based on plans prepared in accordance with Section 404.

**406.2 Frequency.** Employees shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the *fire code official* upon request.

**406.3 Employee training program.** Employees shall be trained in fire prevention, evacuation and fire safety in accordance with Sections 406.3.1 through 406.3.4.

**406.3.1 Fire prevention training.** Employees shall be apprised of the fire hazards of the materials and processes to which they are exposed. Each employee shall be instructed in the proper procedures for preventing fires in the conduct of their assigned duties.

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

**406.3.3 Fire safety training.** Employees assigned firefighting duties shall be trained to know the locations and proper use of portable fire extinguishers or other manual fire-fighting equipment and the protective clothing or equipment required for its safe and proper use.

**406.4 Emergency lockdown training.** Where a facility has a lockdown plan, employees shall be trained on their assigned duties and procedures in the event of an emergency lockdown.

## CHAPTER 3

**311.1 General.** Temporarily unoccupied buildings, structures, premises or portions thereof, including tenant spaces, shall be safeguarded and maintained in accordance with Sections 311.1.1 through 311.5.6.

**311.6. Unoccupied tenant spaces in mall buildings.** Unoccupied tenant spaces in covered and open mall buildings shall be:

1. Kept free from the storage of any materials.
2. Separated from the remainder of the building by partitions of at least 0.5-inch-thick (12.7 mm) gypsum board or an *approved* equivalent to the underside of the ceiling of the adjoining tenant spaces.
3. Without doors or other access openings other than one door that shall be kept key locked in the closed position except during that time when opened for inspection.
4. Kept free from combustible waste and be broom swept clean.

### Submittal Information

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual     Government Entity     Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC Section 404.2 and 405.5.1

Proposed Change (including all relevant section numbers, if multiple sections):

**404.2 Where required.** An *approved* fire safety and evacuation plan shall be prepared and maintained for the following occupancies and buildings.

1. Group A, other than Group A occupancies used exclusively for purposes of religious worship that have an *occupant load* less than 2,000.
2. Group B buildings having an *occupant load* of 500 or more persons or more than 100 persons above or below the *lowest level of exit discharge*.
3. Group E.
4. Group F buildings having an *occupant load* of 500 or more persons or more than 100 persons above or below the *lowest level of exit discharge*.
5. Group H.
6. Group I.
7. Group R-1.
8. Group R-2 college and university buildings.
9. Group R-4.
10. High-rise buildings.
11. Group M buildings having an *occupant load* of 500 or more persons or more than 100 persons above or below the *lowest level of exit discharge*.
12. Covered malls exceeding 50,000 square feet (4645 m<sup>2</sup>) in aggregate floor area.
13. Open mall buildings exceeding 50,000 square feet (4645 m<sup>2</sup>) in aggregate area within perimeter line.
14. Underground buildings.
15. Buildings with an atrium and having an occupancy in Group A, E or M.
16. SRCF.
17. Group R-3 and R-5 bed and breakfast and other transient boarding facilities that are either proprietor or non-proprietor occupied.

**404.5 Availability.** Fire safety and evacuation plans shall be available in the workplace for reference and review by employees, and copies shall be furnished to the *fire code official* for review upon request.

**404.5.1 Distribution.** The fire safety and evacuation plans shall be distributed to the tenants and building service employees by the *owner* or *owner's* agent. Tenants shall distribute to their employees applicable parts of the fire safety plan affecting the employees' actions in the event of a fire or other emergency. Fire safety and evacuation plans shall be made available by the proprietor of Group R-3 and R-5 bed and breakfast and other transient boarding facilities to transient guests upon their arrival or are present in each transient guest room.

Code Change - F404.2, SFMO.docx

Supporting Statement (including intent, need, and cost impact of the proposal):

For the same reasons fire safety and evacuation information is to be provided to hotel and motel guests (Group R-1), it should be made to guests of B&Bs (R-3 and R-5). These guests are transient and not readily familiar with the building and may only be present for one night.

The proposed requirement is not intended to be a vehicle to require the installation of equipment beyond what is required by the USBC for these specific transient facilities. Nor is there a requirement to conduct drills. By example, while the fire code requires a fire safety plan to contain the procedures to report a fire or other emergency, or location of "occupant-use hose stations", the plan for B&Bs would only note the procedure for reporting an emergency and would be silent on hose stations. The proposed change could not be used to get hose stations installed. The same is said of the "identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires" versus showing a primary and secondary evacuation route out of the building. The plan would show the routes out of a building but would be silent on maintenance of systems and equipment. Only those items in Sections 404.3 and 404.3.2 that are within the nature of B&Bs would be listed in the plan's content.

Submittal Information

Date Submitted: X/XX/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Joel S. Baker

Representing: County of Roanoke

Mailing Address: 5204 Bernard Drive, Roanoke, VA 24018

Email Address: jbaker@roanokecountyva.gov

Telephone Number: 540-776-7300

Proposal Information

Code(s) and Section(s): 503.1, Exception 1

Proposed Change (including all relevant section numbers, if multiple sections):

Modify Exception 1.

In lieu of the requirements of this section and Sections 503.2 and 503.3, fire apparatus access roads shall be permitted to be provided, constructed and maintained in accordance with written policy and standards that establish fire apparatus access road requirements and such requirements shall be identified to the owner or his agent prior to the building official's approval of the building permit.

Supporting Statement (including intent, need, and cost impact of the proposal):

Would permit a locality that has developed local private street construction standards to also include design and construction standards for fire apparatus access roads when such standards are utilized.

When a locality chooses to develop private street and road standards, they should also be permitted to include the design of fire apparatus access roads as part of that standard. The current Section 503 allows a locality to make an exception for requiring access roads initially through a local written policy, but does not appear to permit a locality to also develop the design standards. This would give the locality that ability in order to address specific local conditions.

This change would not increase and has the potential to decrease construction costs.

Submittal Information

Date Submitted: 02/20/2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson

Representing: Fire Services Board Code Committee

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-748-1426

Proposal Information

Code(s) and Section(s): SFPC – listed sections for deletion of existing building references

Proposed Change (including all relevant section numbers, if multiple sections):

Change Section 607.1 to read:

~~607.1 Emergency eOperation.~~ Existing elevators with a travel distance of 25 feet (7620 mm) or more shall comply with the requirements in Chapter 11. ~~New elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1 of Section 506.3 and the Virginia Maintenance Code (13VAC5-63-450).~~

Change Section 704.1 to read:

~~704.1 Enclosure.~~ Interior vertical shafts including, but not limited to, ~~stairways,~~ elevator hoistways, service and utility shafts, that connect two or more stories of a building shall be enclosed or protected as required in Chapter 11. New floor openings in existing buildings shall comply with the *International Building Code*.

Change Section 903.6 to read:

~~903.6 Where required in existing buildings and structures.~~ An automatic sprinkler system shall be provided in existing buildings and structures where required in Chapter 11 in accordance with Section 102.7 of this code.

Delete Section 905.11:

~~905.11 Existing buildings.~~ Where required in Chapter 11, existing structures shall be equipped with standpipes installed in accordance with Section 905.

Change Section 907.1 to read:

~~907.1 General.~~ This section covers the application, installation, performance and maintenance of fire alarm systems and their components in new and existing buildings and structures. The requirements of Section 907.2 are applicable to new buildings and structures. ~~The requirements of Section 907.9 are applicable to existing buildings and structures.~~

Delete Section 907.9:

~~907.9 Where required in existing buildings and structures.~~ An approved fire alarm system shall be provided in existing buildings and structures where required in Chapter 11.

Change Section 1029.4 to read:

**[B] 1029.4 Operational constraints.** *Emergency escape and rescue openings* shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over *emergency escape and rescue openings* provided the minimum net clear opening size complies with Section 1029.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the

escape and rescue opening. ~~Where such bars, grilles, grates or similar devices are installed in existing buildings, and where smoke alarms shall be~~ installed in accordance with Section 907.2.11 and approved by the building official regardless of the valuation of the *alteration*.

Change title page to read:  
**Chapters ~~1211~~ through 19**  
**Reserved**

Supporting Statement (including intent, need, and impact of the proposal):

Along with the continued deletion of Chapter 11 for construction requirements for existing buildings out of the SFPC, this change is to delete or change those other sections within the body of the SFPC that still make reference to a chapter that's deleted or provide for an obvious conflict with the USBC.

The change to Section 1029.4 is to ensure bars, grilles, grates and other such barriers are not installed without some other compensating measure for ensuring safety and egress.

### Submittal Information

Date Submitted: 12/7/12

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
Main Street Centre  
600 E. Main St., Ste. 300  
Richmond, VA 23219

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson

Representing: Fire Services Board Code Committee

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): Modified 609.3.3.3; New 609.3.3.3.1

Proposed Change (including all relevant section numbers, if multiple sections):

**Add new text as follows:**

**609.3.3.3 Records.** Records for inspections shall state the individual and company performing the inspection, a description of the inspection and when the inspection took place. Records for cleanings shall state the individual and company performing the cleaning and when the cleaning took place. Such records shall be completed after each inspection or cleaning, and maintained on the premises for a minimum of three years and be copied to the *fire code official* upon request.

**609.3.3.3.1 Tags.** Where a commercial kitchen hood or duct system is cleaned, a tag containing the service provider name, address, telephone number and date of service shall be provided in a conspicuous location. Prior tags shall be covered or removed.

**Exception:** Where records required by Section 609.3.3.3 are maintained on the premises.

Supporting Statement (including intent, need, and cost impact of the proposal):

The new language requires a tag or similar posting of when the last cleaning was completed. This is presently being done by a number of cleaning contractors and has proven to be beneficial while conducting inspections in the field for determining cleaning effectiveness.

The proposed text clarifies necessary marking requirements to visually confirm serviceability of commercial kitchen hood and ducting systems. The text is consistent with the requirements set forth in ANSI/IKECA C-10, which is proposed for adoption by a separate code change.

This is a replication of ICC/IFC Code Change F93-13 that was recommended for approval at the Dallas CAH with a 14-0 committee vote, with the addition of an exception that allows the business owner to maintain other written reports or documentation on site as previously required. This would allow small businesses who maintain their records locally to continue with their present practice and require larger chain operators to have some form of documentation of the cleaning of the hood in order to show the inspector when the hood was cleaned. Many larger chain operators maintain records centrally and do not have these available at the business location.

Submittal Information

Date Submitted: 6/3/2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD placeholder

Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s) 2012 SFPC 703.1.1

Proposed Change (including all relevant section numbers, if multiple sections):

SFPC 703.1.1 Delete section

Supporting Statement (including intent, need, and cost impact of the proposal):

. Because most all buildings, sprinkled or unsprinkled, have fire-resistant components and assemblies this means all existing buildings shall be visually inspected other than the exception. Both the SFPC and the USBC VMC already requires owners to maintain their buildings. Do all buildings have to have annual inspections? Will owners know what is to be inspected? Will owners have to prepare and keep a report where and for how long? What kind of enforcement will occur is an annual visual inspection is not done and the periodic SFPC or USBC VMC inspection finds damaged walls or ceilings? At very least there should be more specifics identified so there is some uniformity in application and enforcement.

Submittal Information

Date Submitted: July 1, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson

Representing: Fire Services Board Code Committee

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-748-1426

Proposal Information

Code(s) and Section(s): SFPC Section 3406.1

Proposed Change (including all relevant section numbers, if multiple sections):

**SECTION 3406  
FIRE DEPARTMENT ACCESS**

**3406.1 Required access.** New and existing tire storage yards shall be provided with fire apparatus access roads in accordance with Section 503 and Section 3406.2. ~~Existing tire storage yards shall be provided with fire apparatus access roads where required in Chapter 11.~~

**3406.2 Location.** Fire apparatus access roads shall be located within all pile clearances identified in Section 3405.4 and within all fire breaks required in Section 3405.5. Access roadways shall be within 150 feet (45 720 mm) of any point in the storage yard where storage piles are located, at least 20 feet (6096 mm) from any storage pile.

Supporting Statement (including intent, need, and impact of the proposal):

Due to the deletion of Chapter 11, the proposed change to Section 3406.1 will incorporate the deleted requirements into that for existing piles...to put back what was taken out.

This does not impact the manner or materials of construction prohibited by current Virginia Code as it deals with fire apparatus access that is beyond the scope of the USBC.

Submittal Information

Date Submitted: June 3, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Code Change - F3406.1, FSBCC.doc

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ron Reynolds

Representing: SFMO

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ron.reynolds@vdfp.virginia.gov

Telephone Number: 804-612-7268

Proposal Information

Code(s) and Section(s): USBC Sections 116.2, 307.1, 425.1, and SFPC Section 5001.3 SUBSTITUTE CHANGE

Proposed Change (including all relevant section numbers, if multiple sections):

Change **USBC** Section 116.2 to read as follows:

**116.2 Contents of certificate.** A certificate of occupancy shall specify the following:

1. The edition of the USBC under which the permit is issued.
2. The group classification and occupancy in accordance with the provisions of Chapter 3.
3. The type of construction as defined in Chapter 6.
4. If an automatic sprinkler system is provided and whether or not such system was required.
5. Any special stipulations and conditions of the building permit and if any modifications or approved alternatives were issued under the permit, there shall be a notation on the certificate that alternatives were approved or modifications were issued.

Add new exception #14 to **USBC** Section 307.1 to read as follows:

14. Laboratory buildings and facilities in which hazardous materials are stored, used or handled when such laboratory buildings and facilities comply with Virginia Construction Code Section 425.

Add new **USBC** Section 425 to read as follows:

425.1 General. When approved as an acceptable design and construction alternative to the requirements set forth elsewhere in the Virginia Construction Code, laboratory buildings and facilities shall comply with the design and construction requirements of NFPA 45 and its referenced standards and Section 425.1.1.

425.1.1. Requirements for life safety. The life safety and construction features of laboratories and facilities shall comply with the following:

1. Penetrations through fire rated floor/ceiling and wall assemblies, rated window assemblies, and protection of vertical shaft openings shall comply with Chapter 7 of the VCC.
2. The hourly fire separation specified in Table 5.1.1. of NFPA 45 for laboratory units shall be constructed as a fire barrier or horizontal assembly in accordance with the VCC. The floor assembly and supporting construction shall be of the same hourly rating as required for laboratory unit separation.
3. Emergency lighting and exit requirements shall comply with Chapter 10 of the VCC.

**425.2 Quantity limitations.** When used as an acceptable design and construction alternative for laboratories and facilities, the chemical inventories in each laboratory unit shall be maintained within the maximum allowable quantities specified in the applicable fire prevention or building code except as modified by NFPA 45, Chapter 10 for buildings with more than three stories.

**425.2.1 Hazardous materials not listed.** When hazardous materials to be stored, handled or used in laboratories or facilities are not listed in NFPA 45, the requirements for the hazardous materials not listed shall comply with the VCC.

Add the following standard to **USBC** Chapter 35, Referenced Standards:  
NFPA 45-11, Standard on Fire Protection for Laboratories Using Chemicals

---

Change **SFPC** Section 5001.3 to read as follows:

**5001.3 Performance-based design alternative.** *When approved by the fire code official, buildings and facilities where hazardous materials are stored, used or handled shall be permitted to comply with this section as an alternative to compliance with the other requirements set forth in this chapter and Chapters 51 through 67.* When approved by the building and fire code official, laboratories where hazardous materials are stored, used or handled shall be permitted to comply with VCC Section 425 and Sections 5001.3.1 through 5001.3.3.18 as an alternative to compliance with the other requirements set forth in this chapter and Chapters 51 through 67.

Add the following standard to **SFPC** Chapter 80, Referenced Standards:  
NFPA 45-11, Standard on Fire Protection for Laboratories Using Chemicals

Supporting Statement (including intent, need, and cost impact of the proposal):

This is a substitute change to what was previously submitted by the SFMO. It is a proposal developed at a August 7th meeting held at UVA and a subsequent exchanges of emails.

The concept in the original supporting statement is still applicable and valid. This substitute change refines the desired change and to address issues, concerns and technicalities that arose from previous meetings on the matter.

Based on input from client groups, this could save thousands of dollars in new construction and renovation costs, while at the same time, provide an equal or higher level of safety to a building's occupants.

### Submittal Information

Date Submitted: 8/21/13 as a substitute to change submitted 6/3/13

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Staff, for consideration by the Sub-workgroup on Laboratories

Proposal Information

Code(s) and Section(s): Virginia Construction Code, IBC Table 307.1(1)

Proposed Change (including all relevant section numbers, if multiple sections):

Change footnote b in IBC Table 307.1(1) as follows:

b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage, except that the amount of flammable and combustible liquids in use in instructional or educational laboratory units classified as Class C or D in accordance with NFPA 45 listed in Chapter 35 shall not contribute to the aggregate quantity listed for storage.

Supporting Statement (including intent, need, and cost impact of the proposal):

This proposal is to recognize that in instructional and educational laboratories, the amounts of flammable and combustible liquids in use are adequately dispersed and do not represent a fire hazard exceeding that of other occupancies, therefore the amounts in use should not be included in the computation for control area requirements.

Submittal Information

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC Section 902.3 and 906.4

Proposed Change (including all relevant section numbers, if multiple sections):

Add new definition to Section 202 to read as follows:

**Fire Extinguisher Service Technician.** A person who is experienced and trained and has available the appropriate servicing manual(s), the proper type of tools, recharge materials, lubricants, and manufacturer's recommended replacement parts or parts specifically listed for use in fire extinguishers.

Add the following to the list of definitions in Section 902.1:

**Fire Extinguisher Service Technician.**

Delete Section 906.2.1 in its entirety without substitution.

~~**906.2.1 Certification of service personnel for portable fire extinguishers.** Service personnel providing or conducting maintenance on portable fire extinguishers shall possess a valid certificate issued by an approved governmental agency, or other approved organization for the type of work performed.~~

Change Sections 906.3 and 906.4 to read as follows and renumber subsequent sections.

**906.3 Certification of portable fire extinguisher service personnel.** Effective nine (9) months after the effective date of this edition of the SFPC, the maintenance, servicing, and recharging of portable fire extinguishers shall be performed by trained and certified personnel, or shall be performed by personnel under the direct on-site supervision of a trained and certified person.

**906.3.1 Certification of service personnel.** Certification as a Fire Extinguisher Service Technician shall be obtained from the SFMO. The SFMO shall process all applications for certification as a fire extinguisher service technician and issue a certificate to an applicant upon:

1. Providing proof of having completed any fire extinguisher manufacturer's fire extinguisher service equipment certification program, and

2. Providing proof that the applicant has:

a. An existing and valid certification or license to perform service on fire extinguishers issued by any other state or federal government entity or;

b. Successfully completed the ICC/NAFED Fire Extinguisher Technician Certification program.

906.3.2 Fee for certification. The fee for obtaining or renewing a certificate as a fire extinguisher service technician from the SFMO shall be \$90 and shall accompany the application to obtain a certificate.

906.3.2.1 Fee for replacement certificate. A written request for a replacement certificate shall be accompanied the payment of an administrative fee in the amount of twenty dollars (\$20.00) made payable to the Treasurer of Virginia. Verbal requests shall not be accepted.

906.3.3 Expiration and renewal of a certification. A certificate as a fire extinguisher service technician shall be valid for three years from the date of issuance, but no earlier than January 1, 201x, unless renewed for another three year period. It will be the applicant's responsibility to provide a change of address notice to the SFMO and to renew a certificate in a timely manner. A renewed three year certificate will be issued to an applicant upon:

1. Providing proof to the SFMO the applicant is in possession of an existing and valid certification or license to perform service on fire extinguishers issued by any other state or federal government entity with an expiration date set at a minimum of two years beyond the date the application is received by the SFMO or;
2. Providing proof of continued maintenance of the ICC/NAFED Fire Extinguisher Technician Certification.

Failure to renew a certificate in a timely manner will be sufficient cause for the applicant to apply for a certificate in accordance with Section 906.3.1 in the same manner as for a new certificate.

906.3.4 Denial, suspension or revocation of a certificate. If issuance or renewal of a certificate is denied, or upon the filing of a complaint against the applicant or certificate holder for non-performance, or performance in violation of the SFPC and the referenced NFPA 10 standard, the State Fire Marshal may convene a 3-member panel to hear the particulars of the complaint or denial. The 3-member panel will be comprised of the following persons:

1. A Virginia Certified Fire Official excluding any person certified as a fire extinguisher service technician or is on the staff of the SFMO.
2. A Virginia certified Fire Extinguisher Service Technician who is not associated in any way with the person against whom a complaint is lodged and whose work or employer is geographically remote, as much as practically possible, from the person to whom a complaint is lodged.
3. A member of the general public who does not have a vested financial interest in the servicing of portable fire extinguishers.

Upon the State Fire Marshal convening such panel, the hearing is to commence within 60 calendar days of the filing of the complaint or denial. The 3-member panel is to hear the complaint and render a written recommendation to the State Fire Marshal for certificate issuance, no action, revocation, or suspension of a certificate for a period not to exceed 6 months.

Notwithstanding the discretionary decision and action to convene such panel, the State Fire Marshal reserves the authority to choose an action that may be contrary to the panel's recommendation. The written decision of the State Fire Marshal is to be delivered to the party within 14 days of the hearing's conclusion. If the certificate is denied, revoked or suspended by the SFMO, in accordance with SFPC Section 112.9 the party may file an appeal with the State Technical Review Board (TRB). The party's appeal to TRB must be filed within 14 calendar days of the receipt of the State Fire Marshal's written decision to deny, revoke, or suspend.

The denial, revocation or suspension of a license is independent of any criminal proceedings that may

be initiated by any state or local authority.

906.3.4.1 Replacement of revoked certificate. Any person whose certificate as a Fire Extinguisher Service Technician was revoked upon cause may apply for certification as a Fire Extinguisher Service Technician six months from the date of the revocation and upon compliance with Section 906.3.1. All elements of Section 906.3.1 are required to be obtained and dated after the date of revocation.

906.3.4.2 Return of suspended certificate. Any certificate that was suspended upon cause will be reinstated at the end of the suspension period without change to its expiration date.

906.4 Tags or Labels. In addition to the requirements of NFPA 10 as referenced in Section 906.2, tags or labels intended for recording maintenance or recharging shall bear the certificate number and signature of the certified fire extinguisher service technician who performed the service or who provided direct, on-site supervision of non-certified persons who performed the maintenance or recharging work.

Supporting Statement (including intent, need, and impact of the proposal):

The Virginia Statewide Fire Prevention Code (VSFPC) references the 2010 Edition of NFPA Standard #10 for the selection, installation and maintenance of portable fire extinguishers. As paraphrased in IFC Section 906.2.1, it requires all "*persons performing maintenance and recharging of extinguishers to be certified*" and that "*certification require that a person pass a test administered by an organization acceptable to the AHJ.*"

The standard expresses the minimum requirements that apply to the selection, installation, inspection, maintenance, and testing of portable fire extinguishers which are intended as a first line of defense to cope with fires of limited size. The selection and installation of extinguishers is independent of whether or not a building is protected by automatic sprinklers or any other built-in fire protection systems or equipment.

The National Association of Fire Equipment Distributors (NAFED) has had a long-standing certification program but has recently joined with the International Code Council (ICC) to produce a nationally recognized examination and certification program. The ICC/NAFED certification can be used as proof the individual has demonstrated the minimum knowledge and competency needed to be a "Certified Person" as defined in the reference standard.

The ICC/NAFED exam and certification is not redundant to a training and certification program that may be required by a particular manufacturer who supplies portable fire extinguisher parts. If a service technician wishes to service a particular brand of portable fire extinguisher, the manufacturer may still maintain and require their specific certification program as a condition of supplying brand parts. It must be clearly stated and understood, the ICC/NAFED exam and certification **is not brand specific** but tests the person's knowledge of the controlling NFPA standard on the selection, placement, maintenance and testing of portable fire extinguishers regardless of the brand or manufacturer.

As an accommodation, an applicant may have a certification or license issued by another governmental entity to perform the work. Towards obtaining the SFMO certificate, this other governmental certification or license can be offered or used as an alternative to undergoing the ICC/NAFED examination process.

To date in Virginia, a company or individual does not have to demonstrate knowledge or competence in the regulating codes and standards in order to conduct a business for the servicing of portable fire extinguishers. Because of that, many owners of portable fire extinguishers and local fire officials have expressed concerns about the potential for fraudulent practices and, short of criminal charges, have little or no civil recourse for challenging the credentials, knowledge and competency of those suspected of fraudulent practices. Having a state program to certify service personnel as proposed will have a two-fold benefit. The first is to provide comfort and assurance to fire officials and owners of fire extinguishers that service personnel by demonstration do possess the necessary knowledge and competency for the servicing and maintenance of extinguishers and second, short of criminal proceedings, to provide an administrative enforcement

mechanism to resolve or intervene in alleged violations of the SFPC as they may relate to a service technician's competency and ability to perform the needed service.

This proposed change describes a basic process for service personnel to obtain or renew a certificate to perform extinguisher maintenance and recharging of portable fire extinguishers. **This certification would NOT be applicable to those who perform the routine monthly check or "inspection" as defined and outlined in NFPA 10.**

This change also provides an internal process available at the State Fire Marshal's discretion that's intended to be used as a means to assist or advise the State Fire Marshal in a determination to take no action, or to deny, revoke or suspend a person's certificate based on allegations that the servicing of fire extinguishers was not performed in compliance with the requirements as set forth in the VSFPC and its referenced standard. If the State Fire Marshal takes an adverse action against a certificate holder, whether that action is taken with or without the assistance of a convened panel, the individual against whom the action was taken retains the option of filing an appeal because, the proposed process would not supplant, subvert or avoid criminal proceedings, such as for fraudulent practices, the issuance of a notice of violation, a summons, or the duty, power or authority of the State Technical Review Board as established and provided for in §§ 36-108 through 36-117 of the Code of Virginia.

### Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
The Jackson Center  
501 N. 2nd Street  
Richmond, VA 23219-1321

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC 5601.5 through 5601.5.2

Proposed Change (including all relevant section numbers, if multiple sections):

**5601.5 Denial, suspension or revocation of a certificate.** If issuance or renewal of a Blaster or Pyrotechnician certificate is denied, or upon the filing of a complaint against an applicant or certificate holder for non-performance, or performance in violation of the SFPC and the appropriate referenced NFPA 495, 1123 or 1126 standards, the State Fire Marshal may convene a 3-member panel to hear the particulars of the complaint or denial. The 3-member panel will be comprised of the following persons:

1. A Virginia Certified Fire Official excluding any person certified as a Blaster or Pyrotechnician or is on the staff of the SFMO.
2. A Virginia certified Blaster or Pyrotechnician who's certification is the same as that of the person to whom a complaint is lodged, and who is not associated in any way with the person against whom a complaint is lodged and whose work or employer is geographically remote, as much as practically possible, from the person to whom a complaint is lodged.
3. A member of the general public who does not have a vested financial interest in conducting a fireworks display, or the manufacture, sale, storage or use of explosives.

Upon the State Fire Marshal convening such panel the hearing is to commence within 60 calendar days of the filing of the complaint or denial. The 3-member panel is to hear the complaint and render a written recommendation to the State Fire Marshal for certificate issuance, no action, revocation, or suspension of a certificate for a period not to exceed 6 months.

Notwithstanding the discretionary decision and action to convene such panel, the State Fire Marshal reserves the authority to choose an action that may be contrary to the panel's recommendation. A written decision of the State Fire Marshal is to be delivered to the party within 14 days of the hearing's conclusion. If the certificate is denied, revoked or suspended by the SFMO, in accordance with SFPC Section 112.9 the party may file an appeal with the State Technical Review Board (TRB). The party's appeal to TRB must be filed within 14 calendar days of the receipt of the State Fire Marshal's written decision to deny, revoke, or suspend.

The denial, revocation or suspension of a license is independent of any criminal proceedings that may be initiated by any state or local authority.

**5601.5.1 Replacement of revoked certificate.** Any person whose certificate as a Pyrotechnician or Blaster was revoked upon cause may apply for certification as a Pyrotechnician or Blaster six months or more from the date of the revocation and upon compliance with Section 5601.4.1. All elements of Section 5601.4.1 are required to be obtained and dated after the date of revocation.

**5601.5.2 Return of suspended certificate.** Any certificate that was suspended upon cause will be reinstated at the end of the suspension period without change to its expiration date.

Re-number all subsequent sections and tables without any technical changes.

Supporting Statement (including intent, need, and cost impact of the proposal):

This change provides an internal process available at the State Fire Marshal's discretion that's intended to be used as a means to assist or advise the State Fire Marshal in a determination to take no action, or to deny, revoke or suspend a person's certificate based on allegations that the manner in which explosives were manufactured, stored, sold or used, or that a fireworks display was not performed in compliance with the requirements as set forth in the VSFPC and the commensurate referenced standard(s). This is particularly important enough if records or reports of violations were egregious or repeated enough to warrant a necessary action for the continued protection of the public.

The proposed process is not intended to supplant, subvert or avoid criminal proceedings, the issuance of a notice of violation, a summons, or the duty, power or authority of the State Technical Review Board as established and provided for in §§ 36-108 through 36-117 of the Code of Virginia if the State Fire Marshal takes an adverse action against a certificate holder, whether that action is taken with or without the assistance of the convened panel as proposed and a subsequent appeal is filed.

### Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): SFPC, Change Section 5603.4

Proposed Change (including all relevant section numbers, if multiple sections):

Change Section 5603.4 to read as follows:

**5603.4 Accidents.** Accidents involving the use of *explosives, explosive materials* and fireworks, which result in injuries or property damage, shall be immediately reported by the permit holder to the fire code official and State Fire Marshal immediately.

Supporting Statement (including intent, need, and impact of the proposal):

Supported by FSBCC.

With this change the SFMO will be able to accumulate basic information on incidents that produce injuries, deaths or property damage from the use of explosives and fireworks. The accumulated information may produce valuable information on the continued competency of the involved Pyrotechnician, Blaster and/or their employer for the purpose of evaluating and/or recommending suspension, revocation or some other measure of remedial action against the Pyrotechnician, Blaster or the permit holder.

A somewhat similar provision previously existed in the '87, '90 and '93 editions of the SFPC.

Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

Code Change - F5603.4, SFMO.docx

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson

Representing: Fire Services Board Code Committee

Mailing Address: \_\_\_\_\_

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): SFPC 5706.6.2.1 and 6111.2.1

Proposed Change (including all relevant section numbers, if multiple sections):

**5706.6.2.1 Parking near residential, educational and institutional occupancies and other high-risk areas.** Tank vehicles shall not be left unattended at any time on residential streets, or within 500 feet (152 m) of a residential area, apartment or hotel complex, educational facility, hospital or care facility building regularly occupied in whole or in part as a habitation for people, a place of religious worship, schoolhouse, railroad station, store or other structure where people are accustomed to assemble except when parked in accordance with Section 5706.6.2.3. Tank vehicles shall not be left unattended at any other place that would, in the opinion of the fire chief, pose an extreme life hazard.

**6111.2.1 Near residential, educational and institutional occupancies and other high-risk areas.** LP-gas tank vehicles shall not be left unattended at any time on residential streets or within 500 feet (152 m) of a residential area, apartment or hotel complex, educational facility, hospital or care facility building regularly occupied in whole or in part as a habitation for people, a place of religious worship, schoolhouse, railroad station, store or other structure where people are accustomed to assemble except when parked in accordance with Section 6111.2.2. Tank vehicles shall not be left unattended at any other place that would, in the opinion of the fire code official, pose an extreme life hazard.

Supporting Statement (including intent, need, and impact of the proposal):

**This is a work in progress.** Code change is being submitted to meet the July 1<sup>st</sup> deadline for submissions and to create an opportunity for further discussions.

Creates uniformity among regulations for hazardous materials separation. The new text is derived from the definition of "inhabited buildings" in chapter 2, which currently applies to explosive materials. The change eliminates the undefined term "residential areas", which has been a source of confusion particularly in the absence of local zoning regulations or designations.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: For consideration by the sub-workgroup on tank trucks  
\_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s): SFPC Section 5706.6.2.1  
\_\_\_\_\_

Proposed Change (including all relevant section numbers, if multiple sections):

Change Section 5706.6.2.1 to read:

5706.6.2.1 Parking near residential, educational and institutional occupancies and other high-risk areas. Tank vehicles shall not be left unattended at any time on residential streets, or within 500 feet (153 m) of a residential area containing two or more dwellings where the distance between any of the dwellings is 100 feet (30.5 m) or less, apartment, townhouse, dormitory or hotel complex, educational facility, hospital or care facility. Tank vehicles shall not be left unattended at any other place that would, in the opinion of the fire chief, pose an extreme life hazard.

Supporting Statement (including intent, need, and cost impact of the proposal):

This proposal offers a reasonable clarification of the term "residential area" in the International Fire Code, which would permit a tank truck operator to park tank vehicles in rural areas near the home of the operator provided no other houses were in close proximity.

Submittal Information

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson

Representing: Fire Services Board Code Committee

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-748-1426

Proposal Information

Code(s) and Section(s): SFPC Section 5607.16 and new Table 5607.16

Proposed Change (including all relevant section numbers, if multiple sections):

Change Section 5607.16 to read as follows:

**5607.16 Blast records:** A record of each blast shall be kept and retained for at least five years and shall be readily available for inspection by the *fire code official*. The record shall ~~contain the following minimum data:~~ be in a format selected by the blaster and shall contain the minimum data and information indicated in Table 5607.16.

- ~~1. Name of contractor;~~
- ~~2. Location and time of blast;~~
- ~~3. Name of certified blaster in charge;~~
- ~~4. Type of material blasted;~~
- ~~5. Number of holes bored and spacing;~~
- ~~6. Diameter and depth of holes;~~
- ~~7. Type and amount of explosives;~~
- ~~8. Amount of explosive per delay of 8 milliseconds or greater;~~
- ~~9. Method of firing and type of circuit;~~
- ~~10. Direction and distance in feet to nearest dwelling, public building, school, church, commercial or institutional building;~~
- ~~11. Weather conditions;~~
- ~~12. Whether or not mats or other precautions were used;~~
- ~~13. Type of detonator and delay period;~~
- ~~14. Type and height of stemming; and~~
- ~~15. Seismograph record when utilized.~~

**Exception:** ~~Subdivisions 8 and 13 of this section are not applicable to restricted blasters.~~

(See new Table 5607.16 on attached pages.)

Supporting Statement (including intent, need, and impact of the proposal):

This change is to provide guidance and some measure of uniformity of the information gathered and retained. Without such guidance the quality and value of information recorded will vary by location, company, and certified blaster. This information has value when conducting an investigation on a claim of damage, for instance, whether that investigation is conducted by the fire official or an insurance company. At the very least, such comprehensive information has definite value to the blaster themselves.

Four (4) fire officials and nine (9) users of explosives, both large and small blasting contractors, were invited to evaluate the proposed change. Comments and suggestions were seriously considered and incorporated into refining the change. It must be pointed out that the change does not require a blaster to use this particular table or format so long as whatever record format is chosen by the blaster produces the same minimum information. But it is suggested the table be reproduced large enough in the code to fill-in the blanks or spaces in the event a blaster uses the table as printed in the code for their chosen format.

Submittal Information

Date Submitted: 12/7/12

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)

Main Street Centre  
600 E. Main St., Ste. 300  
Richmond, VA 23219

Email Address: [tsu@dhcd.virginia.gov](mailto:tsu@dhcd.virginia.gov)

Fax Number: (804) 371-7092

Phone Numbers: (804) 371-7140 or (804) 371-7150

**Table 5607.16  
Blast (shot) Record**

<b>Block 1</b>				
General Information				
1	Blast date:	Blast No.:	Blast Time:	Permit No.:
2	Blast location by address including city, county or town:			
3	Blast location by GPS coordinates: <input type="checkbox"/> check box if unknown			
4	Name of Permit Holder:			
5	Name of Blaster in charge (print):			
6	Signature of Blaster in charge:			
7	Certification Number of Blaster in charge:			

<b>Block 2</b>			
General environmental conditions			
1	Weather (Clear? Cloudy? Overcast?)	Wind direction and speed  @_____mph	Temperature  F° / C°
2	Topography: (Flat? Hilly? Mountainous?)	Distance from blast site to nearest inhabited building:	Distance from nearest inhabited building determined by: <input type="checkbox"/> GPS coordinates <input type="checkbox"/> Measurement <input type="checkbox"/> Estimated
3	Use of nearest inhabited building? (Dwelling? Business? Apartment Building? School?)	Direction from blast site to nearest inhabited building:	Direction from blast site to nearest inhabited building determined by: <input type="checkbox"/> GPS instrument <input type="checkbox"/> Compass <input type="checkbox"/> Estimated
Additional Blaster notations on environmental conditions:			

Block 3			
Shot layout and precautions taken (N/A = Not Applicable)			
1	No. of holes	Diameter of hole(s)	Depth of hole(s)
2	Were any holes decked? <input type="checkbox"/> Yes <input type="checkbox"/> No	How many holes were decked? <input type="checkbox"/> N/A	How many decks per hole? <input type="checkbox"/> N/A
	(If applicable, indicate on any attached shot pattern drawing which holes were decked and the number of decks for the hole[s].)		
3	Shot pattern <input type="checkbox"/> Check this box if only single hole.	Depth of sub-drilling	Drilling angle
4	Burden	Spacing of holes	Water height
5	Stemming height	Material used for stemming	Check box for flyrock precautions taken <input type="checkbox"/> Mats <input type="checkbox"/> Overburden <input type="checkbox"/> None taken
Additional Blaster notations on shot layout and precautions:			

Block 4			
Seismic control measures (N/A = Not Applicable)			
1	Was Scaled Distance Formula used? <input type="checkbox"/> Yes <input type="checkbox"/> No	Indicate which Scaled Distance equation was used. <input type="checkbox"/> N/A <input type="checkbox"/> $W(lb)=[D(ft)/50]^2$ <input type="checkbox"/> $W(lb)=[D(ft)/55]^2$ <input type="checkbox"/> $W(lb)=[D(ft)/65]^2$	Max. Allow. Chg. Wt. per 8 ms based on Scaled Distance. <input type="checkbox"/> N/A
2	Was seismograph used? <input type="checkbox"/> Yes <input type="checkbox"/> No	Seismograph manufacturer and model number: <input type="checkbox"/> N/A	Seismograph serial number: <input type="checkbox"/> N/A
			Seismograph's last calibration date. <input type="checkbox"/> N/A
3	Distance and direction seismograph from blast site <input type="checkbox"/> N/A	Distance determined by: <input type="checkbox"/> N/A <input type="checkbox"/> GPS coordinates <input type="checkbox"/> Estimated <input type="checkbox"/> Measurement	
4	Seismograph <input type="checkbox"/> N/A Geophone Minimum Frequency _____ Hz Seismograph Microphone Minimum Frequency _____ Hz	Seismograph recordings: <input type="checkbox"/> N/A Transverse _____ in/s _____ Hz Vertical _____ in/s _____ Hz Longitudinal _____ in/s _____ Hz Acoustic _____ dB _____ Hz	
5	Seismograph trigger level <input type="checkbox"/> N/A _____ in/s _____ dB		
Additional Blaster notations on seismic control measures:			

<b>Block 5</b>				
<b>Quantity and product</b>				
1	Max. Allow. Chg. Wt. per 8 ms Interval <input type="checkbox"/> Delay not used _____ lbs	Initiation (Check)  <input type="checkbox"/> Electric <input type="checkbox"/> Non-electric <input type="checkbox"/> Electronic		
2	Max. No. of Holes/Decks per 8 ms interval <input type="checkbox"/> Delay not used _____ lbs			
3	Max. Wt. or sticks of Explosive per hole _____ lbs	Firing device manufacturer and model: <input type="checkbox"/> N/A		
<b>Explosive Product listing (Attach additional pages as needed.)</b>				
4	<u>Manufacturer</u>	<u>Product name, description or brand</u>	<u>Number of units</u>	<u>Unit weight (lb)</u>
5	<b>Total explosive weight in this shot:</b>			<b>lbs.</b>
Additional Blaster notations on product and quantities:				

<b>Block 6</b>	
<b>Completion of shot record and general comments</b>	
General comments on shot not included in notes above:	
Date shot report completed:	Time shot report completed:
Printed name and signature of person completing shot report if different from Block 1, Lines 5 and 6.	(Print)
	(Signature)



R. Add Section 3307.16 to read:

3307.16. Blast records. A record of each blast shall be kept and retained for at least five years and shall be readily available for inspection by the code official. The record shall ~~contain the following minimum data:~~ be in a format selected by the blaster and shall contain the minimum data and information indicated in Form 3307.16.

1. Name of contractor;
  2. Location and time of blast;
  3. Name of certified blaster in charge;
  4. Type of material blasted;
  5. Number of holes bored and spacing;
  6. Diameter and depth of holes;
  7. Type and amount of explosives;
  8. Amount of explosive per delay of 8 milliseconds or greater;
  9. Method of firing and type of circuit;
  10. Direction and distance in feet to nearest dwelling, public building, school, church, commercial or institutional building;
  11. Weather conditions;
  12. Whether or not mats or other precautions were used;
  13. Type of detonator and delay period;
  14. Type and height of stemming; and
  15. Seismograph record when utilized.
- Exception: Subdivisions 8 and 13 of this section are not applicable to restricted blasters.

Form 3307.16  
Blast (shot) Record

<u>Block 1</u>				
<u>General Information</u>				
1	<u>Blast date:</u>	<u>Blast No.:</u>	<u>Blast Time:</u>	<u>Permit No.:</u>
2	<u>Blast location by address including city, county or town:</u>			
3	<u>Blast location by GPS coordinates:</u> <input type="checkbox"/> <u>check box if unknown</u>			
4	<u>Name of Permit Holder:</u>			
5	<u>Name of Blaster in charge (print):</u>			
6	<u>Signature of Blaster in charge:</u>			

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Placeholder \_\_\_\_\_

Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s): USBC IFC 2306.7.1 \_\_\_\_\_

Proposed Change (including all relevant section numbers, if multiple sections):

E85 dispensing systems now U.L. listed.

Supporting Statement (including intent, need, and impact of the proposal):  
Enable building officials to approve these E85 systems without a modification. 2015 IFC code change was approved.

Submittal Information

Date Submitted: 6/25/13 \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DEBAR State Building Codes Office  
600 East Main Street,  
Suite 300  
Richmond, VA 23219

Email Address: [vernon.hodge@dhcd.virginia.gov](mailto:vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



## F246 – 13

### 2306.8.1, 2306.8.2 (New), Chapter 80

Proponent: Bob Eugene, representing UL LLC

Revise as follows:

**2306.8 Alcohol-blended fuel-dispensing operations.** The design, fabrication and installation of alcohol-blended fuel dispensing systems shall also be in accordance with Section 2306.7 and Sections 2306.8.1 through 2306.8.5.

**2306.8.1 Listed Approval of equipment.** Dispensers shall be listed in accordance with UL 87A. Hoses, nozzles, breakaway fittings, swivels, flexible connectors or dispenser emergency shutoff valves, vapor recovery systems, leak detection devices and pumps used in alcohol-blended fuel-dispensing systems shall be listed ~~or approved~~ for the specific purpose.

**2306.8.2 Compatibility.** Dispensers shall only be used with the fuels for which they have been listed, which are marked on the product. Field installed components including hose assemblies, breakaway couplings, swivel connectors and hose nozzle valves shall be provided in accordance with the listing and the marking on the unit.

*(Renumber subsequent sections)*

Add a new standard to Chapter 80 as follows:

UL

#### 87A – 12 Outline of Investigation for Power-Operated Dispensing Devices for Gasoline and Gasoline/ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent

**Reason:** In 2007 UL submitted proposal F230 07/08 which added the section on alcohol-blended fuel-dispensing operations. This was done to address the growing number of E-85 installations. Part of that proposal allowed alcohol-blended fuel-dispensers and components to be listed or approved, where normal gasoline dispensers were required to be listed. This was done in recognition that standards and listings for these dispensers did not exist at the time.

The UL 87A Outline of Investigation for Power-Operated Dispensing Devices for Gasoline and Gasoline/ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent was subsequently developed to cover dispensers intended for use with high concentration ethanol blends. Listed dispensers and the related hanging hardware are now listed for high concentration ethanol blends, and are being installed across the U.S. This proposal recognizes the current E-85 dispensing practices and accomplishes the following:

1. Reintroduces the requirements for these dispensers and related hardware to be listed, rather than listed or approved.
2. Includes reference to the UL 87A Outline of Investigation used to investigate these products.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Staff (at the direction of the BHCD) Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s): SFPC Section 202

Proposed Change (including all relevant section numbers, if multiple sections):

Change the definition of "Responsible management" as shown:

**RESPONSIBLE MANAGEMENT.** A person who is any of the following:

1. The sole proprietor of a sole proprietorship.
2. The partners of a general partnership.
3. The managing partners of a limited partnership.
4. The officers or directors of a corporation.
5. The managers or members of a limited liability company.
6. The managers, officers or directors of an association, ~~or both~~.
7. Individuals in other business entities recognized under the laws of the Commonwealth as having a fiduciary responsibility to the firm.

Supporting Statement (including intent, need, and cost impact of the proposal):

During consideration of the proposed 2012 regulations, the Board of Housing and Community Development directed staff to review the definition of responsible management in the SFPC to assure that the categories of persons in the different business organizational structures listed were inclusive of those persons likely to desire to become responsible management. The term is used in relation to obtaining a background clearance card to be a blaster or pyrotechnician. Staff found that the categories should be expanded to be more equitable between the types of categories. The suggested changes are shown above.

Submittal Information

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ed Altizer, State Fire Marshal

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): International Wildland-Urban Interface Code (IWUIC)

Proposed Change (including all relevant section numbers, if multiple sections):

**Adoption of the ICC model IWUIC, 2012 edition in its entirety.**

Supporting Statement (including intent, need, and impact of the proposal):

While areas west of the Mississippi River garner a lot of attention when wildland fires occur, it is on the east side of the Mississippi River that more fires occur consuming more acreage, damaging more homes, injuring more people, and has a higher total dollar loss than the west of the Mississippi River. This is according to recent periods as reported by the Virginia Department of Forestry (VDOF) which revealed that in 2008, by example, saw a 130 percent increase in acres burned across the state as the number of fires decreased 12.4 percent. The agency logged 1,322 fires that burned 25,704 acres. Records show 1,509 fires burned 11,200 acres during 2007. Sixteen homes were damaged in 2008 alone. Virginia saw the worst fire day in memory that year on Sunday, Feb. 10, 2008. High winds across the state whipped up 354 fires that burned more than 16,000 acres.

In January 2009 the VDOF had reported not less than 810 fires covering 6,847 acres with 32 structures damaged.

With the construction of housing to meet the demand of an increased population, with the movement of population to forested and rural areas, it's only prudent to use the IWUIC model code to mitigate the risk of a structure's exposure to wildland fires and the spread of fire from structures to wildland fuels itself.

Submittal Information

Date Submitted: 6/25/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Code Change - FWUIC, SFMO.docx

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Jim Tidwell

Representing: Fire Equipment Manufacturers' Association

Mailing Address: 11712 Wind Creek Ct, Aledo, Tx 76008

Email Address: jimtidwell@tccfire.com

Telephone Number: 817.715.8881

Proposal Information

Code(s) and Section(s): VSFPC and USBC, Section 906.1 (both codes)

Proposed Change (including all relevant section numbers, if multiple sections):

Change Item 1 of Section 906.1 of the of the VSFPC and USBC to read:

1. In Group A, B, E, F, H, I, M, R-1, R-4, and S occupancies.

**Exceptions:**

~~1. In Group A, B and E occupancies equipped throughout with quick response sprinklers, portable fire extinguishers shall be required only in locations specified in Items 2 through 6.~~

2. In Group I-3 occupancies, portable fire extinguishers shall be permitted to be located at staff locations and the access to such extinguishers shall be permitted to be locked.

Supporting Statement (including intent, need, and cost impact of the proposal):

The International Code Council changed the exceptions in the 2012 IBC to read as follows:

**906.1 Where required.** Portable fire extinguishers shall be installed in the following locations.

1. In Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.

**Exception:** In Group R-2 occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each *dwelling unit* is provided with a portable fire extinguisher having a minimum rating of 1-A:10-B:C.

Our proposal is to keep the ICC base language and keep Virginia's exclusion for R-2 occupancies and Virginia's Exception 2, which provides for the ability to lock extinguisher cabinets in Group I-3 occupancies. The effect of the change is to delete the exception for properties equipped with quick response sprinklers, conforming to the change made to the 2012 IFC and IBC. This proposal brings the Virginia code into closer conformance with the ICC codes. The reasons for eliminating the exception that reduces the number of fire extinguishers in certain occupancies with quick response sprinklers are as follows:

Fire sprinklers and portable fire extinguishers are intended to be effective on different types and sizes of fires. Portable fire extinguishers are to be used on incipient fires, while sprinklers don't activate until the fire has progressed well beyond the incipient phase. According to the NFPA

report on the U. S. Experience with Sprinklers and Other Automatic Fire Extinguishing Equipment, (Dr. John Hall, NFPA, February, 2010), in reported fires in sprinklered buildings, most fires never grew large enough to activate the sprinkler system. Specifically, in **65 percent of reported fires in sprinklered buildings, reported fires were too small to activate operational equipment.**

This study only considered fires reported to the fire department, and only fires in sprinklered buildings. So, in these cases, the fire was substantial enough to call the fire department, and the fire was in a sprinklered building. There is only one good answer for this statistic – someone extinguished the fire before the sprinklers activated. So, in 65 percent of the fires in sprinklered buildings, someone is putting out the fire before the sprinklers can activate. Does it make sense, then, to remove fire extinguishers from sprinklered buildings?

In many buildings, sprinklers are necessary; they are the best automatic protection available in many cases. But it's always best to avoid having a fire, and if one does occur, to extinguish the fire as soon as possible. Most times, in occupied buildings, that's before the sprinklers activate. Again, there is only one conclusion that can be drawn from these data from NFPA – people are controlling fires before the sprinklers activate in 65 percent of the cases, and portable fire extinguishers are an important and cost effective piece of the fire protection scheme in any community.

In a survey report by the Consumer Product Safety Commission, it was reported that **more than 95 percent of residential fires are never reported to the fire department.** Based upon this report, there were 7,430,000 fires in residential occupancies, 7,176,000 of which went unreported to a fire department. According to the survey, **371,500 residential fires were extinguished using portable fire extinguishers in the U. S. during the year in question.**

The International Code Council voted overwhelmingly to delete the exception outlined in the first exception that was included in the Virginia Code. The reasons given for their action included:

- Recognition that fire extinguishers add to the overall level of safety in any building, including A, B, and E occupancies.
- Based on the number of jurisdictions that delete the exception, the code needs to change in order to be consistent with actual practice.
- There is no reasonable correlation between sprinklers and fire extinguishers that justified modification of the requirement for fire extinguishers
- One committee member stated that there was a "gross misunderstanding of what sprinklers do – that people look for fire extinguishers, and it's much better to do a little early than a whole lot later.
- People use fire extinguishers to keep small fires small

From a recent (2011) study by the Worcester Polytechnic Institute and the University of Eastern Kentucky:

"the data collected strongly suggests that the ordinary person can operate a fire extinguisher and utilize proper technique to effectively extinguish a fire. Overall, 98% of the 276 participants were able to discharge extinguishing agent onto a fire on their first trial; 100% of the participants were successful on their second trial."

This clearly shows that people have the ability to use a portable fire extinguisher effectively without any training.

We all realize that if the fire is out of control and beyond the incipient stage, people should evacuate the building; however, when a fire is still in its earliest stages, there is no reason not to put it out instead of allowing it to grow to a point that it activates the sprinkler system. Logic,

reason, and recent studies clearly show that human nature is to attempt to extinguish a fire if possible. At one of the IFC code hearings on the subject, a former fire marshal testified: "when you see a bug, you don't call Orkin – you step on it; when you see an incipient fire, you don't flee the building – you put it out".

Much has been said about the benefits of people simply leaving the building when a fire occurs. The question, however, isn't whether most people will leave or not – every study available shows that, when faced with a small fire, most people will try to intervene in that fire and put it out. Why else would over 90 percent of the fires in this country go unreported (CPSC)? Why else would the majority of **reported** fires in sprinklered buildings never activate the sprinklers because they don't grow large enough (Dr. John Hall, NFPA). It's clear that human nature is to attempt to extinguish a fire if it's in its incipient stage. Fire extinguishers are intended for that specific purpose. So, the question isn't whether people should leave or not; rather, the question is whether you want people to use makeshift means to try to put the fire out, or do you want them to have available a tool that is designed, engineered, and manufactured for that specific purpose? Omitting the requirement for fire extinguishers in these occupancies is placing the building occupants at risk. It's that simple.

The State of Texas Fire Marshal compiled statistics on reported fires in state owned buildings. Of the fires that occurred between fiscal 2008 and 2010, 40 percent were extinguished using portable fire extinguishers. This report is available on the State Fire Marshal website.

A survey conducted by the European Fire Equipment Union in 2000 identified that in 80 percent of the cases a portable fire extinguisher successfully extinguished the fire and in 75 percent of those cases, the fire service was not required to attend. (Ghosh, 2008)

From a New Zealand survey conducted over an eight month time frame, there were reports of 395 extinguishers used. The Fire Service interpreted the data collected, and determined that in 90 percent of the known incidents where fire extinguishers are used, the Fire Service is not called. **In approximately 83 percent of the cases, portable fire extinguishers are totally effective.**

**The Cost** of portable fire extinguishers is negligible when considering the benefits and when comparing them with other safety equipment. While many factors will determine the actual cost for a building, the life cycle cost of portable extinguishers is typically **less than four cents per square foot annually, or less than a third of a cent per foot per month.** Compared with other safety systems, it's easy to see that portable extinguishers are probably the least costly option available. Because of insurance requirements, corporate policies, and federal regulations, many, if not most, businesses choose to install portable extinguishers. By adopting the 2012 IFC language, Virginia will be on a level playing field with the rest of the country, and will avoid the cost to tenants and owners of retrofitting existing buildings with portable fire extinguishers.

#### Submittal Information

Date Submitted: 7/1/2013

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual     Government Entity     Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): USBC Section 906

Proposed Change (including all relevant section numbers, if multiple sections):

**Delete USBC Section 906 in its entirety without substitution.**

Supporting Statement (including intent, need, and cost impact of the proposal):

The SFPC has already got the requirements in place and are duplicated in the USBC.

Portable fire extinguishers are not a system, per se, such as is a sprinkler system, an alarm system, standpipes or hood suppression systems. Portable fire extinguishers are an appliance that can be made available to building occupants, or to those involved in a hazardous operation or process where or when there's a risk of a fire starting. It is during a fire's incipient stage that a building occupant or operator can decide for themselves, after notification of the fire department, whether or not to employ any available portable fire extinguisher with the intent to extinguish or retard the fire's progress pending arrival of fire suppression forces.

Portable fire extinguishers are not construction. Their presence, or lack of presence, does not affect the manner of construction, or materials to be used in the erection, alteration, repair, or use of a building or structure. The presence or absence of portable fire extinguishers does not add or subtract from the credit a building is given when establishing height or area of a building, its group classification, or construction type.

Submittal Information

Date Submitted: 7/1/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)

Code Change - CB906.1, SFMO.docx

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Michael Redifer

Representing: City of Newport News

Mailing Address: 2400 Washington Avenue 3<sup>rd</sup> flr Newport News, VA 23607

Email Address: mredifer@nngov.com

Telephone Number: 757-926-8861

Proposal Information

Code(s) and Section(s): Virginia Construction Code Section 103.10

Proposed Change (including all relevant section numbers, if multiple sections):

Add Item 7 to 103.10 as follows (no changes to existing text)

7. Sections C101.4, C101.5, R101.4 and R101.5 of the IECC except where such provisions are more restrictive than the VCC for additions, alterations, renovations or repairs.

Supporting Statement (including intent, need, and cost impact of the proposal):

Section 101.7 deletes administrative provisions of the referenced model codes in order to reduce potential conflict with Chapter 1 of the VCC. Specific administrative and testing provisions contained within the model codes are incorporated by reference through Section 103.10. Important scoping provisions are contained within Chapter 1 of the IECC. Among them are exemptions for historic and low energy buildings. Without this proposed change, applying these exemptions is questionable and without the exemptions the VCC becomes significantly more restrictive than the model code and results in increased costs. Additionally, depending on the scope of work involved, Sections C101.4.3 and R101.4.3 can be more restrictive than the VCC has traditionally been applied with respect to alterations so the excepting language is included to point out that retrofitting of windows, insulation, etc. is not required where otherwise exempted by language within the VCC.

**NOTE:**

Although referencing only the section numbers of the IECC is in keeping with the structure of VCC 103.10, the following full text from IECC Sections C101.4, C101.5, R101.4 and R101.5 is provided in an effort to eliminate the need to refer to another document while considering this proposal.

**C101.4 Applicability.** Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between the general requirement and a specific requirement, the specific requirement shall govern.

**C101.4.1 Existing buildings.** Except as specified in this chapter, this code shall not be used to require the removal, *alteration* or abandonment of, nor prevent the continued use and maintenance of, an existing building or building system lawfully in existence at the time of adoption of this code.

**C101.4.2 Historic buildings.** Any building or structure that is listed in the State or National Register of Historic Places; designated as a historic property under local or state designation law or survey; certified as a contributing resource with a National Register listed or locally designated historic district; or with an opinion or certification that the property is eligible to be listed on the National or State Registers of Historic Places either individually or as a contributing building to a historic district by the State Historic Preservation Officer or Keeper of the National Register of Historic Places, are exempt from this code.

**C101.4.3 Additions, alterations, renovations or repairs.** Additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Additions, alterations, renovations or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.

**Exception:** The following need not comply provided the energy use of the building is not increased:

1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities are filled with insulation.
4. Construction where the existing roof, wall or floor cavity is not exposed.
5. Reroofing for roofs where neither the sheathing nor the insulation is exposed. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during reroofing shall be insulated either above or below the sheathing.
6. Replacement of existing doors that separate *conditioned space* from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a *conditioned space* from the exterior shall not be removed.
7. Alterations that replace less than 50 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
8. Alterations that replace only the bulb and ballast within existing luminaires in a space provided that the *alteration* does not increase the installed interior lighting power.

**C101.4.4 Change in occupancy or use.** Spaces undergoing a change in occupancy that would result in an increase in demand for either fossil fuel or electrical energy shall comply with this code. Where the use in a space changes from one use in Table C405.5.2 (1) or (2) to another use in Table C405.5.2 (1) or (2), the installed lighting wattage shall comply with Section C405.5.

**C101.4.5 Change in space conditioning.** Any nonconditioned space that is altered to become *conditioned space* shall be required to be brought into full compliance with this code.

**C101.4.6 Mixed occupancy.** Where a building includes both *residential* and *commercial* occupancies, each occupancy shall be separately considered and meet the applicable provisions of IECC – Commercial Provisions or IECC – Residential Provisions.

**C101.5 Compliance.** *Residential buildings* shall meet the provisions of IECC – Residential Provisions. *Commercial buildings* shall meet the provisions of IECC – Commercial Provisions.

**C101.5.1 Compliance materials.** The *code official* shall be permitted to approve specific computer software,

working sheets, compliance manuals and other similar materials that meet the intent of this code.

**C101.5.2 Low energy buildings.** The following buildings, or portions thereof, separated from the remainder of the building by *building thermal envelope* assemblies complying with this code shall be exempt from the *building thermal envelope* provisions of this code:

1. Those with a peak design rate of energy usage less than 3.4 Btu/h-ft<sup>2</sup> (10.7 W/m<sup>2</sup>) or 1.0 watt/ft<sup>2</sup> (10.7 W/m<sup>2</sup>) of floor area for space conditioning purposes.
2. Those that do not contain *conditioned space*.

**R101.4 Applicability.** Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between the general requirement and a specific requirement, the specific requirement shall govern.

**R101.4.1 Existing buildings.** Except as specified in this chapter, this code shall not be used to require the removal, *alteration* or abandonment of, nor prevent the continued use and maintenance of, an existing building or building system lawfully in existence at the time of adoption of this code.

**R101.4.2 Historic buildings.** Any building or structure that is listed in the State or National Register of Historic Places; designated as a historic property under local or state designation law or survey; certified as a contributing resource with a National Register listed or locally designated historic district; or with an opinion or certification that the property is eligible to be listed on the National or State Registers of Historic Places either individually or as a contributing building to a historic district by the State Historic Preservation Officer or Keeper of the National Register of Historic Places, are exempt from this code.

**R101.4.3 Additions, alterations, renovations or repairs.** Additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. Additions, alterations, renovations or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.

**Exception:** The following need not comply provided the energy use of the building is not increased:

1. Storm windows installed over existing fenestration.
2. Glass only replacements in an existing sash and frame.
3. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities are filled with insulation.
4. Construction where the existing roof, wall or floor cavity is not exposed.
5. Reroofing for roofs where neither the sheathing nor the insulation is exposed. Roofs without insulation in the cavity and where the sheathing or insulation is exposed during reroofing shall be insulated either above or below the sheathing.
6. Replacement of existing doors that separate *conditioned space* from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a *conditioned space* from the exterior shall not be removed.
7. Alterations that replace less than 50 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
8. Alterations that replace only the bulb and ballast within existing luminaires in a space provided that the *alteration* does not increase the installed interior lighting power.

**R101.4.4 Change in occupancy or use.** Spaces undergoing a change in occupancy that would result in an increase in demand for either fossil fuel or electrical energy shall comply with this code.

**R101.4.5 Change in space conditioning.** Any nonconditioned space that is altered to become *conditioned space* shall be required to be brought into full compliance with this code.

**R101.4.6 Mixed occupancy.** Where a building includes both *residential* and *commercial* occupancies, each occupancy shall be separately considered and meet the applicable provisions of IECC – Commercial Provisions or IECC – Residential Provisions.

**R101.5 Compliance.** *Residential buildings* shall meet the provisions of IECC – Residential Provisions. *Commercial buildings* shall meet the provisions of IECC – Commercial Provisions.

**R101.5.1 Compliance materials.** The *code official* shall be permitted to approve specific computer software, working sheets, compliance manuals and other similar materials that meet the intent of this code.

**R101.5.2 Low energy buildings.** The following buildings, or portions thereof, separated from the remainder of the building by *building thermal envelope* assemblies complying with this code shall be exempt from the *building thermal envelope* provisions of this code:

1. Those with a peak design rate of energy usage less than 3.4 Btu/h-ft<sup>2</sup> (10.7 W/m<sup>2</sup>) or 1.0 watt/ft<sup>2</sup> (10.7 W/m<sup>2</sup>) of floor area for space conditioning purposes.
2. Those that do not contain *conditioned space*.

### Submittal Information

Date Submitted: November 29, 2012 (revised 1/3/13 and 4/16/13)

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Staff \_\_\_\_\_

Representing: \_\_\_\_\_

Proposal Information

Code(s) and Section(s): VCC, Section 103.10 \_\_\_\_\_

Proposed Change (including all relevant section numbers, if multiple sections):

Change Section 103.10 as follows:

103.10 Use of certain provisions of referenced codes. The following provisions of the IBC and of other indicated codes or standards are to be considered valid provisions of this code. Where any such provisions have been modified by the state amendments to the IBC, then the modified provisions apply.

1. Special inspection requirements in Chapters 2–35.
2. Chapter 34, Existing Structures, except that Section 3412, Compliance Alternatives, shall not be used to comply with the retrofit requirements identified in Section 103.7 and shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.
3. Testing requirements and requirements for the submittal of construction documents in any of the ICC codes referenced in Chapter 35 and in the IRC.
4. Section R301.2 of the International Residential Code authorizing localities to determine climatic and geographic design criteria.
5. Flood load or flood-resistant construction requirements in the IBC or the International Residential Code, including, but not limited to, any such provisions pertaining to flood elevation certificates that are located in Chapter 1 of those codes. Any required flood elevation certificate pursuant to such provisions shall be prepared by a land surveyor licensed in Virginia or an RDP.
6. Section R101.2 of the IRC.
7. Section N1101.6 of the IRC and Sections C101.5.2 and R101.5.2 of the IECC.

Supporting Statement (including intent, need, and cost impact of the proposal):

This proposal adds the sections for low-energy buildings in the IRC and the IECC as valid administrative provisions to recognize that low-energy buildings do not have to comply with the energy provisions of the code applicable to buildings which consume energy.

Submittal Information

Date Submitted: \_\_\_\_\_

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information (Check one):  Individual  Government Entity  Organization

Name: John Catlett (VBCOA Admin Comm)

Proposal Information

Code(s) and Section(s): 2012 IEBC, Sections 410.1, 410.8, 705.1; and new Sections 410.8.15 and 705.1.15

**[B] 410.1 Scope.** The provisions of Sections 410.1 through 410.9 apply to maintenance, *change of occupancy*, additions and alterations to existing site conditions and existing buildings, including those identified as *historic buildings*.

**[B] 410.8 Scoping for alterations.** The provisions of Sections 410.8.1 through 410.8.1415 shall apply to *alterations to existing buildings and facilities*.

**[B] 410.8.15 Parking restriping.** When restriping an existing parking facility that does not contain accessible parking, one van accessible parking space shall be provided for facilities serving Groups A, B, E, M, R-1, and I.

**Exceptions:**

1. Non-residential occupancies within multiple tenant facilities, when sharing a common parking facility with commercial or non-medical commercial businesses.
2. Non-residential occupancies located in the residence of the service provider.
3. Parking facilities with five or less parking spaces.
4. When compliance with this section would be in violation of local ordinances which establish a minimum number of parking spaces.

**705.1 General.** A *facility* that is altered shall comply with the applicable provisions in Sections 705.1.1 through 705.1.1415, and Chapter 11 of the International Building Code unless it is *technically infeasible*. Where compliance with this section is *technically infeasible*, the alteration shall provide access to the maximum extent that is technically feasible.

**705.1.15 Parking restriping.** When restriping an existing parking facility that does not contain accessible parking, one van accessible parking space shall be provided for facilities serving Groups A, B, E, M, R-1, and I.

**Exceptions:**

1. Non-residential occupancies within multiple tenant facilities, when sharing a common parking facility with commercial or non-medical commercial businesses.
2. Non-residential occupancies located in the residence of the service provider.
3. Parking facilities with five or less parking spaces.
4. When compliance with this section would be in violation of local ordinances which establish a minimum number of parking spaces.

Supporting Statement (including intent, need, and impact of the proposal):

This proposal results from the initial and subsequent reviews by DHCD workgroups of proposals submitted by a legislative study group (the HJR 648 Study Group). This proposal is offered as an additional compromise submitted by the HJR 648 study group and is being submitted by groups involved in the HJR 648 study. This latest compromise builds on previous proposals and addresses concerns expressed by the Codes and Standards Committee on more than one occasion.

Since previous proposals revised IBC Chapter 34 sections, and the 2012 VCC will delete Chapter 34, the code change needs to be relocated in the 2012 IEBC.

- Accessibility is addressed in Sections 410, 605, 705, 806, 906, 1006 (which sends you to 1012.8), and 1105.
- It was felt the above issue of parking restriping was not applicable to repairs (Section 605)
- Section 806 sends you to Section 705 (which is addressed in this code change)
- Section 906 sends you to Section 705 (which is addressed in this code change)
- Section 1006 / 1012.8 already addresses accessible parking
- Section 1105 sends you to Section 705 (which is addressed in this code change) and the IBC

It was not necessary to add "site conditions" to 410.8, because "*facility*" is defined as including "site improvements" (refer below).

IBC 3411.6 already states that when facilities, including a parking lot, are altered, they must comply with Chapter 11 unless technically infeasible.

**3411.6 Alterations.** A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of this code, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible...

Facilities are defined to include site improvements, which includes parking lots.

**FACILITY.** All or any portion of buildings, structures, *site* improvements, elements and pedestrian or vehicular routes located on a *site*.

The revised code change proposes lower overall requirements for smaller parking facilities than the previously submitted proposals, while recognizing the need to add accessible parking to facilities that do not have them. For parking lots in use groups that house places of public accommodation, the change establishes that one van accessible space be provided when restriping and what to do if full compliance causes violations of existing local parking space regulations.

This proposal also addresses facilities not under the control of the service provider of a place of public access and spaces at a home-based business. In addition, lots with five or fewer spaces are exempt from this provision.

The proposed language does not address the accessible route which limits the cost exposure to the building owner beyond the parking space stripping and signage.

#### Submittal Information

Date Submitted: August 29, 2013

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robby Dawson

Representing: Self

Mailing Address: PO Box 40 Chesterfield, Virginia 23832

Email Address: dawsonj@chesterfield.gov

Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): Section 202

Proposed Change (including all relevant section numbers, if multiple sections):

Section 202 (SFPC and USBC)

~~NIGHT CLUB. Any Group A-2 building in which the main use is a place of public assembly that provides exhibition, performance or other forms of entertainment; serves alcoholic beverages; and provides music and space for dancing.~~

USBC

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided for Group A-2 occupancies where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (464.5 m<sup>2</sup>);
2. The fire area has an occupant load of 100 or more ~~in night clubs or 300 or more in other Group A-2 occupancies~~; or
3. The fire area is located on a floor other than a level of exit discharge servicing such occupancies

Supporting Statement (including intent, need, and impact of the proposal):

Much confusion has been created by using differing thresholds for different uses in the USBC and model codes. The historic use of "main use" has always caused discussion between fire and building officials of what the term actually means. If a building is used as a warehouse for 99% of the time and a holds a night club like function the other 1% , The "main use" is still warehouse and therefore not subject to the A-2 requirements for any building.

Equally, the Commonwealth held numerous meetings in the aftermath of the Rhode Island Night Club fire where it was recommended that the sprinkler threshold be lowered. The model code organizations followed suit and set the limit at 100. Virginia eliminated this fire and life safety requirement without opposing data to support that decision. The code as it is written today creates conflict locally and reduces safety for the public by ignoring a key model code safety provision.

Date Submitted: 7/1/2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2012 Code Change Cycle**

Code Change Number: \_\_\_\_\_

Proponent Information (Check one):  Individual  Government Entity  Company

Name: Robby Dawson Representing: Fire Services Board Code Committee

Mailing Address: \_\_\_\_\_

Email Address: Dawsonj@chesterfield.gov Telephone Number: 804-717-6838

Proposal Information

Code(s) and Section(s): SFPC Table 5003.1.1(1) USBC Table 307.1(1)

Proposed Change (including all relevant section numbers, if multiple sections):

**Revise as follows:**

**SFPC Table 5003.1.1(1)/USBC Table 307.1(1)  
Maximum Allowable Quantity Per Control Area of Hazardous Materials Posing a Physical Hazard**

Material	Class	Group When the Maximum Allowable Quantity Is Exceeded	Storage			Use-Closed Systems			Use-Open Systems	
			Solid Pounds	Liquid Gallons	Gas Cubic feet At NTP	Solid Pounds	Liquid Gallons	Gas Cubic feet At NTP	Solid Pounds	Liquid gallons
Consumer fireworks	1.4G	H-3	125 <sup>d,e,j</sup>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

(Deletion of reference to footnote "d" - Remainder of table unchanged.)

**Supporting Statement (including intent, need, and cost impact of the proposal):**

This is a replication of ICC/IFC Code Change F289-13 that was recommended for approval at the Dallas CAH with a 8-6 committee vote.

In an October 2007 report, the NFPA Standards Council has called into question the appropriateness and reasoning of an increase based on sprinkler protection in the absence of test data justifying the increase. Because of the lack of test data to determine at what level or quantity of consumer fireworks above 125 pounds (500 pounds gross) could or should have the benefit of sprinkler protection, the Standards Council has ordered the issuance of a Tentative Interim Amendment (TIA). This action effectively eliminated the option of an increase for sprinkler protection until such time as acceptable test data is submitted to justify an increase and to what level of increase it could be. Therefore, due to the TIA, the maximum amount of consumer fireworks in the NFPA standard for retail establishments is limited to 125 pounds net (500 pounds gross). In addition, with the TIA the maximum size of consumer firework storage buildings will be limited to 12,000ft<sup>2</sup> in area. Full background information may be found at the document information tab at [www.nfpa.org/1124](http://www.nfpa.org/1124)

For the same reasons, until such time as testing is completed, or if ever completed, this change is to delete the reference to footnote "d" that provided a 100% increase to the amount of consumer fireworks allowed if sprinkler protection is provided, when it has been revealed that the original increase was not based on a credible, verifiable series of tests to determine what the appropriate sprinkler design density should be for what may be typical of the quantities of consumer fireworks present in retail establishments and still not become a Group H-3 building.

Additionally, there is movement in the General Assembly with tentative endorsement of the fire service in Virginia to expand the types of consumer fireworks permitted under Virginia Title 27 which would increase the quantity and types of consumer fireworks available for retail sale in Virginia.

Considering these developments – 1. The national standards organization eliminating sprinkler increases; 2. The national model codes eliminating the sprinkler increases; and 3. The seemingly inevitable expansion of types of consumer fireworks being offered for sale in Virginia, in the absence of the credible evidence these products do not adversely impact the built in fire protection systems in non H use groups, it is wise to adopt the model code in Virginia as soon as possible to ensure the safety of the public.

Code change was edited based on 8/22/13 work group meeting comments in order to conform USBC with SFPC.

### Submittal Information

Date Submitted: 6/3/2013 (8/30/13 edit)

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Proposal Information Revised August 27, 2012 USBC VCC

Proposed Change (including all relevant section numbers, if multiple sections): USBC VCC IBC 202 Definitions, USBC VCC IBC 307.1 (1), USBC VCC IFC 5603.1.1 (1)

Permissible firework definition put into the USBC VCC 202 Any sparkers, fountains, Pharaoh's serpents, caps for pistols, or pinwheels commonly known as whirligigs or spinning jennies.

IBC T307.1 (1) insert after 1.4G consumer fireworks "Permissible Fireworks" column for solid pounds list 175 rest of column same as 1.4G consumer fireworks. Add new footnote for sprinkled buildings 300 solid pounds IFC T5603.1.1 (1) add same text.

Supporting Statement (including intent, need, and impact of the proposal):

The FSBC code change to delete 1.4G footnote D was consensus approval so 125 solid pounds will be in unsprinkled or sprinkled buildings. This deletion of the 250 solid pounds in sprinkled building is a 2015 IFC code change up for approval October 4, 2013 at ICC. The DHCD placeholder in the August 22<sup>nd</sup> packet and workgroup meeting that proposed permissible fireworks be inserted into the 2012 USBC VCC IBCT307.1(1) and IFC T5603.1.1(1) proposes a separate line and separate retail storage display limits so as not to be considered an H-3 occupancy. The definition of permissible fireworks is in state law and in the 2009SFPC3302. This change places the definition into the USBC since it will now be in the Tables. The permissible firework explosive content is far less; usually 0.25 grains or less, then other 1.4G consumer fireworks meaning the potential life safety or property protection losses would be significantly less than other 1.4G consumer fireworks. Virginia fire data doesn't document there are significant fires or injuries in retail sales in buildings to even support reducing retail display storage limits in either unsprinkled or sprinkled buildings. The retail sale storage limits is an USBC VCC requirement determined and approved by the building official. The SFPC and the fire officials enforce those allowed limits in the occupancies, like B and M, so that H-3 occupancy limits are not being used. The code change places permissible fireworks in both tables in the IBC and IFC for the USBC VCC. We have set the limits at 175 solid pounds for unsprinkled buildings and 275 solid pounds for sprinkled buildings. It was asked at the August 22<sup>nd</sup> workgroup meeting if there are fire tests and the response was not yet. It is submitted that based on our contacts with industry experts that they believe Virginia's allowance of only permissible fireworks can substantiate by the test of time the retail sales storage limits in buildings could be increased over the current 125/250 solid pounds amount allowed now. Coordinating code change for SFPC prepared to indicate USBC governs retail sales storage limits in buildings in accordance with SFPC 102.6.

Submittal Information

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Proponent Information (Check one):  Individual  Government Entity  Company

Name: DHCD Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Proposal Information Revised August 27, 2012 USBC VCC

Proposed Change (including all relevant section numbers, if multiple sections): USBC VCC IBC 202 Definitions, USBC VCC IBC 307.1 (1), USBC VCC IFC 5603.1.1 (1)

Permissible firework definition put into the USBC VCC 202 Any sparkers, fountains, Pharaoh's serpents, caps for pistols, or pinwheels commonly known as whirligigs or spinning jennies.

IBC T307.1 (1) insert after 1.4G consumer fireworks "Permissible Fireworks" row for solid pounds list 175 rest of column same as 1.4G consumer fireworks. Add new footnote for sprinkled buildings 300 solid pounds with no more than 150 solid pounds in a retail sales location and the second retail sales location dispersed at least 50 feet apart" in IFC T5603.1.1 (1) add same text.

Supporting Statement (including intent, need, and impact of the proposal):

The FSBC code change to delete 1.4G footnote D was consensus approval so 125 solid pounds will be in unsprinkled or sprinkled buildings. This deletion of the 250 solid pounds in sprinkled building is a 2015 IFC code change up for approval October 4, 2013 at ICC. The DHCD placeholder in the August 22<sup>nd</sup> packet and workgroup meeting that proposed permissible fireworks be inserted into the 2012 USBC VCC IBCT307.1(1) and IFC T5603.1.1(1) proposes a separate line and separate retail storage display limits so as not to be considered an H-3 occupancy. The definition of permissible fireworks is in state law and in the 2009SFPC3302. This change places the definition into the USBC since it will now be in the Tables. The permissible firework explosive content is far less; usually 0.25 grains or less, then other 1.4G consumer fireworks meaning the potential life safety or property protection losses would be significantly less than other 1.4G consumer fireworks. Virginia fire data doesn't document there are significant fires or injuries in retail sales in buildings to even support reducing retail display storage limits in either unsprinkled or sprinkled buildings. The retail sale storage limits is an USBC VCC requirement determined and approved by the building official. The SFPC and the fire officials enforce those allowed limits in the occupancies, like B and M, so that H-3 occupancy limits are not being used. The code change places permissible fireworks in both tables in the IBC and IFC for the USBC VCC. We have set the limits at 175 solid pounds for unsprinkled buildings and 275 solid pounds for sprinkled buildings. It was asked at the August 22<sup>nd</sup> workgroup meeting if there are fire tests and the response was not yet. It is submitted that based on our contacts with industry experts that they believe Virginia's allowance of only permissible fireworks can substantiate by the test of time the retail sales storage limits in buildings could be increased over the current 125/250 solid pounds amount allowed now. Coordinating code change for SFPC prepared to indicate USBC governs retail sales storage limits in buildings in accordance with SFPC 102.6.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: David R. Badger, PE

Representing: Think Tank Engineering, LLC

Mailing Address: 1104 Horseshoe Lane, Blacksburg, VA 24060

Email Address: drb@t-t-eng.com

Telephone Number: 540-632-3245

Proposal Information

Code(s) and Section(s): 2012 IBC - Section 404.5 Smoke Control, Exception

Proposed Change (including all relevant section numbers, if multiple sections):

Add the following to the end of the exception to Section 404.5.

"For the purposes of this exception, stories whose floors are penetrated by the atrium, but whose floor areas are completely separated from the atrium volume by shaft walls fully compliant with Section 713.0, shall not be considered as being connected by the atrium. Openings permitted under Section 713.0 are allowed, and must be protected as required for shaft wall openings per 716.0."

Supporting Statement (including intent, need, and cost impact of the proposal):

This is a clarification of the current intent of the USBC to preserve the integrity of the required separation between floors when vertical openings are present. Section 712.0 allows several options for protecting vertical openings, of which shaft enclosures and atriums are both acceptable options. The proposed change simply clarifies that a combination of the two methods for one vertical space is acceptable.

A two story atrium could allow access to a third story by a stair, and as long as that third story is completely separated by shaftwalls from the atrium compliant with 713.0, including the opening protective requirements, that simple connection should not be viewed as creating a three story atrium and triggering the need for smoke control.

A similar condition occurs when the top of a two story atrium is extended past a third floor to gain natural lighting from skylights at the roof level, with no openings at all to the third floor level. As long as areas on the third floor are separated by a shaftwall per 713.0, there is no reason to classify this as a three story atrium, but it does happen frequently.

The new language is clarifying that atriums and shaft enclosures are both viable options for managing the same vertical opening, there is nothing implied in the code that the opening must be treated as only one or the other.

This is a cost avoidance measure. There have been many cases where a very small vertical projection of the top of a two story atrium past a third floor that was separated by a shaft wall with either no openings, or a single protected opening, has triggered the three story atrium classification, and smoke control was subsequently required. This change will prevent that from happening again by clarifying the current intent of the code.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: David R. Badger, PE

Representing: Think Tank Engineering, LLC

Mailing Address: 1104 Horseshoe Lane, Blacksburg, VA 24060

Email Address: drb@t-t-eng.com

Telephone Number: 540-632-3245

Proposal Information

Code(s) and Section(s): 2012 IBC - Section 404.6 Enclosure of Atriums, Exception 1

Proposed Change (including all relevant section numbers, if multiple sections):

Add the following as the end of the paragraph.

“The use of standard pendant, upright or sidewall sprinklers shall be acceptable. Specialty sprinklers listed specifically for protecting windows shall not be required.”

Supporting Statement (including intent, need, and cost impact of the proposal):

This is simply a clarification of what has been the long standing intent behind the atrium separation provision for the glass wall and water curtain combination. There have been many cases where the specialty window sprinklers have been required, resulting in needless cost and other negative design impacts to owners from having to satisfy the strict requirements to install the specialty heads in accordance with their listing. This is strictly a cost avoidance change.

Submittal Information

Date Submitted: June 30, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: David R. Badger, PE

Representing: Think Tank Engineering, LLC

Mailing Address: 1104 Horseshoe Lane, Blacksburg, VA 24060

Email Address: drb@t-t-eng.com

Telephone Number: 540-632-3245

Proposal Information

Code(s) and Section(s): 2012 IBC - Section 404.6 Enclosure of Atriums, Exception 3

Proposed Change (including all relevant section numbers, if multiple sections):

Add the following as the end of the sentence to Exception 3.

“This exception also applies to two story atriums without smoke control.”

Supporting Statement (including intent, need, and cost impact of the proposal):

This is simply a clarification of what has been the long standing intent behind the atrium separation requirements, specifically the exception that allows up to three stories to be open to the atrium. The current language of the exception has been misunderstood as establishing the presence of a smoke control system as a prerequisite to having any floors open to the atrium. The proposed change simply clarifies that two-story atriums without smoke control are still allowed to be open to the atrium.

Submittal Information

Date Submitted: June 30, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information (Check one):  Individual  Government Entity  Organization

Name: J. Kenneth Payne, Jr., AIA Representing: VSAIA

Mailing Address: 3200 Norfolk Street, Richmond, VA 23230

Email Address: kpayne@moseleyarchitects.com Telephone Number: 804.794.7555

Proposal Information

Code(s) and Section(s): 2012 IBC: Section 202, Section 408.2.1, new Section 427, 903.2.6, 907.2.6.3, and 907.2.6.3.3 – OPTION #4

Proposed Change (including all relevant section numbers, if multiple sections):

Add new definition to Section 202 as follows:

**SHORT-TERM HOLDING AREA.** An area containing a holding cell or cells, or holding room or rooms, and associated rooms or spaces, where the occupants are restrained or detained by the use of security measures not under the occupant's control for less than 24 hours.

Add Section 408.2.1 as follows:

**408.2.1 Short-term holding areas.** Short-term holding areas shall be permitted to comply with Section 427.

Add new Section 427 as follows:

**SECTION 427**  
**SHORT-TERM HOLDING AREAS**

**427.1 General.** In all groups other than Group E, short-term holding areas shall be permitted to be classified as the main occupancy, provided all of the following are met:

1. Provisions are made for the release of all restrained or retained occupants of short-term holding areas at all times.
2. Aggregate area of short-term holding areas shall not occupy more than 10 percent of the building area of the story in which they are located and shall not exceed the tabular values for *building area* in Table 503, without *building area* increases.
3. Restrained or detained occupant load of each *short-term holding area* shall not exceed 20.
4. Aggregate restrained or detained occupant load in short-term holding areas per building shall not exceed 80.
5. Compliance with Sections 408.3.7, 408.3.8, 408.4, and 408.7, as would be applicable to I-3 occupancies.
6. Requirements of the main occupancy in which short-term holding areas are located shall be met.
7. Fire areas containing short-term holding areas shall be provided with a fire alarm system and automatic smoke detection system complying with Section 907.2.6.3, as would be applicable to I-3 occupancies.
8. Where each *fire area* containing short-term holding areas exceeds 12,000 square feet (1115 m<sup>2</sup>), such fire areas shall be provided with an automatic sprinkler system complying with Section 903.3.
9. Short-term holding areas shall be separated from other short-term holding areas and adjacent spaces by smoke partitions complying with Section 710.

Supporting Statement (including intent, need, and impact of the proposal):

Changes made to Option #3-REVISED, dated August 12, 2013, in an attempt to address comments heard at carry-over workgroup meeting, and by working with DHCD staff, include:

- New section 408.2.1 was revised to add "shall be permitted" to be consistent with charging paragraph of 427.1.
- Two introductory paragraphs were combined into one charging paragraph.
- New provision #1 was added to address egress for the occupants in the holding areas.
- The term "restrained" was added to both conditions #3 and #4 to be consistent with the definition.
- The language "as would be applicable to I-3 occupancies" was added to both conditions #5 and #7, to address possible confusion of referencing sections that deal solely with I-3 occupancies, when we are not calling short-term holding areas as I-3. This attempts to avoid having to add "short-term holding areas" to all of the referenced sections.
  - This should also eliminate possible conflicts between this new section and the referenced sections; otherwise, exceptions would have had to be added to those referenced sections where these requirements differed from the referenced requirements
- "Fire areas" were substituted for "building or structure" since the referenced sections (for fire alarm, smoke detection, and sprinkler system) all deal with fire areas or just the I-3 occupancies, and not the entire building.
  - There were concerns expressed at the workgroup meeting about having to sprinkle an entire building just because of one small holding area.
  - 12,000 SF was selected for condition #8 because it was the threshold used most often for having to sprinkle a fire area - per IBC Section 903.2
    - Feel free to insert whatever SF would gain consensus
- Moved "old" 427.3 Separation under the conditions as new condition #9.
- Corresponding revisions were made to the "Supporting Statement"

May need to make equivalent changes to SFPC.

It is important to note these holding areas:

- Are required to have means and methods of egressing occupants at all times
- Are temporary/short term
- Are limited to no more than 10% of the area within a *story*
- Cannot exceed tabular areas and cannot add allowable increases
- Are allowed only when the entire fire area is fully sprinklered
- Are allowed only when the entire fire area is provided with a fire alarm system as required for I-3 occupancies
- Are allowed only when there is an automatic smoke detection system installed for alerting staff, as required for I-3 occupancies
- Are separated from other areas with smoke partitions
- Must still comply with various I-3 requirements:
  - Means of egress
  - Sallyports
  - Exit stairway and ramp construction
  - Locking arrangements, including redundant operations
  - Security glazing

The goal is to allow *short-term* holding (lockup) areas, without applying I-3 provisions to the entire building (including, height limitations and smoke control system) and these holding type areas. This code change would address those situations where you have *short-term* holding areas located within occupancies such as: courthouses, police stations, security offices (arenas, stadiums, airports, shopping mall, etc.), customs facilities, immigration facilities, drunk-tanks, and similar types of facilities or uses, where the detainees are there for a limited time, do not inhabit the holding area, and the occupant loads and aggregate areas are limited.

I-3 is defined, in part, as buildings “that are *inhabited*” which must then be further defined as one of 5 conditions – where each condition refers to *sleeping* areas. Thus, it appears areas where detainees do not sleep or are held for a limited time do not meet the definition of an I-3 occupancy. However, I-3 is the closest occupancy classification (occupants under restraint or security and are generally incapable of self-preservation) and is almost always applied to such short-term holding cell / lockup areas – which creates ambiguities, including Section 408.2 (Other occupancies), and onerous requirements for the rest of the occupancies within the main building.

Section 408.2 has been interpreted and enforced differently by building officials throughout Virginia, and by locating short-term holding areas in its own “special detailed requirements” Section 427 – its potential to be classified as an I-3 occupancy is avoided and consistency should result.

This code change proposal includes *some* portions of two code change proposals (G33-12 and G37-12) that were “Disapproved” by the General Code Committee at the 2012 ICC Code Development Hearing in Dallas. Some of the reasons for disapproval of G33-12 and/or G37-12 included the following:

1. Confusion with psychiatric, neonatal, and dementia wards.
2. Occupant load of 50 seems too high and inconsistent with other IBC criteria and further coordination with I-3 occupant loads should be made.
3. No limitations on how many lockup facilities could be located within a building (could be used to replace I-3 occupancies).
4. Built-in systems were preferred over contacting the fire department.
5. Concerned with use of terms “trained and practiced.”
6. Smoke barriers may make observation difficult.
7. Sprinklers were not required throughout the building, and only within the lockup facility.
8. A time limit needs to be placed upon the use of such facilities.

This code change proposal attempts to address the above reasons/concerns as follows (numbers correspond to above):

1. The new term *short-term holding area* would have its own definition and the requirements would be located under a new section, thus avoiding any potential for confusion with other I-related occupancies and/or requirements except those specifically identified.
2. The proposed occupant load of 20 is a compromise between 10 (identified in Tables 1015.1 and 1021.2(2)) which would be too low; and 50 which was deemed by the General Code Committee to be too high.
3. Limitations are established by the following:
  - a. Limited to 10% of the building area per story.
  - b. Detainee occupant loads would be limited to 80 per *building*.
4. Short-term holding areas would still be required to meet *selected* requirements of I-3, including alarm and detection systems (907.2.6.3), means of egress, glazing, locking, and a sprinkler system throughout the entire fire areas containing such holding areas.
5. The terms “trained and practiced” are not used in this code change proposal.
6. Smoke *barriers* are not included in this code change proposal; however, smoke *partitions* would be required.
7. An automatic sprinkler system complying with 903.3 would be required throughout the entire fire areas containing such holding areas.
8. No detainee shall occupy a short-term holding area for longer than 24 hours (the use of a 24-hour limitation is used elsewhere in the IBC).

NFPA 5000 recognizes the need for such an approach, and includes provisions for such “lockup” areas.

To avoid potential issues with the Virginia Department of Corrections and their requirement to certify “lockups,” the term “lockups” is not used in this code change proposal.

Construction costs should be reduced (no smoke control system, no need for Type I or IIA construction if holding areas are on a 3<sup>rd</sup> floor or higher, and no need to fire-rate the enclosing and supporting construction) - compared to if I-3 requirements were applied to these holding areas and/or the rest of the building in which such areas are located.

Date Submitted: ~~August 12, 2013~~ September 3, 2013



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: George Hollingsworth

Representing: Fairfax County

Mailing Address: 10700 Page Avenue, Fairfax, Virginia 22030

Email Address: George.hollingsworth@fairfaxcounty.gov

Telephone Number: 703-228-3848

Proposal Information

Code(s) and Section(s): 2012 VCC and 2012 SFPC

Proposed Change (including all relevant section numbers, if multiple sections):

Delete Section 415.1.1 of the VCC and add Section 414.6.2 to the IBC (as part of the VCC) to read as follows:

~~415.1.1 Flammable and combustible liquids. Notwithstanding the provisions of this chapter, the storage, handling, processing, and transporting of flammable and combustible liquids shall be in accordance with the mechanical code and the fire code listed in Chapter 35 of this code. Regulations governing the installation, repair, upgrade, and closure of underground and aboveground storage tanks under the Virginia State Water Control Board regulations 9 VAC 25-91 and 9 VAC 25-580 are adopted and incorporated by reference to be an enforceable part of this code. Where differences occur between the provisions of this code and the incorporated provisions of the State Water Control Board regulations, the provisions of the State Water Control Board regulations shall apply.~~

414.6.2 Other regulations. The installation, repair, upgrade and closure of underground and aboveground storage tanks subject to the Virginia State Water Control Board regulations 9VAC25-91 and 9VAC25-580 shall be governed by those regulations, which are hereby incorporated by reference to be an enforceable part of this code. Where differences occur between the provisions of this code and the incorporated provisions of the State Water Control Board regulations, the provisions of the State Water Control Board regulations shall apply. Provisions of the International Fire Code addressing closure of such tanks which are subject to the Virginia State Water Control Board regulations 9VAC25-91 and 9VAC25-580 shall not be applicable.

Add Section 5701.1.1 to the IFC (as part of the SFPC) to read as follows:

5701.1.1 Other regulations. Provisions of the Virginia State Water Control Board regulations 9VAC25-91 and 9VAC25-580 addressing the maintenance and operational aspects of underground and aboveground storage tanks subject to those regulations are hereby incorporated by reference to be an enforceable part of this code. Where differences occur between the provisions of this code and the incorporated provisions of the State Water Control Board regulations, the provisions of the State Water Control Board regulations shall apply.

Note: For requirements for the installation, repair, upgrade and closure of such tanks, see Section 414.6.2 of the Virginia Construction Code.

Add the following exception to Section 5704.2.13.1.3 of the IFC (as part of the SFPC) to read:

Exception- : Underground storage tanks subject to the Virginia State Water Control Board regulations 9VAC25-91 and 9VAC25-580.

Supporting Statement (including intent, need, and cost impact of the proposal):

This proposal rewords the provision of the VCC for the incorporation of the State Water Control Board's regulations for underground and aboveground fuel tanks moving it to a more appropriate section of the International Building Code and clarifying that the requirements for the closure of such tanks are limited to only those requirements in the State Water Control Board's regulations.

The changes to the SFPC will direct Fire Marshals and Fire Inspector to 9VAC25-91 and 9VAC25-58 to determine the State Water Control Board's authority before enforcing the SFPC.

The proposal is the result of a sub-workgroup meeting for tanks facilitated by the Department of Housing and Community Development during the 2012 code change process which reviewed both the supplemental information provided in the Department's Related Laws Package and the existing code provisions for tanks. The sub-workgroup members were from both fire and building code enforcement departments and from the tank industry.

Submittal Information

Date Submitted: 7/29/2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD placeholder

Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s) 2012 USBC 2012 IBC IFC 903.2.1:  
\_\_\_\_\_

Proposed Change (including all relevant section numbers, if multiple sections):

-903.2.1 An automatic sprinkler system. ....the automatic sprinkler system shall be provided throughout the floor area where the fire area containing the Group A-1, A-2, A-3 or A-4 occupancy is located ~~and in throughout all floors of the building from the Group A occupancy to and including~~ the nearest level of exit discharge serving the Group A occupancy.

Supporting Statement (including intent, need, and cost impact of the proposal):

. This provision is in the 2009 and 2012 USBC IBC/IFC. In most instances there is not a problem due to many A occupancies being in their own building or within a sprinkled B, M, R or other occupancies. However, when the building is an unsprinkled occupancy such as B under 50 feet, then this becomes the sprinkler trigger if the A occupancy is on an upper or lower floor. **An option is to leave the section as is and then put an exception for unsprinkled occupancies that would sprinkle the A occupancy where required and then the exit components to the exit discharge.**

Submittal Information

Date Submitted: July 1, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Option 2 Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Proposal Information

Proposed Change (including all relevant section numbers, if multiple sections): USBC IBC and IFC 903.2.1

903.2.1 An Automatic sprinkler system. The automatic sprinkler system shall be provided throughout the ~~floor~~ **fire area** where the fire area containing Group A-1, A-2, A-3 or A-4 occupancy is located **and in throughout all floors of the building from the Group A occupancy to** and including the nearest level of exit discharge serving the Group A occupancy.

Supporting Statement (including intent, need, and impact of the proposal): Virginia is fortunate that A-2 restaurants are required to be sprinkled at 300 occupants that might negate or minimize unintended consequences for restaurants to be constructed in new or specially in unsprinkled existing buildings if it was 100 occupants. We also adopt our codes differently and the 2012 USBC VRC will be for all existing buildings alterations and change of occupancies. FCAC this year has discussed how this section was meant to be applied and interpreted and if floor area or story were the right terms versus fire areas. They also proposed a retrofit code change for A-2 restaurants at 300 or greater. This requirement has been in the 2000 USBC/IBC by way of ICBO. Staff has been trying to evaluate are there some unintended and costly consequences depending on the building official's interpretation and application of this requirement. We have suggested "fire area" be inserted for "floor area" that for VCC new construction might be cleaner. Since existing unsprinkled buildings where a restaurant is becoming a tenant there might be some unique situations where applying mixed-use separation provisions or multiple compliance options under the VRC/IEBC and links back to the VCC/IBC/IFC could have unintended consequences. We think education and training is one solution. The JPVBCA will develop a mandated module 2-3 days on the IEBC in 2014-2015 to include building officials and plan reviewers and offering to builders and architects. This will be a 2015 carry-over code change. Unsprinkled new or existing buildings 55 feet where a restaurant might become a tenant should not by itself mandate floors and the building to be sprinkled. For A-2 nightclubs that seems a different situation. Our analysis of the USBC VRC should avoid such misapplication.

Submittal Information

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual     Government Entity     Company

Name: Robert E. Casey and A. Brooks Ballard    Representing: Virginia Department of Corrections

Mailing Address: 6900 Atmore Drive, Richmond, VA 23225

Email Address: Robert.casey@vadoc.virginia.gov    Telephone Number: 804-887-7773  
Brooks.ballard@vadoc.virginia.gov    804-887-7777

Proposal Information

Code(s) and Section(s): 2012 IBC; [F] 903.2.6 Group I

Proposed Change (including all relevant section numbers, if multiple sections):

**Add Exception #5:** An automatic sprinkler system shall not be required for open or chain link-sided buildings and overhangs over exterior exercise yards 200 square feet or less in Group I-3 facilities, provided such buildings and overhangs are of noncombustible construction.

Supporting Statement (including intent, need, and cost impact of the proposal):  
Because of the small size of the yard, and the high security level of the occupant (offender), each segregation exercise yard is occupied by a single offender at any one time. The yard is composed of all four sides constructed of chain link fencing, concrete slab floor and metal/metal framed roofing. There are no furnishings or other fuel loading. This is an outdoor structure without heat, therefore, we would have to go to a dry system which further increases the cost, maintenance issues, and is more subject to vandalism than other systems. This is for Group I-3 (prisons, jails) only, and applies only to small individual outdoor exercise yards in proximity to housing buildings of noncombustible construction. This is similar to other specific one of a kind items addressed in IBC 408.2 and 1008.1.9.9 related to individualized needs in overall I-3 facilities.

Submittal Information

Date Submitted: 7-1-2013 (Originally submitted 6-27-2013)

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Jim Tidwell

Representing: Fire Equipment Manufacturers' Association

Mailing Address: 11712 Wind Creek Ct, Aledo, Tx 76008

Email Address: jjmtidwell@tccfire.com

Telephone Number: 817.715.8881

Proposal Information

Code(s) and Section(s): VSFPC and USBC, Section 906.1 (both codes)

Proposed Change (including all relevant section numbers, if multiple sections):

Change Item 1 of Section 906.1 of the of the VSFPC and USBC to read:

1. In Group A, B, E, F, H, I, M, R-1, R-4, and S occupancies.

**Exceptions:**

~~1. In Group A, B and E occupancies equipped throughout with quick response sprinklers, portable fire extinguishers shall be required only in locations specified in Items 2 through 6.~~

2. In Group I-3 occupancies, portable fire extinguishers shall be permitted to be located at staff locations and the access to such extinguishers shall be permitted to be locked.

Supporting Statement (including intent, need, and cost impact of the proposal):

The International Code Council changed the exceptions in the 2012 IBC to read as follows:

**906.1 Where required.** Portable fire extinguishers shall be installed in the following locations.

1. In Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.

**Exception:** In Group R-2 occupancies, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each *dwelling unit* is provided with a portable fire extinguisher having a minimum rating of 1-A:10-B:C.

Our proposal is to keep the ICC base language and keep Virginia's exclusion for R-2 occupancies and Virginia's Exception 2, which provides for the ability to lock extinguisher cabinets in Group I-3 occupancies. The effect of the change is to delete the exception for properties equipped with quick response sprinklers, conforming to the change made to the 2012 IFC and IBC. This proposal brings the Virginia code into closer conformance with the ICC codes. The reasons for eliminating the exception that reduces the number of fire extinguishers in certain occupancies with quick response sprinklers are as follows:

Fire sprinklers and portable fire extinguishers are intended to be effective on different types and sizes of fires. Portable fire extinguishers are to be used on incipient fires, while sprinklers don't activate until the fire has progressed well beyond the incipient phase. According to the NFPA

report on the U. S. Experience with Sprinklers and Other Automatic Fire Extinguishing Equipment, (Dr. John Hall, NFPA, February, 2010), in reported fires in sprinklered buildings, most fires never grew large enough to activate the sprinkler system. Specifically, in **65 percent of reported fires in sprinklered buildings, reported fires were too small to activate operational equipment.**

This study only considered fires reported to the fire department, and only fires in sprinklered buildings. So, in these cases, the fire was substantial enough to call the fire department, and the fire was in a sprinklered building. There is only one good answer for this statistic – someone extinguished the fire before the sprinklers activated. So, in 65 percent of the fires in sprinklered buildings, someone is putting out the fire before the sprinklers can activate. Does it make sense, then, to remove fire extinguishers from sprinklered buildings?

In many buildings, sprinklers are necessary; they are the best automatic protection available in many cases. But it's always best to avoid having a fire, and if one does occur, to extinguish the fire as soon as possible. Most times, in occupied buildings, that's before the sprinklers activate. Again, there is only one conclusion that can be drawn from these data from NFPA – people are controlling fires before the sprinklers activate in 65 percent of the cases, and portable fire extinguishers are an important and cost effective piece of the fire protection scheme in any community.

In a survey report by the Consumer Product Safety Commission, it was reported that **more than 95 percent of residential fires are never reported to the fire department.** Based upon this report, there were 7,430,000 fires in residential occupancies, 7,176,000 of which went unreported to a fire department. According to the survey, **371,500 residential fires were extinguished using portable fire extinguishers in the U. S. during the year in question.**

The International Code Council voted overwhelmingly to delete the exception outlined in the first exception that was included in the Virginia Code. The reasons given for their action included:

- Recognition that fire extinguishers add to the overall level of safety in any building, including A, B, and E occupancies.
- Based on the number of jurisdictions that delete the exception, the code needs to change in order to be consistent with actual practice.
- There is no reasonable correlation between sprinklers and fire extinguishers that justified modification of the requirement for fire extinguishers
- One committee member stated that there was a “gross misunderstanding of what sprinklers do – that people look for fire extinguishers, and it’s much better to do a little early than a whole lot later.
- People use fire extinguishers to keep small fires small

From a recent (2011) study by the Worcester Polytechnic Institute and the University of Eastern Kentucky:

“the data collected strongly suggests that the ordinary person can operate a fire extinguisher and utilize proper technique to effectively extinguish a fire. Overall, 98% of the 276 participants were able to discharge extinguishing agent onto a fire on their first trial; 100% of the participants were successful on their second trial.”

This clearly shows that people have the ability to use a portable fire extinguisher effectively without any training.

We all realize that if the fire is out of control and beyond the incipient stage, people should evacuate the building; however, when a fire is still in its earliest stages, there is no reason not to put it out instead of allowing it to grow to a point that it activates the sprinkler system. Logic,

reason, and recent studies clearly show that human nature is to attempt to extinguish a fire if possible. At one of the IFC code hearings on the subject, a former fire marshal testified: "when you see a bug, you don't call Orkin – you step on it; when you see an incipient fire, you don't flee the building – you put it out".

Much has been said about the benefits of people simply leaving the building when a fire occurs. The question, however, isn't whether most people will leave or not – every study available shows that, when faced with a small fire, most people will try to intervene in that fire and put it out. Why else would over 90 percent of the fires in this country go unreported (CPSC)? Why else would the majority of **reported** fires in sprinklered buildings never activate the sprinklers because they don't grow large enough (Dr. John Hall, NFPA). It's clear that human nature is to attempt to extinguish a fire if it's in its incipient stage. Fire extinguishers are intended for that specific purpose. So, the question isn't whether people should leave or not; rather, the question is whether you want people to use makeshift means to try to put the fire out, or do you want them to have available a tool that is designed, engineered, and manufactured for that specific purpose? Omitting the requirement for fire extinguishers in these occupancies is placing the building occupants at risk. It's that simple.

The State of Texas Fire Marshal compiled statistics on reported fires in state owned buildings. Of the fires that occurred between fiscal 2008 and 2010, 40 percent were extinguished using portable fire extinguishers. This report is available on the State Fire Marshal website.

A survey conducted by the European Fire Equipment Union in 2000 identified that in 80 percent of the cases a portable fire extinguisher successfully extinguished the fire and in 75 percent of those cases, the fire service was not required to attend. (Ghosh, 2008)

From a New Zealand survey conducted over an eight month time frame, there were reports of 395 extinguishers used. The Fire Service interpreted the data collected, and determined that in 90 percent of the known incidents where fire extinguishers are used, the Fire Service is not called. **In approximately 83 percent of the cases, portable fire extinguishers are totally effective.**

**The Cost** of portable fire extinguishers is negligible when considering the benefits and when comparing them with other safety equipment. While many factors will determine the actual cost for a building, the life cycle cost of portable extinguishers is typically **less than four cents per square foot annually, or less than a third of a cent per foot per month.** Compared with other safety systems, it's easy to see that portable extinguishers are probably the least costly option available. Because of insurance requirements, corporate policies, and federal regulations, many, if not most, businesses choose to install portable extinguishers. By adopting the 2012 IFC language, Virginia will be on a level playing field with the rest of the country, and will avoid the cost to tenants and owners of retrofitting existing buildings with portable fire extinguishers.

#### Submittal Information

Date Submitted: 7/1/2013

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual       Government Entity       Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): USBC Section 906

Proposed Change (including all relevant section numbers, if multiple sections):

**Delete USBC Section 906 in its entirety without substitution.**

Supporting Statement (including intent, need, and cost impact of the proposal):

The SFPC has already got the requirements in place and are duplicated in the USBC.

Portable fire extinguishers are not a system, per se, such as is a sprinkler system, an alarm system, standpipes or hood suppression systems. Portable fire extinguishers are an appliance that can be made available to building occupants, or to those involved in a hazardous operation or process where or when there's a risk of a fire starting. It is during a fire's incipient stage that a building occupant or operator can decide for themselves, after notification of the fire department, whether or not to employ any available portable fire extinguisher with the intent to extinguish or retard the fire's progress pending arrival of fire suppression forces.

Portable fire extinguishers are not construction. Their presence, or lack of presence, does not affect the manner of construction, or materials to be used in the erection, alteration, repair, or use of a building or structure. The presence or absence of portable fire extinguishers does not add or subtract from the credit a building is given when establishing height or area of a building, its group classification, or construction type.

Submittal Information

Date Submitted: 7/1/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)

Code Change - CB906.1, SFMO.docx

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: John Catlett (VBCOA Admin Comm.); Kenney Payne (VA AIA); Ken Fredgren (Reston Access.)

Code(s) and Section(s): USBC, Virginia Construction Code Section 1106.3

Proposed Change (including all relevant section numbers, if multiple sections):

Change Section 1106.3 to read as follows:

1106.3 ~~Hospital outpatient~~ Outpatient clinics, ambulatory health care and medical facilities or offices. At least 10 percent, but not less than one, of care recipient and visitor parking spaces provided to serve ~~hospital outpatient~~ clinics, ambulatory health care facilities and medical facilities or offices shall be accessible.

Exceptions:

1. Multiple use tenant building where the tenants are not identified at the time of initial construction and the building is not intended specifically for outpatient clinics, ambulatory health care and medical facilities or offices.

2. Medical offices located in the residence of the service provider.

Supporting Statement (including intent, need, and impact of the proposal):

This proposal would require slightly more accessible parking spaces at newly constructed outpatient clinics, ambulatory surgery centers and medical facilities or offices. The IBC already requires the additional spaces for medical facilities which are on hospital campuses. An exception is provided for those medical facilities or offices located within strip malls, or sharing a common parking area with non-medical commercial business.

This change makes it clear that facilities designed for the purpose of providing outpatient clinics, ambulatory health care and medical facilities or offices meet the higher requirement.

Submittal Information

Date Submitted: August 29, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
The Jackson Center  
501 N. 2nd Street  
Richmond, VA 23219-1321

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: David R. Badger, PE

Representing: Think Tank Engineering, LLC

Mailing Address: 1104 Horseshoe Lane, Blacksburg, VA 24060

Email Address: drb@t-t-eng.com

Telephone Number: 540-632-3245

Proposal Information

Code(s) and Section(s): 2012 IBC - Section 1604, Table 1604.5

Proposed Change (including all relevant section numbers, if multiple sections):

Under Table 1604.5 Occupancy Category III, delete the third item in its entirety:

“Buildings and other structures containing adult education facilities, such as colleges and universities, with an occupant load greater than 500.”

Supporting Statement (including intent, need, and cost impact of the proposal):

The term “adult education facilities” is a code artifact from over 30 years ago that has no relevance in the current code. This term is not defined in the USBC, it is not used in any other section, and its meaning is highly subjective. It only occurs in Table 1604.5, and there is only used once. Also, the phrase in which it is used, using “such as colleges and universities” as an example, is very poorly worded, confusing, and wide open to a number of different interpretations, with very expensive consequences.

Because of this ambiguity, there is a common assumption that any building sitting on a college campus is by default an “adult educational facility.” The consequence of this belief is that a large number of buildings are being designed to Occupancy Category III structural standards that should not have to be, resulting in millions of dollars continually spent on over-designed higher education buildings.

Back in the very early days of the USBC, the codes didn’t have an effective structure to manage higher education buildings, other than dormitories and dining halls. There was some ambiguity and the term served a purpose back then; but that is no longer the case. Clearly the current USBC has a well-structured approach to managing risks based on the use and occupancy as defined in Chapter 3. Trying to create a whole new risk category in Chapter 16, by the single use of an undefined term, is not consistent with how the well-defined use and occupancy structure of Chapter 3 is intended to be used.

Whatever “adult education facilities” may imply, all higher educational facilities are already covered by one of the definitions in Chapter 3. Lecture halls fall under A-3, dining halls are A-2, dormitories are R-2, and most other buildings fall under Group B. Chapter 16 should take that structure and work with it, not change it. All of these assembly occupancies will still remain subject to classification as Occupancy Category III buildings, with an occupant load threshold of 300 people.

I checked with a small number of structural engineers in Virginia, and every one said that when they design ANY building with an occupant load over 500 on a college campus, they automatically put it into Occupancy Category III, because that is how they, or their firm, have always interpreted the term "adult educational facilities." There is no definition to go by, so they naturally will take the conservative approach.

As an example of how this problem is manifest, consider a Group B research laboratory building, with no major assembly spaces, with a total occupant load in excess of 500. If that building is constructed in a private research park, no one would think of classifying it as a category III – there is no educational connection. However, the same Group B building placed on a college campus is routinely classified as Occupancy Category III, and the resulting cost differential to upgrade to the structural elements can be in the millions of dollars.

A specific example from my past employment with a university, at my request the A/E designing a campus research laboratory building estimated the differential in cost between Occupancy Category II and III at \$1.2 million, which we saved by having them change this at the schematic design level.

Higher education building owners are blind to this expense because it is buried deep in the engineer's calculations and results in bigger structural elements, but nothing that would be obvious to the owner. If it manifested itself with something owners could actually see, there would have been an outcry a long time ago. Why should a university have to pay millions of dollars more for the same building that could've been built on private property without the additional cost? The USBC provides uniform public safety by addressing the risks associated with how buildings are occupied, not who owns them. The same rules and protections apply equally to all owners.

Higher education owners, both public and private, are paying a lot of money needlessly, and should support this proposed change. The cost savings for Virginia higher education could possibly be in the hundreds of millions of dollars annually. This is a huge problem with a simple fix - delete the entire reference to "adult education facilities."

### Submittal Information

Date Submitted: June 30, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD placeholder

Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s) 2012 USBC IBC 1705.16, 16.1 and 16.2

Proposed Change (including all relevant section numbers, if multiple sections):

Risk Category III amend scope for A, E, B and I occupancies.

Supporting Statement (including intent, need, and cost impact of the proposal):

Does the building department need 3<sup>rd</sup> party inspections at these occupant loads? It seems sensible at 5,000, H occupancies, highrises and a few others. A occupancies 500; E occupancies 500; I occupancies health care 300; I-3 300 and over

Submittal Information

Date Submitted: July 1, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual     Government Entity     Company

Name: Stephen Turchen

Representing: Virginia Building & Code Officials Association

Mailing Address: Suite 316 / 12055 Government Center Parkway, Fairfax, VA 22035

Email Address: Stephen.turchen@Fairfaxcounty.gov

Telephone Number: 703-324-1653

Proposal Information

Code(s) and Section(s): 21012 IECC Table R402.1.1

Proposed Change (including all relevant section numbers, if multiple sections):

In this table, in the field for *Climate Zone 4 except Marine / Wood Frame Wall R- Value*, revise to read:

~~20 or 13 + 5<sup>h</sup>~~ to 18 or 15 + 3<sup>h</sup>.

Revise Table footnote as follows:

Delete existing text of footnote "h" in its entirety. Replace with the following:

*<sup>h</sup> First value is cavity insulation, second value is continuous insulation or insulated siding. If wood framed walls are braced per requirements of the ICC International Residential Code using an intermittent bracing method, then continuous insulation need be installed only on those portions of the wall not occupied by structural sheathing.*

Supporting Statement (including intent, need, and impact of the proposal):

It is unclear to VBCOA why “R20” is part of the baseline requirement for wood-frame wall insulation in Virginia (Climate Zone 4) in the 2012 IECC. It appears in several Climate Zones other than CZ4 and effectively forces the use of a 2x6 wall + some type of foam insulation, whereas 2x4 wall / R13 is typical for the 2009 requirement. An insulation manufacturer has developed a high-performance fiberglass product rated at R21 that can fit in a 5 ¼” wall cavity, but this is a “solution” more stringent than the 2012 code mandates.

Under the VBCOA proposal, if you use the first option, you simply build a 2x6 wall and install easily available R19 fiberglass batts in the cavity and you are done. Our proposal identifies R18 as the “cavity” insulation requirement in recognition of the ubiquity of R19 fiberglass insulation from several manufacturers and of the fact that the R19 batt is slightly compressed into the wall cavity and will be downgraded by R1 per existing footnote “a” of Table R402.1.1.

While 2x6 framing is becoming commonplace for wall construction in many Virginia jurisdictions, some builders will argue:

- (a) “2x6 framing cost more than 2x4 framing.” Yes it does, but not much, and part of the cost can be offset by going to 24” o.c. spacing, which is permissible for a framed wall supporting another floor and a roof or habitable attic. See 2009 IRC Table R602.3(5). That would be a typical situation for a framed wall built on the concrete foundation walls of a two-story (above grade) typical SFD.
- (b) “Jamb extenders will be hard to obtain or fabricate and add cost to the project.” The number of jamb extenders required depends obviously on the number of windows and doors in the wall, so additional cost is highly variable. As to availability, most fenestration manufacturers have prefabricated parts for these extensions.

The second option allows the builder / designer to maintain 2x4 walls, if desired, but they will have to search for the better R15 / 3.5” batt fiberglass to fill the cavity. (Again, R15 is fairly common in many jurisdictions.) To achieve the additional R3, ½” of foam sheathing could be installed on the exterior of the wall frame. Typical Dow foam insulation boards achieve R3.3 at ½”, as an example. So the foam insulation is no thicker than the plywood or OSB the builder is likely to install on the exterior for wind bracing purposes.

To make the R15 + 3 option more workable from a construction / design perspective, we propose to revise footnote “h” to Table R402.1.1. The published 2012 footnote tries (better than previous versions but still not very well, in our opinion) to clarify how exterior foam insulation integrates with the requirements under the IRC for structural sheathing for wall bracing. We propose, under our revised footnote, that if you are using any “intermittent sheathing” method for wall bracing, you can simply install the foam sheathing at those locations along the wall not occupied by any of the intermittent sheathing products. This approach permits a wall of uniform thickness over 100% of the house perimeter.

VBCOA recognizes that we may need a small campaign to educate designers and builders on integrating wall insulation with intermittent sheathing, or otherwise clarifying the integration of wall insulation requirements under IECC and wind bracing requirements under IRC, but we believe it would be worth the effort for this important objective.

VBCOA strongly believes that any final decision on residential wall insulation under the 2012 VUSBC should be made with care. This requirement will have very far-reaching consequences for Virginia homeowners, who will bear the ultimate and long-term consequences of this decision.

In an existing home, R-values can usually be increased substantially in attic and crawl space and basement areas by adding fiberglass batts or blowing in loose-fill insulation because those areas are easily accessible. Walls are not, for obvious reasons. From a practical standpoint, it is virtually impossible to convert a 2x4 wall to 2x6 construction. Demolishing the (existing 2x4) walls from the interior to install R11 / R13 / R15 and then re-drywalling the walls would be a disruptive, time-consuming, and expensive task. Blowing in loose-fill insulation through a hole drilled in the outside wall, a common retrofit technique, would not be worth the time and expense for the unverifiable improvement, in our judgment and experience.

The decision on wall insulation, at the State or national level, is the longest term of all thermal envelope elements, as it is, practically speaking, the least amenable to improvement by the homeowner after the house is built. The builder is never stuck with these consequences, as he is long gone after the house is sold. Citizens will pay the real costs (i.e., utility bills) for this decision for decades to come.

We believe that the consumer economics of this proposal argue for its adoption.

As a very simple example, take a typical non-McMansion SFD, two stories on a concrete foundation, wood framed construction, 30' x 40' perimeter footprint. REScheck (a public domain thermal envelope analysis software program from US DOE) can be used to calculate the overall UA of the exterior walls (including glazing) of this house using various wall insulation scenarios. We reasonably assumed 15% fenestration area in the exterior walls at  $U = 0.35$ .

- For 2x4 walls with R13, the overall UA for the two stories of exterior walls = 274.
- For 2x4 walls with R15, the overall UA = 265.
- For 2x6 walls with R18, the overall UA = 230.
- For 2x4 walls with R15 + R3 continuous exterior sheathing, the overall UA = 234.

Therefore the improvement in going to R18 vs. R15 is a 13.2% reduction in overall exterior wall heat transfer (11.7% to go to R15 + R3). Note that going to R15 from our current R13

prescriptive requirement results in a wall envelope improvement of only 3.3%.

How much is a 13.2% improvement in wall insulation worth? As a rough order estimate, we believe \$200/month is a reasonable estimate for heating and cooling costs for a representative SFD of the size in our example. The wall insulation improvement results in an approximate 12% improvement in the overall UA of the entire house, assuming R49 or equivalent in the ceiling and R19 in the floor over a crawlspace. This homeowner is saving ~\$25 / month >> ~\$300 / year >> ~\$9000 over 30 years. Of course there is a cost associated with installing the R18, but the amortized cost over 30 years is going to be much less than \$25/month. As an assumption, if the improvement costs \$3000, the amortized cost is \$12.65/month at 3% interest over 30 years. After 30 years the monthly benefit accrues 100% to the homeowner, tax-free. And this simple analysis assumes no inflation increases in fuel costs in the future, which make the savings even larger to the homeowner.

#### Submittal Information

Date Submitted: 2/20/13

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Eric Lacey

Representing: Responsible Energy Codes Alliance

Mailing Address: 1850 M Street, NW, Suite 600, Washington, DC 20036

Email Address: eric@reca-codes.com

Telephone Number: 202-339-6366

Proposal Information

Code(s) and Section(s): Tables N1102.1.1 (R402.1.1, C402.1.1) and N1102.1.3 (R402.1.3, C402.1.3)

Proposed Change (including all relevant section numbers, if multiple sections):

Table N1102.1.1 (R402.1.1, C402.1.1)

Wood Frame Wall R-Value

~~15 or 13+1~~ 20 or 13+5

Table N1102.1.3 (R402.1.3, C402.1.3)

Frame Wall U-Factor

~~0.079~~ 0.057

Supporting Statement (including intent, need, and cost impact of the proposal):

We urge the workgroups and the Virginia Board of Housing and Community Development to adopt the 2012 IRC and IECC with no substantive weakening amendment. The U.S. Department of Energy has found that the adoption of the 2012 IECC would give Virginia homeowners a net savings of \$5,836 over the first 30 years of the home's useful life. Strong, efficient building codes are key to Virginia's energy future.

**The changes adopted by the VA BHCD (Replacing R-20 or 13+5 with R-15 or 13+1) will harm Virginia homeowners in two ways:**

1. **An R-13+1 is unworkable and could create moisture problems.** While exterior foam sheathing can be an extremely effective thermal break, the "R-1" options are extremely limited and potentially problematic.
  - a. Insulation products claiming an R-value must do so in accordance with the FTC R-value Rule (CFR Title 16, Part 460). Code does not permit building materials other than insulation products with valid R-values to be used to comply with the prescriptive R-values in the code per section N1102.1.2 (R402.1.2).
  - b. There are a few R-1 insulation products on the market but most are intended to be used with

sealed cavity air spaces or other insulation products.

- c. According to extensive hygrothermal analysis by the Nation Research Center in Canada and WUFI modeling, an R-1 alone does not adequately warm the exterior structural sheathing surface which can result in higher peak moisture content and moisture content for longer periods of time. Both of these conditions increase the potential for mold, rot, and failure. Studies and the Canadian National Model Code show that R-2.5 should be the minimum R-value for continuous exterior insulation in Climate Zone 4 for 2x4 construction with R-13 in the cavity.

- 2. **Reducing wall insulation requirements from R-20 to R-15 sacrifices long-term homeowner energy savings and other benefits for short-term builder cost-cutting and profit.** Wall insulation is most cost-effective at initial construction and will produce benefits over the lifetime of the building. There is one real opportunity to properly insulate walls in residential buildings that may last for 70 or 100 years, and that is when the home is built. For an incremental upgrade cost at construction, well-insulated walls will provide comfort and energy savings over that entire lifetime.

The most important question for a homeowner is how much the homeowner could gain or lose in energy and cost savings every month over the lifetime of the home. ICF International recently modeled homes in Virginia's climate zone to analyze the impact of a reduction from the 2012 *IECC* wall insulation values (R-20 or 13+5) to R-15. This is a reduction in wall insulation by almost 18%, and a home built with R-15 insulated walls would be, on average, 6.2% less efficient overall than a home built to the 2012 *IECC* requirements. That difference alone could cost Virginia homeowners an average of \$1,777 more in energy costs over a 30-year period, and \$2,962 over a 50-year period.

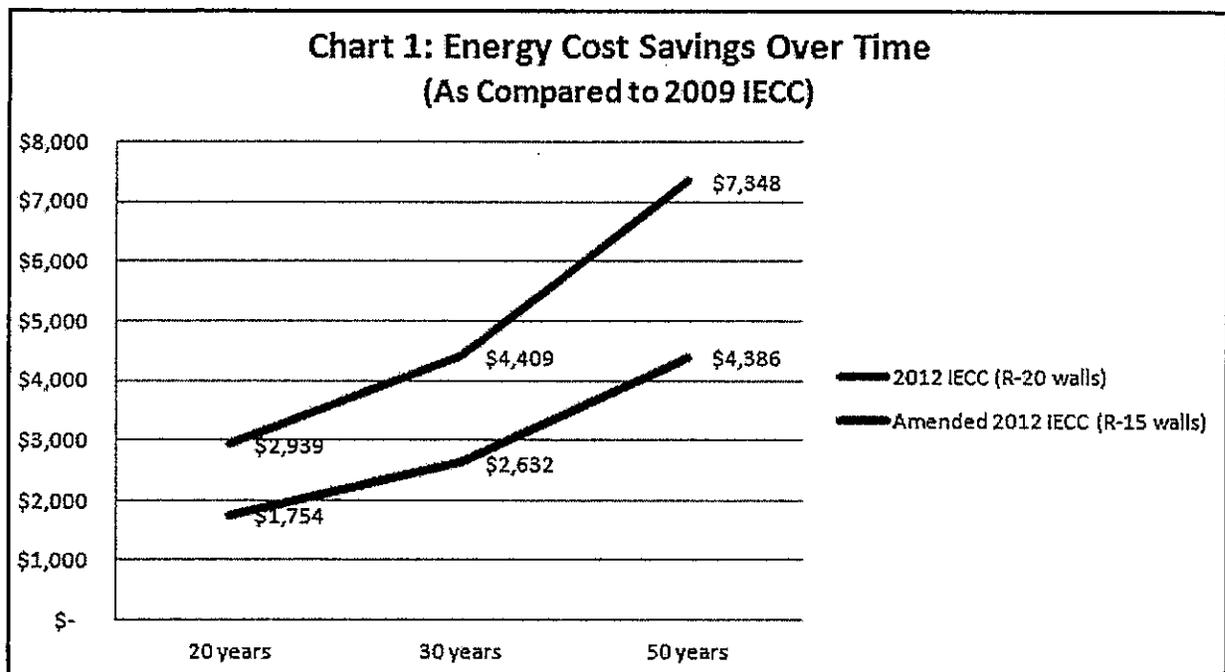


Chart 1 shows the lifetime energy cost savings modeled for two types of homes: The top line represents a home built to the 2012 *IECC* requirements (including R-20 wall insulation), and the bottom line represents a home built to the 2012 *IECC* with weaker insulation (R-15).

We urge the DHCD to maintain the improvements to wall insulation requirements contained in the 2012

*IECC and IRC and ensure homeowner energy and cost savings over the lifetime of the home.*

Submittal Information

Date Submitted: 6/28/2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Eric Lacey

Representing: Responsible Energy Codes Alliance

Mailing Address: 1850 M Street, NW, Suite 600, Washington, DC 20036

Email Address: eric@reca-codes.com

Telephone Number: 202-339-6366

Proposal Information

Code(s) and Section(s): Tables N1102.1.1 (R402.1.1, C402.1.1) and N1102.1.3 (R402.1.3, C402.1.3)

Proposed Change (including all relevant section numbers, if multiple sections):

Table N1102.1.1 (R402.1.1, C402.1.1)

Ceiling R-Value

~~38~~ 49

Table N1102.1.3 (R402.1.3, C402.1.3)

Ceiling U-Factor

~~0.030~~ 0.026

Supporting Statement (including intent, need, and cost impact of the proposal):

We urge the workgroups and the Virginia Board of Housing and Community Development to adopt the 2012 IRC and IECC with no substantive weakening amendment. The U.S. Department of Energy has found that the adoption of the 2012 IECC would give Virginia homeowners a net savings of \$5,836 over the first 30 years of the home's useful life. Strong, efficient building codes are key to Virginia's energy future.

The additional ceiling insulation required by the 2012 *IECC* is most cost-effective when installed at initial construction, when equipment and laborers are already present. The only question is whether to install an additional amount of insulation in the attic (basically another 3.5 inches of blown-in insulation). The R-49 insulated attic will save 1.6% more energy than the R-38 attic, every year over the 70-100 year expected lifetime of the home. The U.S. Department of Energy has found that ceiling insulation between R-38 and R-60 is cost-effective in Virginia's climate zone, and R-49 is well within that range. See <http://energy.gov/energysaver/articles/tips-insulation> We urge the workgroups and the Board to adopt the 2012 IECC requirement for ceiling insulation.

Submittal Information

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ralph Sachs (Albemarle Heating & Air); Andrew Grigsby (Virginia Energy Efficiency Council); Rich Mialki Jr.; Laura Fiori (Local Energy Alliance Program)

Proposal Information

Code(s) and Section(s): \_\_\_\_\_

Proposed Change (including all relevant section numbers, if multiple sections):

12. Change section R402.4.1.2 and add Sections R402.4.1.2.1, ~~R402.4.1.2.2~~, and R402.4.1.3 to read: R402.4.1.2 Air sealing. Building envelope air tightness shall be demonstrated to comply with either Section R402.4.1.2.1 or R402.4.1.2.2.

R402.4.1.2.1 Testing option. The building or dwelling unit shall be tested for air leakage. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). Where required by the building official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provide to the building official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

During testing:

1. Exterior windows and doors, fireplaces and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures;
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures;
3. Interior doors, in installed at the time of the test, shall be open;
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed;
5. Heating and cooling systems, if installed at the time of the test, shall be turned off; and
6. Supply and return registers, if installed at the time of the test, shall be fully open.

~~R402.4.1.2.2 Visual inspection option. Building envelope tightness shall be considered acceptable when the items listed in Table R402.4.1.1, applicable to the method of construction, are field verified. Where required by the building official, an approved party, independent of the installer, shall inspect the air barrier.~~

R402.4.1.3 Leakage rate (Prescriptive). The building or dwelling unit shall have an air leakage rate not exceeding 5 changes per hour as verified in accordance with Section R402.4.2.1.

Supporting Statement (including intent, need, and cost impact of the proposal):

This proposal would require a blower door test to measure building envelope air tightness in all new houses. It would eliminate the visual inspection option for air tightness. The proposal would not require the 3ACH50 tightness target set by the 2012 IECC but would accept the more lenient 5ACH50 target set in current proposed 2012 USBC.

A mechanical measurement of building tightness is necessary for fair and effective verification of safety and efficiency in a home. For air-tightness, a visual inspection standard is no standard, it is an unverifiable assumption.

Effective air-sealing measures, implemented during framing, insulating, and finishing, are often hidden from an

inspector's eye. It is precisely the hard-to-find leaks that are the problem. Most builders will address a visible hole. The only way to know how a building is performing is to conduct the test with the proper equipment. Enforcement of Virginia's building code should not be based on guesses when actual performance data is easily obtainable via an industry standard practice.

Failure to obtain actual performance data leaves occupants grossly uninformed about the operating conditions of their home and may expose them to real harm from both very good and very poor air-sealing. A home that is overly drafty presents high costs for heating and cooling as well as potential health and durability problems. A home that is very tightly sealed may presents health risks if mechanical ventilation is not included. The homebuyer deserves to know that the new home is neither of those.

Similarly, the homebuilder deserves an objective assessment of the home's air-tightness. If there is no mechanical test, the builder may be forced into potentially costly and destructive exposure of installed air-sealing measures by an inspector who is required to visually verify all aspects of the listed air-sealing measures (in section R402.4.1). It is much simpler, effective, enforceable, and fair to perform the appropriate blower door test.

In reality, it is not possible for an inspector to completely verify by sight every item on the air-sealing inspection list in the code. At best, an inspector can offer an educated guess – not data. A mechanical test can be obtained easily. In recent years the Commonwealth of Virginia has invested significant public funds to train technicians all around the state. The test itself takes no more than 30 minutes and typically would cost \$100 to \$150.

The current, proposed code language (R402.4.1.3) requires that an inspector visually verifies that the air leakage rate of the building does not exceed 5 air changes per hour. This is impossible. It is nonsensical. A visual inspection can only ever confirm the presence (generally) of an air barrier. It cannot confirm the performance of that air barrier – certainly not a rate of air changes. Compare it to your doctor saying, "yes, you appear to have pressure in your arteries" to saying, "yes, your blood pressure is 160 over 100." There's a difference.

The 2009 IECC and Virginia's USBC provided 3 years of the visual inspection option as a transition phase introducing a concept that was new to some builders. If the air-sealing requirements of that code truly are being enforced, then builders and inspectors have nothing to fear from testing. It should be a relief to know that the house they pass on to the buyer is both safe and efficient and that they have numbers to support that claim.

### Submittal Information

Date Submitted: 6/26/13

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Bruce Cornwall

Representing: VBCOA Energy Committee

Mailing Address: 302 N Main St., Culpeper, VA 22701

Email Address: bcornwall@culpepercounty.gov

Telephone Number: 540-727-3444, Ext. 395

Proposal Information

Code(s) and Section(s): VCC (IECC R402.4.1.2.1), (IRC N1102.4.1.2.1)

Proposed Change (including all relevant section numbers, if multiple sections):

Add new Section R402.4.1.2.1 to the IECC to read as follows:

R402.4.1.2.1 Visual inspection option. Field verification by visual inspection of items listed in Table R402.4.1.1, applicable to the methods of construction, shall be an acceptable alternative to complying with Section R402.4.1.2.

Add new Section N1102.4.1.1 to the IRC to read as follows:

N1102.4.1.2.1 Visual inspection option. Field verification by visual inspection of items listed in Table N1102.4.1.1, applicable to the methods of construction, shall be an acceptable alternative to complying with Section N1102.4.1.2. When this option is chosen, it is assumed that the air infiltration rate is less than 5 air changes per hour and a whole-house mechanical ventilation shall be provided in accordance with Section R303.4.

Supporting Statement (including intent, need, and impact of the proposal):

A thorough visual inspection of the air sealing done before drywall will be more cost effective and save more energy than air sealing done after a failed blower door test.

Complying with Section R303.4 for IRC buildings will assure that adequate air changes per hour are being met.

Submittal Information

Date Submitted: 7/9/12

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Eric Lacey

Representing: Responsible Energy Codes Alliance

Mailing Address: 1850 M Street, NW, Suite 600, Washington, DC 20036

Email Address: eric@reca-codes.com

Telephone Number: 202-339-6366

Proposal Information

Code(s) and Section(s): N1102.3.6 (R402.3.6, C402.3.6)

Proposed Change (including all relevant section numbers, if multiple sections):

**Add the following section:**

**N1102.3.6 (R402.3.6, C402.3.6) Replacement fenestration.** Notwithstanding USBC section 103.5, where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the replacement fenestration unit shall meet the applicable requirements for U-factor and SHGC in Table N1102.1.1 (R402.1.1, C402.1.1).

Supporting Statement (including intent, need, and cost impact of the proposal):

At a minimum, we urge the workgroups and the Virginia Board of Housing and Community Development to make sure that no amendment is adopted in the 2012 process that would weaken the 2009 code, which is currently in effect in Virginia. Replacement fenestration is currently required to meet the same requirements as windows used in new construction in the 2009 Virginia USBC. Removing this requirement, as has been proposed in earlier Work Group meetings, would significantly weaken the efficiency of renovations and additions and constitute a major step backward in energy efficiency. This requirement has been in the *IECC* since the 1990s, and it is routinely applied in states around the country. Even if permits are not required in Virginia for all replacement window projects, this does not mean that the energy code does not still apply; while not all laws may be enforced all of the time, the mere existence of the law will have a positive effect on energy efficiency. Retailers and suppliers take their cues from the energy code, and having an efficiency requirement in the energy code helps to transform the market for energy-efficient products.

The scope of the *IECC* requirement for replacement windows is significant: Replacement fenestration accounts for the vast majority of the residential windows sold in Virginia and around the country. There are currently very few opportunities to improve the energy efficiency of existing buildings; replacement fenestration is one outstanding opportunity. Efficient windows do not take up

any more space or require building redesign, and the initial cost difference between an inefficient and an efficient window will be very small, particularly as compared with the base cost of the product and installation. But the savings impact on homeowners and the statewide impact of reducing the need for additional power generation can be substantial.

Although some stakeholders have expressed concern about a potential conflict between Section 103.5(4) and Section 402.3.6, we note that both sections exist and are enforced in the current version of Virginia's USBC. In the interpretation of statutes and regulations, there is a presumption that the more specific and more stringent language trumps the less specific or less stringent. 2009 USBC section R103.5 (4) states that "Material or equipment, or both, may be replaced in the same location with material or equipment of a similar kind or capacity." But the more specific requirement, in the 2009 USBC Sections 402.3.6 and N1102.3.6, specifies that "Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the replacement fenestration unit shall meet the applicable requirements for U-factor and solar heat gain coefficient (SHGC) in [the prescriptive table]." The more specific and more stringent language of R402.3.6 trumps the less specific, less stringent language of 103.5(4) for replacement windows only.

That said, we have added language to section N1102.3.6 to clarify that the nonspecific language about "material or equipment" in USBC section 103.5 does not apply to replacement fenestration. Given the potential energy losses associated with allowing most of the residential windows sold in Virginia to be something less than what the code requires for new construction, we urge the Board to keep sections 402.3.6 and N1102.3.6 in the 2012 edition of the USBC. There is simply no justification for weakening the current requirements in VA for replacement fenestration.

### Submittal Information

Date Submitted: 6/28/2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Andrew Grigsby

Representing: COMMONWEALTH SUSTAINABILITY WORKS

Mailing Address: P.O. Box 633, Culpeper, Va. 22701

Email Address: andrew.grigsby@commonwealthsustainability.com

Telephone Number: 540/219-8912

Proposal Information

Code(s) and Section(s): N1103.4.2

Proposed Change (including all relevant section numbers, if multiple sections):

14. Change Section N1103.4.2 to read:

59. Change Section N1103.4.2 (R403.4.2) to read:

N1103.4.2 (R403.4.2) Hot water pipe insulation (Prescriptive). Insulation for hot water pipe with a minimum thermal resistance (R-value) of R-3 shall be applied to the following:

1. Piping larger than 3/4 inch nominal diameter.
2. Piping serving more than one dwelling unit.
3. Piping located outside the conditioned space.
4. Piping from the water heater to a distribution manifold.
5. Piping located under a floor slab.
6. Buried piping.
7. Supply and return piping in recirculation systems other than demand recirculation systems.

~~19. Delete Table R403.4.2.~~

8. Piping from the water heater to kitchen outlets.
  9. Piping with run lengths greater than the maximum run lengths for the nominal pipe diameter given in Table R403.4.2.
- All remaining piping shall be insulated to at least R-3 or meet the run length requirements of Table R403.4.2

Table R403.4.2 Maximum Run Length

Nominal Pipe Diameter of Largest Diameter Pip in the Run (inches)	Maximum Run Length (feet)
3/8	30
1/2	20
3/4	10
>3/4	5

Supporting Statement (including intent, need, and cost impact of the proposal):

The purpose of this change is to provide Virginians with cost-effective homebuilding strategies by adopting the pipe insulation standards established by the 2012 IECC.

This is a very doable and cost-effective efficiency improvement. After the plumbing lines have been inspected and tested, this is a punch list item that a builder can accomplish at minimal cost with no workflow disruption.

For an average house, the Pacific Northwest National Laboratory published research estimating that for around \$200 in builder's costs, an average homeowner can expect to save about 2.75 mBtu annually from insulating all hot water pipes to R-3. This equates to about 800 kilowatt hours, which is just over \$80 per year given Virginia's current average price. Clearly this is a superb investment. Currently, Dominion Virginia Power's Home Energy Check-up program will provide a rebate of \$50 for installing insulation on as little as five feet of hot water pipes in existing houses. This indicates how valuable Virginia's largest utility views the energy savings from this improvement.

### Submittal Information

Date Submitted: July 1, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Eric Lacey

Representing: Responsible Energy Codes Alliance

Mailing Address: 1850 M Street, NW, Suite 600, Washington, DC 20036

Email Address: eric@reca-codes.com

Telephone Number: 202-339-6366

Proposal Information

Code(s) and Section(s): N1104.1 (R404.1, C404.1)

Proposed Change (including all relevant section numbers, if multiple sections):

**N1104.1 (R404.1, C404.1) Lighting equipment (Mandatory).** A minimum of ~~50~~ 75 percent of the lamps in permanently installed luminaires shall be high-efficacy lamps or a minimum of ~~50~~ 75 percent of the permanently installed luminaires shall contain only high efficacy lamps.

**Exception:** Low-voltage lighting shall not be required to utilize high-efficacy lamps.

Supporting Statement (including intent, need, and cost impact of the proposal):

The 2012 *IECC* increases the high-efficacy lighting requirement from 50% of bulbs to 75%. This proposal was supported by a broad group of stakeholders at the ICC, including the National Association of Homebuilders. However, the BHCD has approved a reduction to 50%.

Efficient lighting is cost-effective and simple. According to the U.S. Department of Energy, lighting accounts for about 15% of the energy use in an average home. See [http://energy.gov/sites/prod/files/guide\\_to\\_energy\\_efficient\\_lighting.pdf](http://energy.gov/sites/prod/files/guide_to_energy_efficient_lighting.pdf)

A switch from 50% to 75% high-efficacy lighting will save a significant amount of energy -- CFLs can use 75% less energy and produce 75% less heat than incandescent bulbs. While initial costs are slightly higher than for incandescent bulbs, CFLs can last much longer. The price of CFLs has dropped dramatically in recent years, and will continue to do so as the market matures. Today's CFLs are very cost-effective. In fact, *Consumer Reports* found that replacing one 60W incandescent bulb with a 13W CFL could save over \$57 over the life of the CFL. See <http://news.consumerreports.org/home/2010/03/save-money-by-using-cfls-energy-star-qualified-compact-fluorescents-cfl-review-consumer-reports.html>

CFLs and other high-efficacy bulbs can be used in a variety of settings, and now include dimmable bulbs, flood lights, and bulbs suitable for chandeliers. We encourage the BHCD to maintain the 75% efficient lighting requirement in the 2012 *IECC*.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2012 Code Change Cycle**

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Eric Lacey

Representing: Responsible Energy Codes Alliance

Mailing Address: 1850 M Street, NW, Suite 600, Washington, DC 20036

Email Address: eric@reca-codes.com

Telephone Number: 202-339-6366

Proposal Information

Code(s) and Section(s): Table N1105.5.2(1) (R405.5.2(1), C405.5.2(1))

Proposed Change (including all relevant section numbers, if multiple sections):

Revise the “Glazing” category of Table N1105.5.2(1) (R405.5.2(1), C405.5.2(1)) as follows:

Building Component	Standard Reference Design	Proposed Design
Glazing <sup>a</sup>	<p>Total area<sup>b</sup> <del>is 15% of the conditioned floor area. =</del></p> <p><u>(a) The proposed glazing area; where proposed glazing area is less than 15% of the conditioned floor area.</u></p> <p><u>(b) 15% of the conditioned floor area; where the proposed glazing area is 15% or more of the conditioned floor area.</u></p> <p>Orientation: equally distributed to four cardinal compass orientations (N, E, S &amp; W).</p> <p>U-factor: from Table N1102.1.1 (R402.1.1)</p> <p>SHGC: From Table N1102.1.1 (R402.1.1) except that for climates with no requirement (NR) SHGC = 0.40 shall be used.</p> <p>Interior shade fraction:  <del>Summer (all hours when cooling is required) = 0.70</del>  <del>— Winter (all hours when heating is required) = 0.85<sup>b-1</sup></del>            0.92-(0.21 x SHGC for the standard reference design)</p> <p>External shading: none</p>	As proposed

Supporting Statement (including intent, need, and cost impact of the proposal):

There are two significant problems with the changes to Table N1105.5.2(1) reported in the “Proposed Regulation, May 20” document on the DHCD website.

1. No changes to the interior shade fraction were ever proposed by any party, yet the “Proposed Regulation” shows a reversion to the 2009 shading fractions. The shading fraction assumption was corrected and updated according to the latest research at ASHRAE for the 2012 edition of the IECC. We assume that this is a typographical error that stems from the fact that the proponent who recommended changing the glazing area percentage used an outdated version of this section for his proposal. It is also not clear where footnote b-1 came from. Thermal mass is already accounted for elsewhere in the performance path, and it does not make sense to carve out a prescriptive exception for such a narrow application.
2. The assumption of a flat 15% glazing area represents not only a weakening amendment to the 2012 IECC, but also a **weakening amendment to Virginia’s current code requirements, and we urge the workgroups and the BHCD to reject it.**

Virginia’s current performance path and the 2012 IECC performance path contain a glazing area assumption with two important backstops – one for homes with below-average glazing area and one for

above-average glazing area – that help ensure the use of efficient windows in all buildings.

- **Low glazing area (15% of conditioned floor area and below).** Where the proposed home design has lower than average glazing area, the proposed home is compared against a standard reference design home with the same glazing area percentage. In other words, a proposed home with 12% glazing area must achieve the same energy efficiency as a standard reference home with 12% glazing area. This approach ensures that there is no unwarranted trade-off loophole created by those homes that have lower-than-average glazing area that would allow trading away other efficiencies of the thermal envelope, such as wall insulation. Common examples of homes with low glazing area include townhouses, condos, multifamily buildings, or low-income housing.
- **High glazing area (over 15% of conditioned floor area).** For homes with above-average glazing area, the proposed home is compared against a standard reference design with 15% glazing – essentially requiring that homes with lots of windows must achieve the same overall efficiency as an average home with 15% glazing.

The net effect of these two assumptions is that all homes, whether they have high or low glazing area percentages, will have reasonably efficient windows and insulation. To set the glazing area assumption at a fixed 15% would likely lead to weaker thermal envelopes – particularly in homes with low glazing area, including multi-family housing that may be targeted to low-income populations.

It is important to note that the current dynamic approach to setting the glazing area assumption has been consistently applied by Virginia and other states since the development of and adoption of the 2006 *IECC*. **Currently there are 32 states, including Virginia, that have either adopted the 2009 or 2012 *IECC*, and not a single one of these states has set the glazing area assumption at a flat 15% (or any fixed percentage) as proposed here.**

This proposal would create a huge energy efficiency loophole and huge step backward, and would result in a substantial and unnecessary loss in energy and cost savings for Virginians. We urge the DHCD to reject this amendment.

#### Submittal Information

Date Submitted: 6/28/2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Brian Foley

Representing: Fairfax County

Mailing Address: 12055 Government Center Parkway, Fairfax, VA 22035

Email Address: brian.foley@fairfaxcounty.gov

Telephone Number: 703-324-1842

Proposal Information

Code(s) and Section(s): R602.10

Proposed Change (including all relevant section numbers, if multiple sections):

See attached.

Supporting Statement (including intent, need, and cost impact of the proposal):

The proposed changes in this document to the current R602.10 correlate with Practical Wall Bracing becoming Section R602.12 and incorporate the most beneficial code changes approved in Dallas that will make their way into the 2015 IRC. Most changes make the classic wall bracing easier to understand and apply. They also correct inaccuracies and redundancies without a major overhaul.

Submittal Information

Date Submitted: 6/27/13

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



Revise Section R602.10 as follows:

**R602.10 Wall bracing.** Buildings shall be braced in accordance with this section or, when applicable, Section R602.12. Where a building, or portion thereof, does not comply with one or more of the bracing requirements in this section, those portions shall be designed and constructed in accordance with Section R301.1.

The building official shall be permitted to require the permit applicant to identify braced wall lines and braced wall panels on the construction documents as described herein and provide associated analysis. The building official shall be permitted to waive the analysis of the upper floors where the cumulative length of wall openings of each upper floor wall is less than or equal to the length of the openings of the wall directly below.

Revise Table R602.10.3(1) as follows:

TABLE R602.10.3(1)  
BRACING REQUIREMENTS BASED ON WIND SPEED

<ul style="list-style-type: none"> <li>• EXPOSURE CATEGORY B</li> <li>• 30 FT MEAN ROOF HEIGHT</li> <li>• 10 FT EAVE TO RIDGE HEIGHT</li> <li>• 10 FT WALL HEIGHT</li> <li>• 2 BRACED WALL LINES</li> </ul>			MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE <sup>a</sup>			
Basic Wind Speed (mph)	Story Location	Braced Wall Line Spacing <sup>c</sup> (feet)	Method LIB <sup>b</sup>	Method GB	Methods DWB, WSP, SFB, PBS, PCP, HPS, BV-WSP, ABW, PFH, PFG, CS- SFB <sup>ed</sup>	Methods CS-WSP, CS-G, CS-PF

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm.

- a. Linear interpolation shall be permitted.
- b. Method LIB shall have gypsum board fastened to at least one side with nails or screws per Table R602.3(1) for exterior sheathing or Table R702.3.5 for interior gypsum board. Spacing of fasteners at panel edges shall not exceed 8 inches (203 mm).
- c. Where a braced wall line has parallel braced wall lines on one or both sides of differing dimensions, the average dimension shall be permitted to be used for braced wall line spacing.
- ed. Method CS-SFB does not apply where the wind speed is greater than 100 mph.

Revise Section R602.10.4.1 as follows:

**R602.10.4 Mixing methods.** Mixing of bracing methods shall be permitted as follows:

- ~~1. Mixing intermittent bracing and continuous sheathing methods from story to story shall be permitted.~~
- ~~12. Mixing intermittent bracing methods from braced wall line to braced wall line within a story shall be permitted. Within Seismic Design Categories A, B and C or in regions where the basic wind speed is less than or equal to 100 mph (45 m/s), mixing of intermittent bracing and continuous sheathing methods from braced wall line to braced wall line within a story shall be permitted.~~
23. Mixing intermittent bracing methods along a braced wall line shall be permitted in Seismic Design Categories A and B, and detached dwellings in Seismic Design Category C provided the length of bracing in accordance with Table R602.10.3(1) or R602.10.3(3) is the highest value of all ~~intermittent~~ bracing methods used.
34. Mixing of ~~continuous sheathing~~ methods CS-WSP, CS-G, and CS-PF, ABW, PFH and PFG along a braced wall line shall be permitted.
45. In Seismic Design Categories A and B, and detached dwellings in Seismic Design Category C, mixing of intermittent bracing methods along the interior portion of a braced wall line with continuous sheathing methods CS-WSP, CS-G and CS-PF along the exterior portion of the same braced wall line shall be permitted. The length of required bracing shall be the highest value of all ~~intermittent~~ bracing methods used in accordance with Table R602.10.3(1) or R602.10.3(3) as ~~adjusted by Tables R602.10.3(2) and R602.10.3(4), respectively.~~ The requirements of Section R602.10.7 shall apply to each end of the continuously sheathed portions of the braced wall line.

Revise Table R602.10.5 as follows:

**TABLE R602.10.5  
LENGTH REQUIREMENTS FOR BRACED WALL PANELS**

METHOD (see Table R602.10.4)	MINIMUM LENGTH <sup>a</sup> (inches)					CONTRIBUTING LENGTH (inches)
	WALL HEIGHT					
	8 feet	9 feet	10 feet	11 feet	12 feet	
CS-PF	16	18	20	22 <sup>c</sup>	24 <sup>c</sup>	1.5 x Actual <sup>b</sup>

Revise Section R602.10.8.2 as follows:

**R602.10.8.2 Connections to roof framing.** Top plates of exterior braced wall panels shall be attached to rafters or roof trusses above in accordance with Table R602.3(1) and this section. Where required by this section, blocking between rafters or roof trusses shall be attached to top plates of braced wall panels and to rafters and roof trusses in accordance with Table R602.3(1). A continuous band, rim, or header joist or roof truss parallel to the braced wall panels shall be permitted to replace the blocking required by this section. Blocking shall not be required over openings in continuously-sheathed braced wall lines. In addition to the requirements of this section, lateral support shall be provided for rafters and ceiling joists in accordance with Section R802.8 and for trusses in accordance with Section R802.10.3. Roof ventilation shall be provided in accordance with Section R806.1.

1. For Seismic Design Categories A, B and C and wind speeds less than 100 mph (45 m/s) where the distance from the top of the braced wall panel to the top of the rafters or roof trusses above is 9 1/4 inches (235 mm) or less, blocking between rafters or roof trusses shall not be required. Where the distance from the top of the braced wall panel to the top of the rafters or roof trusses above is between 9 1/4 inches (235 mm) and 15 1/4 inches (387 mm), blocking between rafters or roof trusses shall be provided above the braced wall panel in accordance with Figure R602.10.8.2(1).
2. For Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub> or wind speeds of 100 mph (45 m/s) or greater, where the distance from the top of the braced wall panel to the top of the rafters or roof trusses is 15 1/4 inches (387 mm) or less, blocking between rafters or roof trusses shall be provided above the braced wall panel in accordance with Figure R602.10.8.2(1).
3. Where the distance from the top of the braced wall panel to the top of rafters or roof trusses exceeds 15 1/4 inches (387 mm), the top plates of the braced wall panel shall be connected to perpendicular rafters or roof trusses above in accordance with one or more of the following methods:
  - 3.1. Soffit blocking panels constructed in accordance with Figure R602.10.8.2(2);
  - 3.2. Vertical blocking panels constructed in accordance with Figure R602.10.8.2(3);
  - 3.3. Blocking panels provided by the roof truss manufacturer and designed in accordance with Section R802.10~~Full-height engineered blocking panels designed in accordance with the AF&PA WFCM;~~ or
  - 3.4. Blocking, blocking panels, or other methods of lateral load transfer designed in accordance with the AWC WFCM or accepted engineering practice.

Revise Section R602.10.10 as follows:

**R602.10.10 Panel joints.** All vertical joints of panel sheathing shall occur over, and be fastened to, common studs. Horizontal joints in braced wall panels shall occur over, and be fastened to, common blocking of a minimum 1 ½ inch (38 mm) thickness.

**Exceptions:**

1. Vertical joints of panel sheathing shall be permitted to occur over double studs, where adjoining panel edges are attached to separate studs with the required panel edges fastening schedule, and the adjacent studs are attached together with two rows of 10d box nails [3 inches by 0.128 inch (76.2 mm by 3.25 mm)] at 10 inches (254 mm) o.c.
2. Blocking at horizontal joints shall not be required in wall segments that are not counted as braced wall panels.
3. Where the bracing length provided is at least twice the minimum length required by Table R602.10.3(1) and Table R602.10.3(3) blocking at horizontal joints shall not be required in braced wall panels constructed using Methods WSP, SFB, GB, PBS, ~~or HPS, CS-WSP or CS-SFB.~~
4. When Method GB panels are installed horizontally, blocking of horizontal joints is not required.

Revise Section R602.10.11 as follows:

**R602.10.11 Cripple wall bracing.** Cripple walls shall be constructed in accordance with Section R602.9 and braced in accordance with this section. Cripple walls shall be braced with the length and method of bracing used for the wall above in accordance with Tables R602.10.3(1) and R602.10.3(3), and the applicable adjustment factors in Tables R602.10.3(2) and R602.10.3(4), respectively, except the length of the cripple wall bracing shall be multiplied by a factor of 1.15. ~~The maximum distance between adjacent edges of braced wall panels shall be reduced from 20 feet (6069 mm) to 14 feet (4267 mm).~~ Cripple wall bracing shall comply with Section R602.10.4.3.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ed Keith

Representing: APA

Mailing Address: 7011 South 19<sup>th</sup> Street, Tacoma, WA 98466

Email Address: ed.keith@apawood.org

Telephone Number: (253) 620-7466

Proposal Information

Code(s) and Section(s): R602.12.1 (3)

Proposed Change (including all relevant section numbers, if multiple sections):

R602.12.1

3. Gypsum board braced wall panels with a minimum thickness of 1/2 inch (12.7 mm) fastened in accordance with the fasteners listed in Tables R702.3.5 and 602.10.4 and attached to the framing at 7" on center at all panel edges and at all interior supports.

Supporting Statement (including intent, need, and cost impact of the proposal):

The required fastener spacing provisions for Method GB that is used as wall bracing is found in Table R602.10.4 of the 2012 IRC. The referenced Table 702.3.5 contains the provisions for fasteners for Method GB but the fastener spacing that is listed in Table R702.3.5 is for general ceiling and wall applications. The 7" on center fastening is more rigorous than general fastening and necessary to transfer lateral loads from the sheathing material into the framing. This added language is more clear and less subject to mis-interpretation.

Submittal Information

Date Submitted: 7/1/2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ed Keith

Representing: APA

Mailing Address: 7011 South 19<sup>th</sup> Street, Tacoma, WA 98466

Email Address: ed.keith@apawood.org

Telephone Number: (253) 620-7466

Proposal Information

Code(s) and Section(s): R602.12.2 (2)

Proposed Change (including all relevant section numbers, if multiple sections):

R602.12.1

2. Gypsum board used for interior braced wall panels shall have a minimum length of 48 inches (1220 mm).  
~~When gypsum board sheathing material is applied to only one side of the wall, the contributing length of bracing equals half of the actual length. If both sides of the wall are sheathed with gypsum board, the contributing length of bracing equals the actual length of the doubled sheathed wall. Double-sided applications shall be permitted to be considered two braced wall panels.~~

Supporting Statement (including intent, need, and cost impact of the proposal):

The original language is not clear. The additional language is consistent with Table R602.10.5 of the 2012 IRC and correctly identifies the minimum length of Method GB bracing panels. The contributing length of the gypsum sheathed wall is also clarified by including the provisions from Table R602.10.5 The gypsum board method of wall bracing has always required gypsum on both sides of the wall to equal the wood structural sheathing and structural fiberboard methods. This change helps to keep the Virginia code compatible to the requirements found in the IRC

Submittal Information

Date Submitted: 7/1/2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2012 Code Change Cycle**

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Ed Keith

Representing: APA – The Engineered Wood Association

Mailing Address: 7011 South 19<sup>th</sup> Street, Tacoma, WA 98411

Email Address: ed.keith@apawood.org

Telephone Number: 253-620-7466

Proposal Information

Code(s) and Section(s): Table R602.12.4 of proposed Practical wall bracing (Section R602.12)

Proposed Change (including all relevant section numbers, if multiple sections):

**TABLE R602.12.4**  
**REQUIRED LENGTH OF BRACING ALONG EACH SIDE OF A CIRCUMSCRIBED RECTANGLE <sup>a, b, c, d</sup>**

WIND SPEED	EAVE-TO RIDGE HEIGHT (FEET)	NUMBER OF FLOOR LEVELS ABOVE <sup>e, f</sup>	REQUIRED LENGTH OF BRACING ON FRONT/REAR SIDE (feet)						REQUIRED LENGTH OF BRACING ON LEFT/RIGHT SIDE (feet)					
			Length of left/right side (feet)						Length of front/rear side (feet)					
			10	20	30	40	50	60	10	20	30	40	50	60
90	10	0	2.0	3.5	5.0	6.0	7.5	9.0	2.0	3.5	5.0	6.0	7.5	9.0
		1 <sup>d</sup>	3.5	6.5	9.0	12.0	14.5	17.0	3.5	6.5	9.0	12.0	14.5	17.0
		2 <sup>d</sup>	5.0	9.5	13.5	17.5	21.5	25.0	5.0	9.5	13.5	17.5	21.5	25.0
	15	0	2.6	4.6	6.5	7.8	9.8	11.7	2.6	4.6	6.5	7.8	9.8	11.7
		1 <sup>d</sup>	4.0	7.5	10.4	13.8	16.7	19.6	4.0	7.5	10.4	13.8	16.7	19.6
		2 <sup>d</sup>	5.5	10.5	14.9	19.3	23.7	27.5	5.5	10.5	14.9	19.3	23.7	27.5
20	0	2.9	5.2	7.3	8.8	11.1	13.2	2.9	5.2	7.3	8.8	11.1	13.2	
	1 <sup>d</sup>	4.5	8.5	11.8	15.6	18.9	22.1	4.5	8.5	11.8	15.6	18.9	22.1	
	2 <sup>d</sup>	6.2	11.9	16.8	21.8	27.3	31.1	6.2	11.9	16.8	21.8	27.3	31.1	
100	10	0	2.5	4.0	6.0	7.5	9.5	11.0	2.5	4.0	6.0	7.5	9.5	11.0
		1 <sup>d</sup>	4.5	8.0	11.0	14.5	18.0	21.0	4.5	8.0	11.0	14.5	18.0	21.0
		2 <sup>d</sup>	6.0	11.5	16.5	21.5	26.5	31.0	6.0	11.5	16.5	21.5	26.5	31.0
	15	0	3.4	5.2	7.8	9.8	12.4	14.3	3.4	5.2	7.8	9.8	12.4	14.3
		1 <sup>d</sup>	5.2	9.2	12.7	16.7	20.7	24.2	5.2	9.2	12.7	16.7	20.7	24.2
		2 <sup>d</sup>	6.6	12.7	18.2	23.7	29.2	34.1	6.6	12.7	18.2	23.7	29.2	34.1
	20	0	3.8	5.9	8.8	11.1	14.0	16.2	3.8	5.9	8.8	11.1	14.0	16.2
		1 <sup>d</sup>	5.9	10.4	14.4	18.9	23.4	27.3	5.9	10.4	14.4	18.9	23.4	27.3
		2 <sup>d</sup>	7.5	14.4	20.6	26.8	33.0	38.5	7.5	14.4	20.6	26.8	33.0	38.5

For SI: 1 ft = 304.8 mm

d. Where braced wall panels have been sheathed in wood structural panels with edge fasteners spaced at 4 inches (102 mm) on center, multiply the required length of bracing by 0.83. Multiplier shall be used only for walls supporting stories above.

**Reason:**

This code change deletes the reference to footnote d in the heading of Table R602.10.4 and moves the footnote reference into the third column of the table so as to indicate only those instances where the 0.83 multiplier applies. This change also clarifies footnote d itself so that it is clear that the 0.83 multiplier does not apply to walls of single story buildings or walls that only support a roof-ceiling assembly.

The use of 7/16" minimum CS-WSP and a 4" o.c. perimeter nailing pattern allows for a reduced amount of wall bracing, but only when combined with the mass and stiffness provided by a floor(s) above. For that reason, the multiplier is not applicable to single-story buildings or on the top story of a building.

(Note that the above table does not include all table footnotes nor does it include several columns for 70 and 80 foot wall sides.)

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Guy Tomberlin

Representing: Fairfax County and VPMA/VBCOA Code Committees

Mailing Address: 12055 Government Center Parkway Fairfax, Virginia 22030

Email Address: guy.tomberlin@fairfaxcounty.gov

Telephone Number: 703-324-1611

Proposal Information

Code(s) and Section(s): VECC Section 403.6

Proposed Change (including all relevant section numbers, if multiple sections):

Add new exception. VECC Section 403.6 add new text and Exception with text as follows:

**VECC - R403.6**

Revise as follows:

**R403.6 Equipment/appliance Sizing (Mandatory).** Heating and cooling equipment and appliances shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies.

Exception: Heating and cooling equipment and appliances shall not be limited to the capacities determined in accordance with Manual S where any of the following conditions apply:

- 1- The specified equipment or appliance utilizes multi-stage technology or variable refrigerant flow technology and the loads calculated in accordance with Manual J fall within the range of the manufacturer's published capacities for that equipment or appliance.
- 2- The specified equipment or appliance manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with Manual J and the manufacturer's next larger standard size unit is specified.
- 3- The specified equipment or appliance is the lowest capacity unit available from the specified manufacturer.

Supporting Statement (including intent, need, and impact of the proposal):

Item 1 - Current technology is widely available that incorporates multi-stage or VRF systems for increased efficiency. Some of these appliances have such a wide span of functionality that they extend beyond the allowable requirements outlined in Manual S. However, this technology allows the appliance to operate between minimum and maximum capacities, based on loads imposed, thus eliminating the problems associated with single-stage, oversized appliances. Additionally, the appliance will operate efficiently during times where outdoor air temperatures exceed those used to calculate the loads in Manual J.

Item 2 - Often times, the appliance manufacturer's published total and sensible capacities are at odds with the requirements of Manual S. There are many cases where the total capacity of the appliance will fall within the parameters of Manual S in relation to the calculated total gain, however the sensible capacity of the appliance may fall short of the calculated sensible gain, thus unable to provide efficient sensible cooling for the space. When the manufacturer's next standard size larger is chosen to meet the sensible gain, the total capacity of the appliance may then exceed the requirements of Manual S. Choosing the larger appliance will enable a more efficient and effective system.

Item 3 - The current code language does not have provisions for sizing appliances for minimal dwelling unit or dwelling addition loads, other than forcing owners and contractors to change appliances to less desirable systems. For example; a 2 story townhouse, in climate zone 4, with 600 square feet per floor wants to utilize a two-zone system, or a separate heat pump system for each floor. A 1.5 ton unit per floor would exceed the requirements of Manual S, however a 1.5 ton unit is the smallest available appliance by the desired manufacturer. Current language would require a complete design change, such as utilizing a single appliance to serve the entire dwelling rather than the more desirable two-zone system, or requiring a system that utilizes electric baseboard heating and window-mounted air conditioning units. This is absurd, and an injustice to an owner that desires to reduce energy costs.

### Submittal Information

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
The Jackson Center  
501 N. 2nd Street  
Richmond, VA 23219-1321

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Guy Tomberlin

Representing: Fairfax County and VPMIA/VBCOA Code Committees

Mailing Address: 12055 Government Center Parkway Fairfax, Virginia 22030

Email Address: guy.tomberlin@fairfaxcounty.gov

Telephone Number: 703-324-1611

Proposal Information

Code(s) and Section(s): VECC Section R403.6 (Original proposal to be used as revised by this proposal)

Proposed Change (including all relevant section numbers, if multiple sections):

Add new exception. VECC Section R403.6 to remain unchanged but add new Exception with text as follows:

**R403.6 Equipment/appliance Sizing.** Heating and cooling equipment and appliances shall be sized in accordance with ACCA Manual S or other approved sizing methodologies based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies.

**Exception:** Heating and cooling equipment and appliances sizing shall not be limited to the capacities determined in accordance with Manual S or other approved sizing methodologies where any of the following conditions apply:

1. The specified equipment or appliance utilizes multi-stage technology or variable refrigerant flow technology and the loads calculated in accordance with Manual J the approved heating and cooling methodology fall within the range of the manufacturer's published capacities for that equipment or appliance.
2. The specified equipment or appliance manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with Manual J the approved heating and cooling methodology and the manufacturer's next larger standard size unit is specified.
3. ~~The specified equipment or appliance is the lowest capacity unit available from the specified manufacturer.~~

Supporting Statement (including intent, need, and impact of the proposal):

After listening to the discussions presented during the ICC Committee Action Hearings, we have incorporated those concerns within this modification. The first being the addition of "other approved sizing methodologies". ACCA's Manual S is not the **only** approved, appropriate sizing methodology available to size residential HVAC equipment. The current language would not permit other sizing methodologies such as ASHRAE's Handbook series. The second modification was to reword the language to provide clarity to the text. The third modification was to remove the third exception based on concerns voiced during testimony about the broad aspects that such an exception would permit.

The following is from the original reason statement:

Item 1 - Current technology is widely available that incorporates multi-stage or VRF systems for increased efficiency. Some of these appliances have such a wide span of functionality that they extend beyond the allowable requirements outlined in Manual S. However, this technology allows the appliance to operate between minimum and maximum capacities, based on loads imposed, thus eliminating the problems associated with single-stage, oversized appliances. Additionally, the appliance will operate efficiently during times where outdoor air temperatures exceed those used to calculate the loads in Manual J.

Item 2 - Often times, the appliance manufacturer's published total and sensible capacities are at odds with the requirements of Manual S. There are many cases where the total capacity of the appliance will fall within the parameters of Manual S in relation to the calculated total gain, however the sensible capacity of the appliance may fall

short of the calculated sensible gain, thus unable to provide efficient sensible cooling for the space. When the manufacturer's next standard size larger is chosen to meet the sensible gain, the total capacity of the appliance may then exceed the requirements of Manual S. Choosing the larger appliance will enable a more efficient and effective system.

### Submittal Information

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
The Jackson Center  
501 N. 2nd Street  
Richmond, VA 23219-1321

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Guy Tomberlin

Representing: Fairfax County and VPMIA/VBCOA Code Committees

Mailing Address: 12055 Government Center Parkway Fairfax, Virginia 22030

Email Address: guy.tomberlin@fairfaxcounty.gov

Telephone Number: 703-324-1611

Proposal Information

Code(s) and Section(s): VRC Section M1401.3

Proposed Change (including all relevant section numbers, if multiple sections):

Add new exception. VIRC Section M1401.3 add new text and Exception with text as follows:

**VRC M1401.3**

Revise as follows:

**M1401.3 Equipment/appliance Sizing.** Heating and cooling equipment and appliances shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies.

Exception: Heating and cooling equipment and appliances shall not be limited to the capacities determined in accordance with Manual S where any of the following conditions apply:

- 1- The specified equipment or appliance utilizes multi-stage technology or variable refrigerant flow technology and the loads calculated in accordance with Manual J fall within the range of the manufacturer's published capacities for that equipment or appliance.
- 2- The specified equipment or appliance manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with Manual J and the manufacturer's next larger standard size unit is specified.
- 3- The specified equipment or appliance is the lowest capacity unit available from the specified manufacturer.

Supporting Statement (including intent, need, and impact of the proposal):

Item 1 - Current technology is widely available that incorporates multi-stage or VRF systems for increased efficiency. Some of these appliances have such a wide span of functionality that they extend beyond the allowable requirements outlined in Manual S. However, this technology allows the appliance to operate between minimum and maximum capacities, based on loads imposed, thus eliminating the problems associated with single-stage, oversized appliances. Additionally, the appliance will operate efficiently during times where outdoor air temperatures exceed those used to calculate the loads in Manual J.

Item 2 - Often times, the appliance manufacturer's published total and sensible capacities are at odds with the requirements of Manual S. There are many cases where the total capacity of the appliance will fall within the parameters of Manual S in relation to the calculated total gain, however the sensible capacity of the appliance may fall short of the calculated sensible gain, thus unable to provide efficient sensible cooling for the space. When the manufacturer's next standard size larger is chosen to meet the sensible gain, the total capacity of the appliance may then exceed the requirements of Manual S. Choosing the larger appliance will enable a more efficient and effective system.

Item 3 - The current code language does not have provisions for sizing appliances for minimal dwelling unit or dwelling addition loads, other than forcing owners and contractors to change appliances to less desirable systems. For example; a 2 story townhouse, in climate zone 4, with 600 square feet per floor wants to utilize a two-zone system, or a separate heat pump system for each floor. A 1.5 ton unit per floor would exceed the requirements of Manual S, however a 1.5 ton unit is the smallest available appliance by the desired manufacturer. Current language would require a complete design change, such as utilizing a single appliance to serve the entire dwelling rather than the more desirable two-zone system, or requiring a system that utilizes electric baseboard heating and window-mounted air conditioning units. This is absurd, and an injustice to an owner that desires to reduce energy costs.

### Submittal Information

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
The Jackson Center  
501 N. 2nd Street  
Richmond, VA 23219-1321

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Guy Tomberlin

Representing: Fairfax County and VPMIA/VBCOA Code Committees

Mailing Address: 12055 Government Center Parkway Fairfax, Virginia 22030

Email Address: guy.tomberlin@fairfaxcounty.gov

Telephone Number: 703-324-1611

Proposal Information

Code(s) and Section(s): VRC Section M1401.3 (Original proposal to be used as revised by this proposal)

Proposed Change (including all relevant section numbers, if multiple sections):

Add new exception. VRC Section M1401.3 to remain unchanged but add new Exception with text as follows:

**M1401.3 Equipment/appliance Sizing.** Heating and cooling equipment and appliances shall be sized in accordance with ACCA Manual S or other approved sizing methodologies based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies.

**Exception:** Heating and cooling equipment and appliances sizing shall not be limited to the capacities determined in accordance with Manual S or other approved sizing methodologies where any of the following conditions apply:

1. The specified equipment or appliance utilizes multi-stage technology or variable refrigerant flow technology and the loads calculated in accordance with Manual J the approved heating and cooling methodology fall within the range of the manufacturer's published capacities for that equipment or appliance.
2. The specified equipment or appliance manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with Manual J the approved heating and cooling methodology and the manufacturer's next larger standard size unit is specified.
- ~~3. The specified equipment or appliance is the lowest capacity unit available from the specified manufacturer.~~

Supporting Statement (including intent, need, and impact of the proposal):

After listening to the discussions presented during the ICC Committee Action Hearings, we have incorporated those concerns within this modification. The first being the addition of "other approved sizing methodologies". ACCA's Manual S is not the **only** approved, appropriate sizing methodology available to size residential HVAC equipment. The current language would not permit other sizing methodologies such as ASHRAE's Handbook series. The second modification was to reword the language to provide clarity to the text. The third modification was to remove the third exception based on concerns voiced during testimony about the broad aspects that such an exception would permit.

The following is from the original reason statement:

Item 1 - Current technology is widely available that incorporates multi-stage or VRF systems for increased efficiency. Some of these appliances have such a wide span of functionality that they extend beyond the allowable requirements outlined in Manual S. However, this technology allows the appliance to operate between minimum and maximum capacities, based on loads imposed, thus eliminating the problems associated with single-stage, oversized appliances. Additionally, the appliance will operate efficiently during times where outdoor air temperatures exceed those used to calculate the loads in Manual J.

Item 2 - Often times, the appliance manufacturer's published total and sensible capacities are at odds with the requirements of Manual S. There are many cases where the total capacity of the appliance will fall within the parameters of Manual S in relation to the calculated total gain, however the sensible capacity of the appliance may fall

short of the calculated sensible gain, thus unable to provide efficient sensible cooling for the space. When the manufacturer's next standard size larger is chosen to meet the sensible gain, the total capacity of the appliance may then exceed the requirements of Manual S. Choosing the larger appliance will enable a more efficient and effective system.

Submittal Information

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
The Jackson Center  
501 N. 2nd Street  
Richmond, VA 23219-1321

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

11/11

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Guy Tomberlin

Representing: Fairfax County and VPMA/VBCOA Code Committees

Mailing Address: 12055 Government Center Parkway Fairfax, Virginia 22030

Email Address: guy.tomberlin@fairfaxcounty.gov

Telephone Number: 703-324-1611

Proposal Information

Code(s) and Section(s): VPC Section M1401.3

Proposed Change (including all relevant section numbers, if multiple sections):

gd

Modify by adding new text (allowance). VPC Section 608.16.10 to read as follows:

**608.10.16 Coffee machines and noncarbonated beverage dispensers.** The water supply connection to coffee machines and noncarbonated beverage dispensers shall be protected against backflow by a backflow preventer conforming to ASSE 1022 or 1024 or by an air gap.

Supporting Statement (including intent, need, and impact of the proposal):

2 or 3 code cycles ago VA saw that the IPC had omitted coverage for backflow provisions for coffee makers and noncarbonated beverage dispensers. So we proposed a code change on the national level. We used the existing coverage required for carbonated dispensers as the model to follow for the type of backflow preventer permitted to serve these newly identified devices that require BFP protection. However, the installation of the 1022 device is not necessary in this application. A 1022 BFP is made up of 2 spring loaded check valves and "weep" holes that allow water to escape when pressure differential is experienced or check valve failure occurs. This is the industry norm for the carbonated application due to the hazard associated with potential carbonation poisoning. However, for noncarbonated applications and coffee makers the "weep" feature is simply not necessary. The ASSE 1024 device is also made up of 2 spring loaded check valves that will not "weep" in the event of water pressure differential. This had been the industry standard of BFP used for these devices before the code change was incorporated to require the 1022 but was not mentioned in the code.

The problem is that pressure changes in a water supply system are part of any systems normal functional design and operation. Coffee makers and noncarbonated devices are typically installed in areas that a "leaking" BFP will cause problems and do not enable the installation of a drain dedicated for BFP leakage. This proposal maintains the 1022 for those who still may elect to use them but offers an additional option for the application where water leaking on a counter or other areas is not conducive to water spills. This proposal maintains the same level of safety the current code prescribes but offers a better solution for a industry wide problem. It is our understanding that the Washington Suburban Sanitary Commission (WSSC) and the District of Columbia have already adopted this allowance.

Submittal Information

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2012 Code Change Cycle**

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual       Government Entity       Company

Name: Frank Castelvechi, III PE

Representing: County of Henrico Building Inspections

Mailing Address: PO Box 90775, Henrico VA 23273

Email Address: cas13@co.henrico.va.us

Telephone Number: 804 501 4375

Proposal Information

Code(s) and Section(s): IBC and IFC [F] 908.7 New VCC IBC section 3415.17

---

Proposed Change (including all relevant section numbers, if multiple sections):

**[F] 908.7 Carbon monoxide alarms.**

**908.7.1 Use Group I and R**

Group I or R occupancies located in a building containing a fuel-burning appliance or in a building which has an attached garage shall be equipped with single-station carbon monoxide alarms. The carbon monoxide alarms shall be listed as complying with UL 2034 and be installed and maintained in accordance with NFPA 720 and the manufacturer's instructions. An open parking garage, as defined in Chapter 2, or an enclosed parking garage ventilated in accordance with Section 404 of the *International Mechanical Code* shall not be considered an attached garage.

**Exception:** *Sleeping units* or *dwelling units* which do not themselves contain a fuel-burning appliance or have an attached garage, but which are located in a building with a fuel-burning appliance or an attached garage, need not be equipped with single-station carbon monoxide alarms provided that:

1. The *sleeping unit* or *dwelling unit* is located more than one story above or below any story which contains a fuel-burning appliance or an attached garage;
2. The *sleeping unit* or *dwelling unit* is not connected by duct work or ventilation shafts to any room containing a fuel-burning appliance or to an attached garage; and
3. The building is equipped with a common area carbon monoxide alarm system.

**907.2 Use Group E**

Classrooms in E occupancies located in a building containing a fuel-burning appliance or in a building which has an attached garage or small engine or vehicle shop shall be equipped with single-station carbon monoxide alarms. The carbon monoxide alarms shall be listed as complying with UL 2034 and be installed and maintained in accordance with NFPA 720 and the manufacturer's instructions. An open parking garage, as defined in Chapter 2, or an enclosed parking garage ventilated in accordance with Section 404 of the *International Mechanical Code* shall not be considered an attached garage.

**Exception:** Classrooms which do not themselves contain a fuel-burning appliance or have an attached garage, but which are located in a building with a fuel-burning appliance or an attached garage, need not be equipped with single-station carbon monoxide alarms provided that:

1. The classroom is located more than 100 feet from the fuel burning appliance or attached garage or located more than one story above or below any story which contains a fuel-burning appliance or attached garage or; and
2. The classroom is not connected by duct work or ventilation shafts to any room containing a fuel-burning appliance

**908.7.3 Carbon monoxide detection systems.**

Carbon monoxide detection systems, which include carbon monoxide detectors and audible notification appliances, installed and maintained in accordance with this section for carbon monoxide alarms and NFPA 720 shall be permitted. The carbon monoxide detectors shall be *listed* as complying with UL 2075.

Add

**Section 3415.17 Carbon Monoxide Detectors.** Classrooms in E occupancies located in a building containing a fuel-burning appliance or in a building which has an attached garage or small engine or vehicle shop shall be equipped with single-station carbon monoxide alarms by August 1, 2015 regardless of when constructed. For existing buildings, in classrooms not undergoing renovation, these may be battery or plug in type. The carbon monoxide alarms shall be listed as complying with UL 2034 and be installed and maintained in accordance with NFPA 720 and the manufacturer's instructions. An open parking garage, as defined in Chapter 2, or an enclosed parking garage ventilated in accordance with Section 404 of the *International Mechanical Code* shall not be considered an attached garage.

**Exception:** Classrooms which do not themselves contain a fuel-burning appliance or have an attached garage, but which are located in a building with a fuel-burning appliance or an attached garage, need not be equipped with single-station carbon monoxide alarms provided that:

1. The classroom is located more than 100 feet from the fuel burning appliance or attached garage or located more than one story above or below any story which contains a fuel-burning appliance or attached garage or; and
2. The classroom is not connected by duct work or ventilation shafts to any room containing a fuel-burning appliance

Supporting Statement (including intent, need, and impact of the proposal):

This proposal is to meet the concern of the legislature about the potential for carbon monoxide poisoning in public schools and extends this requirement to all E use groups including private schools and daycare centers as the hazard does not know the difference between public and private schools. Often the signs and symptoms of carbon monoxide poisoning are mistake for the onset of influenza.

There are recent out of state news reports of multiple students being poisoned by carbon monoxide from faulty heating systems in both public and private schools.

In January 2013 dozens of Nashville's Drexel Preparatory Academy students and staff were hospitalized with carbon monoxide poisoning.

In December 2012 dozens of student and staff from Finch Elementary school in Atlanta were sent to the hospital with carbon monoxide poisoning.

Both of these incidents faulty heating appliances were to blame and it was initially thought to be influenza .

In that these incidents are more likely in existing building with aging heating systems and the plug in or battery single station detectors are quite inexpensive, starting under \$20 each, it is appropriate to add this as a retrofit provision in the Virginia USBC to protect the children..

This proposal will result in a minimal increase in cost of construction.

#### Submittal Information

Date Submitted: 3/1/13

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Placeholder

Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s): 908.7 CO alarms

Proposed Change (including all relevant section numbers, if multiple sections):

See attached 2015 IBC for E occupancies for CO alarms.

Supporting Statement (including intent, need, and impact of the proposal):

Submittal Information

Date Submitted: 6/25/13

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DEBAR State Building Codes Office  
600 East Main Street,  
Suite 300  
Richmond, VA 23219

Email Address: [vernon.hodge@dhcd.virginia.gov](mailto:vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2012 Code Change Cycle**

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Placeholder

Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s): 908.7

Proposed Change (including all relevant section numbers, if multiple sections):

In E occupancies all rooms containing a fuel-burning appliance shall be equipped with a single-station carbon monoxide alarm. The carbon monoxide alarm shall be listed as complying with UL 2034 and shall be installed and maintained with the applicable provisions of NFPA 720.

Supporting Statement (including intent, need, and impact of the proposal):

Differences include not required in every classroom; not set a distance of 100 feet; not concerned about garages or ducts as ICC code change are more comprehensive. Not retroactive. Delegate was seeking simple 1<sup>st</sup> step for K-12 only - t even private schools or colleges.

Submittal Information

Date Submitted: 9/11/13

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DEBAR State Building Codes Office  
600 East Main Street,  
Suite 300  
Richmond, VA 23219

Email Address: vernon.hodge@dhcd.virginia.gov  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



## F182 – 13

908.7 (IBC[F] 908.7) , 908.7.1 (New) [IBC [F] 908.7.1 (New)], 908.7.1.1 (New) [IBC [F] 908.7.1.1 (New)], 908.7.1.2 (New) [IBC [F] 908.7.1.2 (New)]

Proponent: Roger Evans, Park City Municipal Corporation, representing the Utah Chapter of ICC  
(revans@parkcity.org)

Revise as follows:

908.7 (IBC[F] 908.7) Carbon monoxide alarms detection. Group I or R and E occupancies located in a building containing a fuel-burning appliance or in a building which has an attached garage shall be equipped with single-station carbon monoxide alarms detection. ~~The Group I and R occupancies shall be equipped with single-station carbon monoxide alarms shall be listed as complying with UL 2034 and be installed and be installed and maintained in accordance with NFPA 720 and the manufacturer's instructions. Group E occupancies shall be equipped with carbon monoxide detection in accordance with 907.1 and 907.2.~~ An open parking garage ventilated in accordance with Section 404 of the International Mechanical Code shall not be considered an attached garage.

Exception: *Sleeping units or dwelling units* which do not themselves contain a fuel-burning appliance or have an attached garage, but which are located in a building with a fuel-burning appliance or an attached garage, need not be equipped with single-station carbon monoxide alarms provided that:

1. The *sleeping unit or dwelling unit* is located more than one story above or below any story which contains a fuel-burning appliance or an attached garage;
2. The *sleeping unit or dwelling unit* is not connected by duct work or ventilation shafts to any room containing a fuel-burning appliance or to an attached garage; and
3. The building is equipped with a common area carbon monoxide alarm system.

908.7.1 (IBC[F] 908.7.1) Group E Occupancy Locations. Where required by Section 908.7, carbon monoxide detectors in Group E occupancies shall be installed in the locations specified in Sections 908.7.2 through 908.7.2.2.

908.7.1.1 (IBC[F] 908.7.1.1) Fuel-burning appliances and fuel burning fireplaces. Carbon monoxide detectors shall be installed on the ceiling of a room containing a fuel-burning appliance or a fuel burning fireplace. The carbon monoxide alarm signal shall be automatically transmitted to a constantly attended on site location.

908.7.1.2 (IBC[F] 908.7.1.2) Forced air furnaces. Carbon monoxide detectors shall be installed on the ceiling of a room containing a fuel-burning forced air furnace or in occupied rooms served by a fuel-burning, forced air furnace. The carbon monoxide alarm signal shall be automatically transmitted to a constantly attended on site location.

908.7.1 (IBC[F] 908.7.1) 908.7.2 (IBC[F] 908.7.2) Carbon monoxide detection systems. Carbon monoxide detection systems, which include carbon monoxide detectors and audible notification appliances, installed and maintained in accordance with this section for carbon monoxide alarms and NFPA 720 shall be permitted. The carbon monoxide detectors shall be listed as complying with UL 2075.

Reason: This proposal is intended to protect students and faculty from serious injury or possibly death from unintentional non-fire related carbon monoxide (CO) exposure by mandating the installation of CO detection devices in education occupancies. In the absence of a model code for the installation of CO detection in education occupancies each jurisdiction is developing its own regulations with varying installation requirements. For example, after several CO incidents in Connecticut (Public Act 11-248) and in Maryland (SB 173), the Governors signed bills into law for the installation CO detection in education occupancies and left the location, performance, inspection, testing and maintenance of CO detection and warning equipment up to the Building Commission or the State Fire Marshal. Section 610 of the 2010 Fire Code New York State (FCNYS) requires CO detection in Group E occupancies.

Also a result of the national publicity generated from an incident at an Atlanta school (ABC News) that sent 42 students to hospitals, three states have introduced legislation requiring CO detection in schools.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Organization

Name: J. Kenneth Payne, Jr., AIA

Representing: VSAIA

Mailing Address: 3200 Norfolk Street, Richmond, VA 23230

Email Address: kpayne@moseleyarchitects.com

Telephone Number: 804.794.7555

Proposal Information

Code(s) and Section(s): **Draft 2012 VCC, Section 1008.1.9.7 - REVISED**

Proposed Change (including all relevant section numbers, if multiple sections):

**1008.1.9.7 Delayed egress locks.** In other than Groups A, E, and H, *Approved, listed*, delayed egress locks shall be permitted to be installed on doors ~~servng any occupancy including Group A-3, airport facilities, except Group A, E and H occupancies~~ in buildings which are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved* automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

**Exception:** A-3 airport facilities.

[Items 1-6 remain unchanged]

Supporting Statement (including intent, need, and impact of the proposal):

As currently written, the syntax is confusing and could possibly be interpreted in a manner which is not consistent with the intent (as described in the 2012 IBC Commentary). For example, it appears to allow delayed egress locks in Groups A, E, and H, if you do not have a sprinkler, smoke, or heat detection system. The 2012 IBC syntax is also confusing. When Virginia tried to exempt airport facilities from the original IBC version (which already had confusing syntax), it expanded upon the questionable syntax.

The proposed code change attempts to clarify the intent.

Cost Impact:

No cost impact. Proposed code change is for grammatical purposes only.

Submittal Information

Date Submitted: ~~May 17, 2013~~ August 23, 2013



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information (Check one):  Individual  Government Entity  Company

Name: John Catlett (VBCOA Admin Comm.); Kenney Payne (VA AIA); Ken Fredgren (Reston Access.)

Code(s) and Section(s): USBC, Virginia Construction Code Section 1106.3

Proposed Change (including all relevant section numbers, if multiple sections):

Change Section 1106.3 to read as follows:

1106.3 ~~Hospital outpatient~~ Outpatient clinics, ambulatory health care and medical facilities or offices. At least 10 percent, but not less than one, of care recipient and visitor parking spaces provided to serve ~~hospital outpatient~~ clinics, ambulatory health care facilities and medical facilities or offices shall be accessible.

Exceptions:

1. Multiple use tenant building where the tenants are not identified at the time of initial construction and the building is not intended specifically for outpatient clinics, ambulatory health care and medical facilities or offices.
2. Medical offices located in the residence of the service provider.

Supporting Statement (including intent, need, and impact of the proposal):

This proposal would require slightly more accessible parking spaces at newly constructed outpatient clinics, ambulatory surgery centers and medical facilities or offices. The IBC already requires the additional spaces for medical facilities which are on hospital campuses. An exception is provided for those medical facilities or offices located within strip malls, or sharing a common parking area with non-medical commercial business.

This change makes it clear that facilities designed for the purpose of providing outpatient clinics, ambulatory health care and medical facilities or offices meet the higher requirement.

Submittal Information

Date Submitted: August 29, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)  
The Jackson Center  
501 N. 2nd Street  
Richmond, VA 23219-1321

Email Address: [taso@dhcd.virginia.gov](mailto:taso@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information (Check one):  Individual  Government Entity  Organization

Name: J. Kenneth Payne, Jr., AIA Representing: VSAIA

Mailing Address: 3200 Norfolk Street, Richmond, VA 23230

Email Address: kpayne@moseleyarchitects.com Telephone Number: 804.794.7555

Proposal Information

Code(s) and Section(s): 2012 IBC, Section 1403.8 - REVISED

Proposed Change (including all relevant section numbers, if multiple sections):

Add the following new section as follows:

**1403.8 Air barriers.** The exterior wall envelope shall be designed and constructed by providing air barriers which comply with the International Energy Conservation Code.

Supporting Statement (including intent, need, and impact of the proposal):

Although Section [E] 1301.1.1.1 requires buildings to be designed and constructed in accordance with the IECC, something as critical as air barriers should not be left to a reference in Chapter 13 – especially since it is a critical component of the thermal exterior wall envelope, thus at least a reference to air barriers should be considered in Chapter 14.

At the national level, an attempt was made to include all of the air barrier language within Chapter 14 of the 2012 IBC; however, it was "Disapproved" by the Fire Safety Code Committee at the 2012 ICC Code Development Hearing in Dallas, because they felt it belonged in the IECC. We concur. However, a reference should be considered.

2012 IBC Chapter 14 includes references to other exterior wall assembly components such as, flashings, water resistive barriers, and vapor retarders. Certainly, an air barrier should warrant at least a nominal mention in IBC Chapter 14. By limiting this code change proposal to just a reference to the IECC requirements within Chapter 14, it still addresses the reason for disapproval by keeping everything in the IECC.

Air barriers have just as much, if not more, to do with moisture and water control, than vapor retarders; therefore, should be included in Chapter 14 along with vapor barriers/retarders.

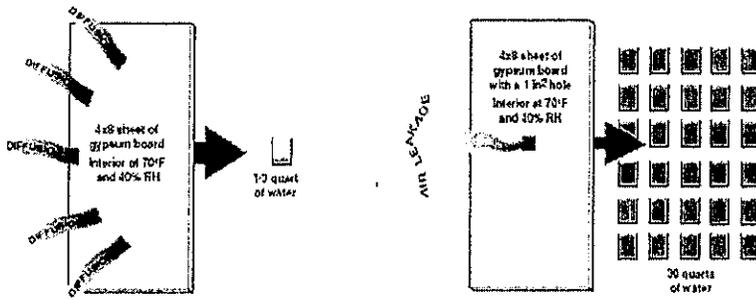
The ranking based on the amount of moisture damage (per NIBS) is as follows – note "air" is ranked 2<sup>nd</sup>, ahead of vapor:

1. Water – direct leaks: Addressed in IBC Chapter 14 via flashing requirements
2. Air – moisture carried via air flow: Addressed in IECC via air barriers (no direct mention in IBC)
3. Vapor – vapor diffusion: Addressed in IBC Chapter 14 via vapor retarder requirements
4. Thermal bridging – condensation: Addressed in IECC via continuous insulation requirements

Air flow into and out of the exterior thermal envelope is not just an "energy" concern, but also can cause concentrated condensation, mold, mildew, corrosion, and premature failure of the building assembly.

Estimates range between 30-200 times more moisture is transported via air flow than vapor diffusion – yet vapor retarders are included in IBC Chapter 14 and air barriers are not?

Substantially more moisture will enter a building through an air leak than from vapor diffusion through wall components.



100 Times more water gets through a 1 square inch hole through Air Transport in a 4x8 sheet of gypsum board than Vapor Diffusion.

Source: [http://www.buildingscience.com/resources/walls/insulation\\_sheathings.pdf](http://www.buildingscience.com/resources/walls/insulation_sheathings.pdf)

2

233 Perm-A-View  
34408

SOURCE

Exterior: 20°F, 80% RH

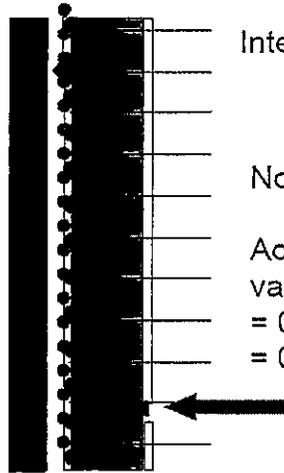
Interior: 70°F, 30% RH

Exfiltration @ 2 cfm  
electrical outlet (1 sq. in.)  
0.2 psf (9 mph wind)

No Vapor Retarder

Accumulation due to  
air flow  
= 0.0364 lb/hr  
= 26.2 lb/month

Accumulation due to  
vapor diffusion  
= 0.0006 lb/hr  
= 0.43 lb/sf/month



Cost Impact: None, since air barriers are already required per 2012 IECC.

Submittal Information

Date Submitted: ~~May 17, 2013~~ August 23, 2013



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Mike Toalson (HBAV); John Catlett (VBCOA Admin. Comm.); Kenney Payne (VA AIA); Ken Fredgren (Reston Access.)

Proposal Information

Code(s) and Section(s): USBC, Virginia Construction Code Section 310.6 (IRC Section R311.2.1)

Proposed Change (including all relevant section numbers, if multiple sections):

R311.2.1 Interior passage. Where a dwelling unit has both a kitchen and a living or entertainment area on the same level as the egress door required by Section R311.2, an interior passage route shall be provided from such egress door to the kitchen and the living or entertainment area and to at least one bedroom and at least one bathroom containing a water closet, lavatory and bathtub or shower, where such rooms are provided on that same level. Any doors or cased openings along such interior passage route providing access to the areas identified above shall comply with the following.

1. Cased openings shall provide a minimum 34-inch clear width.
2. Doors shall be, at a minimum, nominal 34-inch doors.

Exceptions:

1. Where a door or cased opening, and its associated molding or trim, is at the end and facing the length of a hallway and the width of the hallway is not wide enough to accommodate such doors or cased openings.
2. Closet doors or cased openings.
3. Pantry door or cased openings.
4. Bathrooms accessed directly from a bedroom that is not required to comply with this section.

Supporting Statement (including intent, need, and impact of the proposal):

This proposal provides a minimum passage for certain areas on the main level of new dwellings. The language is consistent with the Easy Living standard, but does not include all of the criteria in that standard.

Submittal Information

Date Submitted: August 29, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



Supporting Statement (including intent, need, and cost impact of the proposal):

DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Gregory Revels

Representing: Henrico County

Mailing Address: P.O. Box 90775, Henrico, Va. 23273-0775

Email Address: rev04@co.henrico.va.us

Telephone Number: 804-501-4374

Proposal Information

Code(s) and Section(s): 403.1

Proposed Change (including all relevant section numbers, if multiple sections):

**R403.1 General.** All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, wood foundations, or other approved structural systems which shall be of sufficient design to accommodate all loads according to Section R301 and to transmit the resulting loads to the soil within the limitations as determined from the character of the soil. Footings shall be supported on undisturbed natural soils or engineered fill.

**Add a new exception to read:**

**Exception:** Footings are not required for ramps serving dwelling units in Group R-3 and R-5 occupancies where the height of the entrance is no more than 30 inches above grade.

**Supporting Statement:** These ramps are frequently erected, without permits or inspections, by volunteers to provide temporary access for the elderly and disabled, and pose minimal risk to the public. The ramps are small, light structures that are rarely attached to the dwelling and are usually disassembled and removed when no longer needed. Providing footings for these structures is burdensome and provides minimal benefit, especially when compared with other structures that are already exempt from this requirement.

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change  
Number: \_\_\_\_\_

Proponent Information (Check one):  Individual  Government Entity  Company

Name: Chuck Bajnai Representing: VBCOA IRC Committee

Mailing Address: 9800 Government Center Parkway, Chesterfield, VA, 23832

Email Address: bajnaic@chesterfield.gov Telephone Number: 804-717-6428

Proposal Information

Code(s) and Section(s): R507 - Decks

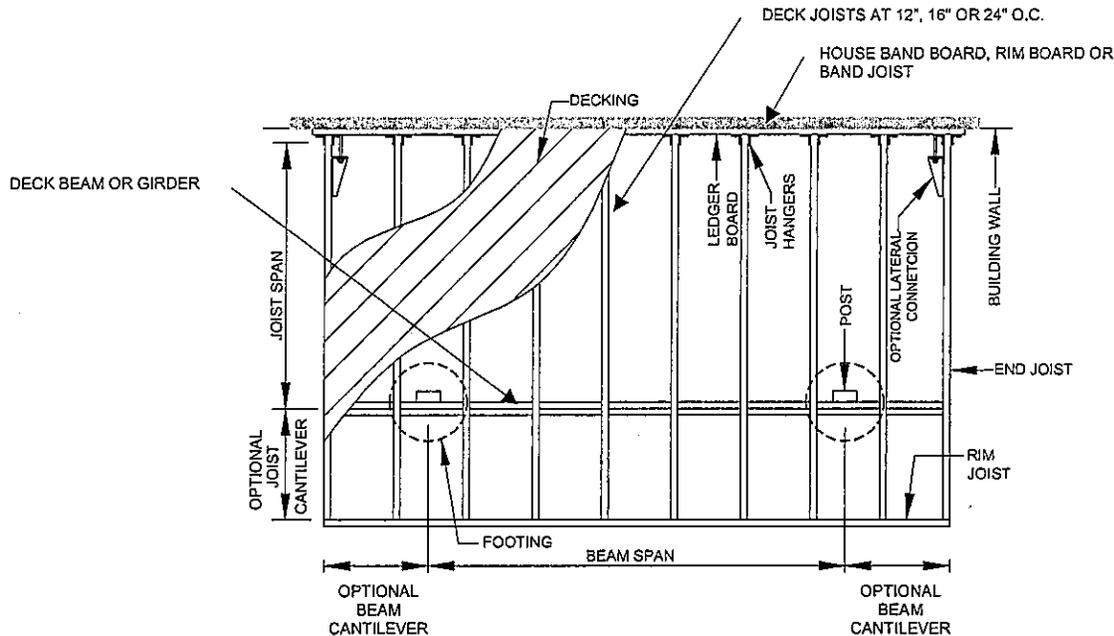
Proposed Change (including all relevant section numbers, if multiple sections):

Delete Section R507 and replace it with the following:

## SECTION R507 DECKS

**R507.1 Wood decks.** Decks of wood-frame construction shall be designed and constructed in accordance with this section. The use of other species of lumber or lesser grades of materials or different loading conditions not described herein shall be permitted in accordance with Section 301.1.1.

**R507.2 Requirements.** Deck construction shall be capable of accommodating all vertical and lateral loads in accordance with Section R301 and transmitting them to the supporting structural elements. Figure R507.2 is intended for purposes of identifying typical parts, and not to limit the design.



For SI: 1 inch = 25.4 mm

For SI: 1 inch = 25.4 mm

**FIGURE R507.2  
DECK CONSTRUCTION**

**R507.3 Materials.** Materials used in the construction of a wood-framed deck shall comply with the requirements of this section.

**R507.3.1 Lumber.** All lumber shall be minimum No 2 grade dimension lumber. Lumber may be cut, drilled or notched in accordance with Section R502.8 except where prohibited in Section R507.11. In geographical areas where decay-resistant lumber is required, lumber shall be either naturally durable and identified in accordance with Section R502.1, or preservative-treated in accordance with Section R317. Where termite-resistant lumber is required per Table R301.2 (1), lumber shall comply with Section R318.

**R507.3.2 Plastic composites.** Plastic composite deck boards, stair treads, guard and handrail systems shall comply with the requirements of R317.4 and installed in accordance with the manufacturer's installation instructions.

**R507.3.3 Other materials.** Metal, glass, concrete or other materials used for deck construction, including guard and handrail systems shall be permitted in accordance with the requirements in Chapter 3 and installed in accordance with the manufacturer's installation instructions.

**R507.3.4 Fasteners and connectors.** Nails, bolts with nuts and washers, screws, fasteners and connectors shall be protected in accordance with Section R317.3. Fasteners and connectors shall be installed in accordance with manufacturer's installation instructions.

**R507.3.5 Flashing.** Flashing shall be corrosion-resistant metal of minimum nominal 0.019 inch (0.5 mm) thickness or approved non-metallic material.

**R507.4 Deck boards.** Deck board spans shall comply with the requirements of Table R507.4. Wood deck boards shall be attached to each supporting member with a minimum of (2) 8d nails or (2) #8 wood screws.

**TABLE R507.4  
MAXIMUM DECK BOARD SPANS**

MATERIAL TYPE AND NOMINAL SIZE	DECK BOARDS PERPENDICULAR TO JOIST	DECK BOARDS DIAGONAL TO JOIST <sup>a</sup>
5/4-inch thick wood	16 inches	12 inches
2-inch thick wood	24 inches	16 inches
Plastic composite	Per R507.3	Per R507.3

For SI: 1 inch = 25.4 mm

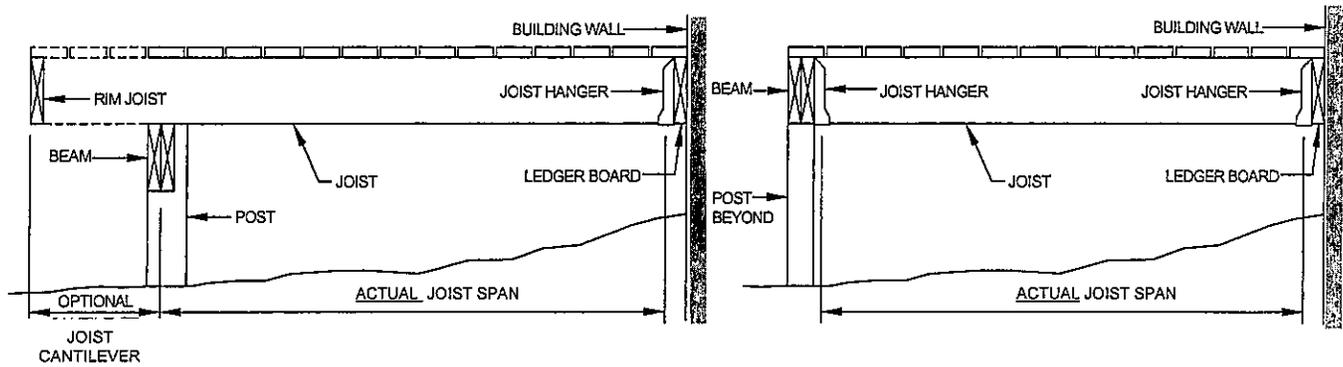
a. Maximum angle of 45 degrees from perpendicular for wood deck boards

**R507.5 Deck joists.** Spans for typical wood deck joist configurations shall be measured as shown in Figure R507.5, and shall not exceed the span lengths per Table R507.5. Deck joists shall be permitted to cantilever a maximum of one-fourth of the actual joist span.

**R507.5.1 Deck joist support.** Ends of deck joists shall be supported to prevent vertical and lateral displacement. The ends of joists shall have a minimum of 1.5 inches (38 mm) of bearing on a deck beam, wood ledger board or on metal hangers. Joists shall be connected to deck beams with approved fasteners or connectors. Where lateral support is provided by joist hangers or blocking between joists, the depth of hanger or blocking shall equal not less than 60 percent of the joist depth. Where lateral support is provided by rim joists, the rim joist shall be secured to the end of each joist with a minimum of (3)10d nails or (3)#10x3 inch (76 mm) long wood screws.

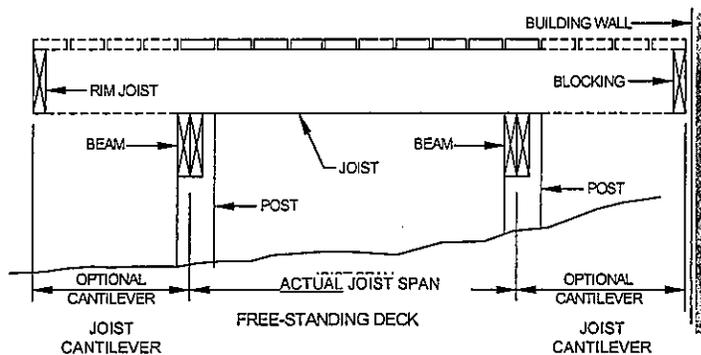
**R507.6 Deck Beams.** The maximum allowable deck beam span for single or multiple ply deck beams shall be in accordance with Table R507.6. Beams shall be permitted to cantilever at each end up to one-fourth of the adjacent beam span. The plies of a multi-ply beam shall be fastened with a minimum of two rows of 10d nails at 16 inches (406 mm) or equivalent screws or bolts.

**R507.6.1 Beam bearing.** Single-ply and multi-ply beams shall bear directly on wood posts or on an approved metal post cap in accordance with Figure R507.7.1 and not less than 3 inches (76 mm) on concrete or masonry walls or piers.



TYPICAL CANTILEVERED DECK

TYPICAL FLUSH DECK



TYPICAL FREE STANDING DECK

**FIGURE R507.5**  
**TYPICAL DECK JOIST CONFIGURATIONS**

**R507.7 Deck posts.** Posts shall be measured from the top of the footing to the underside of the beam. The maximum height of the post shall be in accordance with Table R507.7.

**507.7.1 Deck post connection to deck beam.** Deck beams shall be attached to wood deck posts in accordance with Figure R507.7.1. Other optional post to beam connections shall be permitted to resist lateral displacement. Manufactured post-to-beam connectors shall be sized for the post and beam sizes. All bolts shall have washers under the head and nut.

**TABLE R507.5  
MAXIMUM DECK JOIST SPANS FOR COMMON LUMBER SPECIES (ft.-in.)**

SPECIES <sup>a</sup>	JOIST SIZE	DECK JOIST SPACING WITHOUT CANTILEVER <sup>b,f</sup> (in.)			DECK JOIST SPACING WITH CANTILEVERS <sup>c</sup> (in.)		
		12" o.c.	16" o.c.	24" o.c.	12" o.c.	16" o.c.	24" o.c.
Southern pine	2 x 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 x 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 x 10	16-2	14-0	11-5	14-6	14-0	11-5
	2 x 12	18-0	16-6	13-6	18-0	16-6	13-6
Douglas fir-larch <sup>d</sup> , hem-fir <sup>d</sup> , spruce-pine-fir <sup>d</sup>	2 x 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 x 8	12-6	11-1	9-1	9-5	9-5	9-1
	2 x 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 x 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood, western cedars, ponderosa pine <sup>e</sup> , red pine <sup>e</sup>	2 x 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 x 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 x 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 x 12	17-5	15-1	12-4	16-5	15-1	12-4

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- No. 2 grade with wet service factor.
- Deck joists shall be designed to carry the deck live load in Table R301.5 or the ground snow load, which ever is greater. This table is based on ground snow load or live load = 40 psf, dead load = 10 psf,  $L/\Delta = 360$ .
- Deck joists shall be designed to carry the deck live load in Table R301.5 or the ground snow load, which ever is greater. This table is based on ground snow load or live load = 40 psf, dead load = 10 psf,  $L/\Delta = 360$  at main span,  $L/\Delta = 180$  at cantilever with a 220 pound point load applied to end.
- Includes incising factor.
- Northern species with no incising factor.
- Joists are permitted to cantilever from the deck beam by a length not to exceed the depth of the deck joist.

**R507.8 Deck footings.** Deck footings shall be constructed in accordance with Section R403. The cross sectional area of the footing shall be adequate to carry the load applied by the posts based on the bearing capacity of the soil.

**R507.8.1 Footing depth.** The minimum depth of footings shall be in accordance with Section R403.1.4 or as approved by the building official. Where a deck footing is within 4 feet of an adjacent, existing footing, the deck footing shall bear at the same depth as the existing footing.

**R507.8.2 Deck post connection to footing.** Deck posts shall be restrained to prevent lateral displacement at the bottom end. Such lateral restraint shall be provided by manufactured connectors or a minimum post embedment of 12-inches in surrounding soils or concrete as shown in Figure R507.8.2.

**TABLE R507.6  
MAXIMUM BEAM SPAN LENGTHS <sup>a</sup>**

SPECIES	BEAM SIZE <sup>b</sup>	MAXIMUM MAIN JOIST SPAN (ft-in.)						
		6 ft	8 ft	10 ft	12 ft	14 ft	16 ft	18 ft
Southern pine	(2) - 2x6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	(2) - 2x8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	(2) - 2x10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	(2) - 2x12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	2x6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	(3) - 2x8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	(3) - 2x10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	(3) - 2x12	15-3	13-3	11-10	10-9	10-0	9-4	8-10
Douglas fir-larch <sup>c</sup> , spruce-pine-fir, redwood <sup>c</sup> , western cedars, ponderosa pine <sup>d</sup> , red pine <sup>d</sup>	(1) - 3x6 or (2) - 2x6	5-5	4-8	4-2	3-10	3-6	3-1	2-9
	(1) - 3x8 or (2) - 2x8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
	(1) - 3x10 or (2) - 2x10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
	(1) - 3x12 or (2) - 2x12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	(1) - 4x6	6-5	5-6	4-11	4-6	4-2	3-11	3-8
	(1) - 4x8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	(1) - 4x10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	(1) - 4x12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	(3) - 2x6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
	(3) - 2x8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
(3) - 2x10	12-0	10-5	9-4	8-6	7-10	7-4	6-11	
(3) - 2x12	13-11	12-1	10-9	9-10	9-1	8-6	8-1	

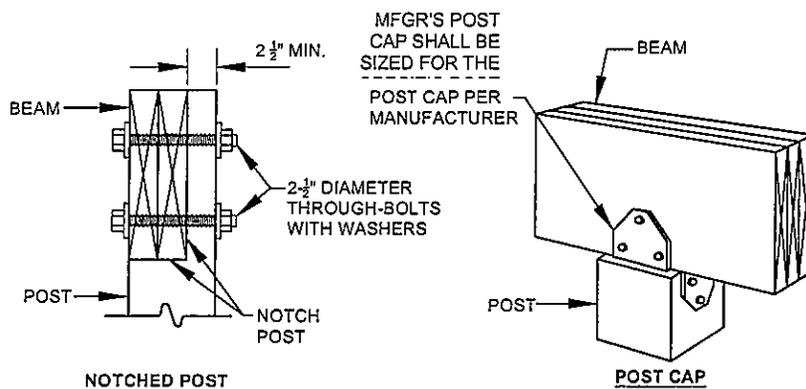
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- Deck beams shall be designed to carry the deck live load in Table R301.5 or the ground snow load, which ever is greater. This table is based on ground snow load or live load = 40 psf, dead load = 10 psf,  $L/\Delta = 360$  at main span,  $L/\Delta = 180$  at cantilever with a 220 pound point load applied to end. No 2 grade, wet service factor.
- Beam depth shall be greater than or equal to depth of joists with a flush beam condition.
- Includes incising factor.
- Northern species with no incising factor.

**TABLE R507.7  
DECK POST HEIGHT**

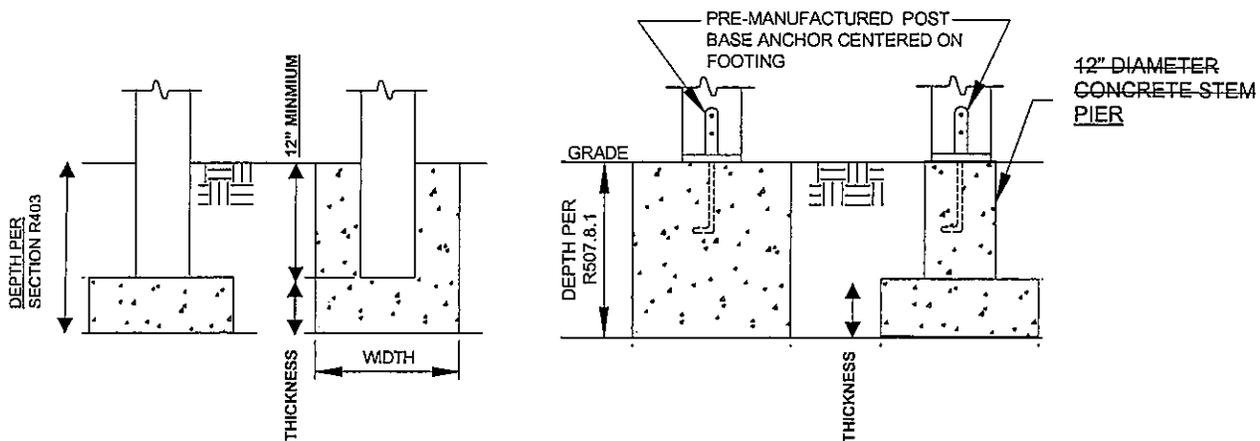
NOMINAL DECK POST SIZE	MAXIMUM HEIGHT
4x4	8'
4x6	8'
6x6	14'

For SI: 1 foot = 304.8 mm.



For SI: 1 inch = 25.4 mm

**FIGURE R507.7.1  
TYPICAL BEAM BEARING ON WOOD POST**



**FIGURE R507.8.2  
TYPICAL DECK FOOTINGS**

**R507.9 Deck ledger board connection to the building.** The connection between a deck ledger board and the building shall be in accordance with this section.

**R507.9.1 Deck ledger board connection to band joist.** The deck ledger board shall be connected to a nominal 2-inch thick lumber band joist with ½-inch lag screws or bolts with washers in accordance with Figures R507.9.1(1) and R507.9.1(2) and spaced in accordance with Table R507.9.1. As an alternative to the detail in Figure R507.9.1(2), the ledger board shall be permitted to be offset from the house band joist or exterior sheathing a maximum distance of ½ inch (13 mm) with the installation of stacked washers.

The exterior wall finish shall be removed prior to installation of the ledger board. Flashing at a door threshold shall be installed to prevent water intrusion from rain or melting ice and snow.

**R507.9.2 Deck ledger board connection to concrete foundation walls.** A ledger board shall be connected to a concrete or solid masonry foundation wall with approved ½ inch (13 mm) diameter anchors spaced in accordance with Table R507.9.1 and as shown in Figure R507.9.2. Adhesive or mechanical anchors shall be installed per the manufacturer's installation instructions.

**R507.9.3 Ledger board connection to hollow masonry foundation wall.** A ledger board shall be connected to a hollow masonry foundation wall with approved ½ inch (13 mm) diameter anchors spaced in accordance with Table R507.9.1 and as shown in Figure R507.9.3. Adhesive or mechanical anchors shall be installed per the manufacturer's installation instructions.

**R507.9.4 Alternate connections.** An engineered wood rim board with a minimum thickness of 1 inch (25 mm) shall be permitted to substitute for a 2x lumber band joist provided the engineered wood rim board was designed by the manufacturer to support a deck. A ledger board attachment to a masonry or stone veneer, ribbon board of open web floor trusses, band joist of a cantilevered floor or other conditions not addressed herein shall be designed in accordance with accepted engineering practice, or the deck shall be free-standing in accordance with Section R507.10.

**R507.9.5 Attachment to resist lateral load.** A lateral load connection is required by Section R507.2. The following connections shall be deemed to comply; other design solutions are permitted in accordance with R301.

**R507.9.5.1 Connection at parallel joists.** Where floor joists and deck joists are parallel to each other, a hold-down or similar tension device with a minimum capacity of 1,500 pounds (6672 N) as shown in Figures R507.9.5.1(1) and R507.9.5.1(2) shall be permitted. The hold-down device shall be located within 24 inches of each end joist. The floor sheathing fasteners shall be permitted to be substituted with two reinforcing angles with a minimum capacity of 375 pounds (1668 N) each on each side of the joist.

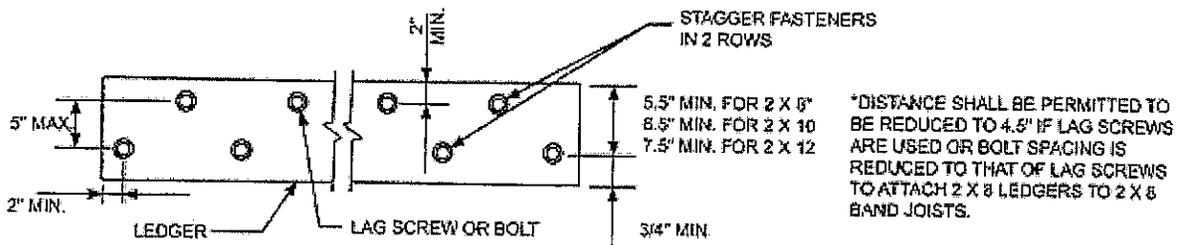
**R507.9.5.2 Connection at perpendicular joists.** Where the floor joists and deck joists are perpendicular to each other, a hold-down or similar tension device with a minimum capacity of 1,500 pounds (6672 N) shall be provided as shown in Figure R507.9.5.2. The hold-down device shall be located within 24 inches of each end joist. The floor sheathing shall be permitted to be substituted with two reinforcing angles-with a minimum capacity of 375 pounds (1668 N) each on each side of the joist.

**TABLE R507.9.1  
FASTENER SPACING**

FASTENER	BAND BOARD	JOIST SPAN						
		≤6'	> 6'-8'	> 8'-10'	> 10'-12'	> 12'-14'	> 14'-16'	> 16'-18'
½" lag screws <sup>a</sup>	1" min. engineered wood product	24"	18"	14"	12"	10"	9"	8"
	2x lumber	30"	23"	18"	15"	13"	11"	10"
½" through bolts	1" min. engineered wood product	24"	18"	14"	12"	10"	9"	8"
	2x lumber	36"	36"	34"	29"	24"	21"	19"
½" through bolts and ½" stacked washers <sup>b</sup>	1" min. engineered wood product	24"	18"	14"	12"	10"	9"	8"
	2x lumber	36"	36"	29"	24"	21"	18"	16"
Mechanical anchors <sup>c</sup>	-	36"	36"	34"	29"	24"	21"	19"
Adhesive anchors <sup>d</sup>	-	32"	32"	32"	24"	24"	16"	16"

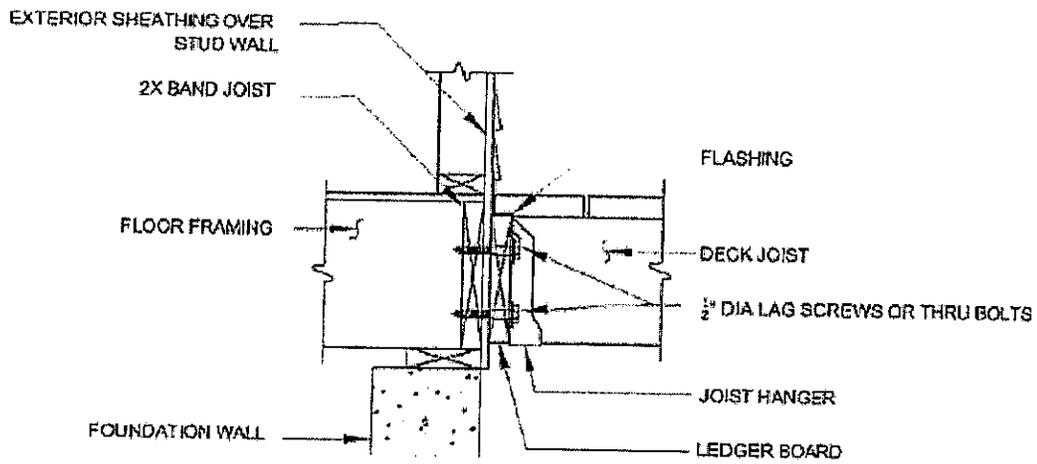
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm

- a. The tip of the lag screw shall fully extend beyond the inside face of the band board.
- b. The maximum gap between the face of the ledger board and face of the wall sheathing shall be ½ inches (13 mm).
- c. Mechanical anchors shall have a minimum allowable shear of 725 pounds, and a minimum allowable tension of 505 pounds
- d. Adhesive anchors shall have a minimum allowable shear of 675 pounds, and a minimum allowable tension of 505 pounds.



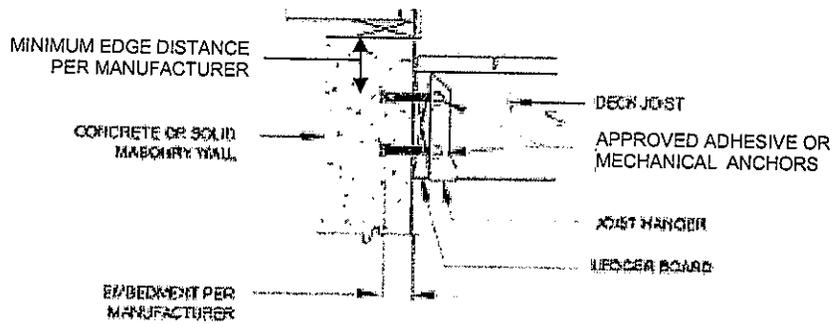
For SI: 1 inch = 25.4 mm.

**FIGURE R507.9.1(1)  
PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGER-BOARDS**

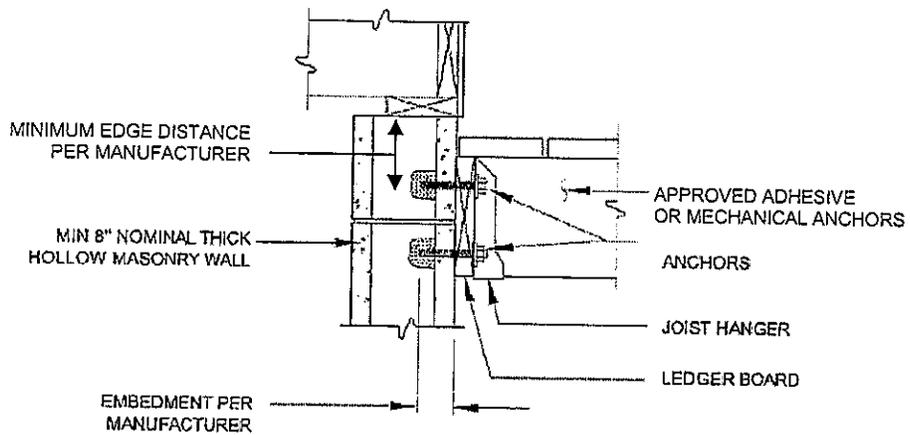


**FIGURE R507.9.1(2)**  
**LEDGER BOARD TO BAND BOARD ATTACHMENT**

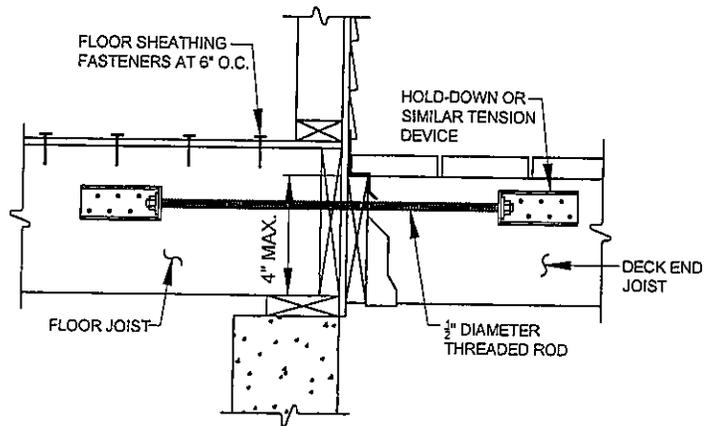
**LEDGER BOARD TO BAND BOARD ATTACHMENT**



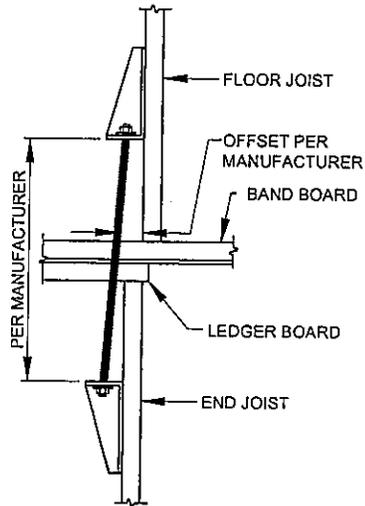
**FIGURE R507.9.2**  
**LEDGER BOARD TO SOLID FOUNDATION WALL ATTACHMENT**



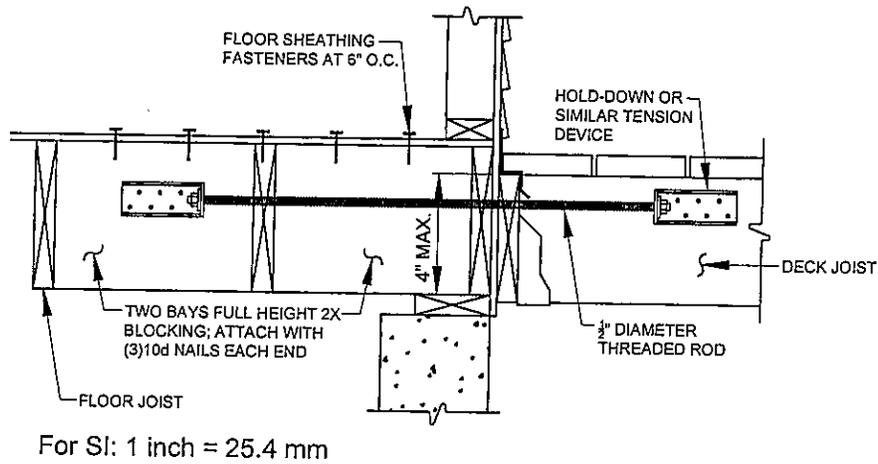
**FIGURE R507.9.3**  
**LEDGER BOARD TO HOLLOW MASONRY FOUNDATION WALL ATTACHMENT**



**FIGURE R507.9.5.1(1)  
CONNECTION AT PARALLEL JOISTS**

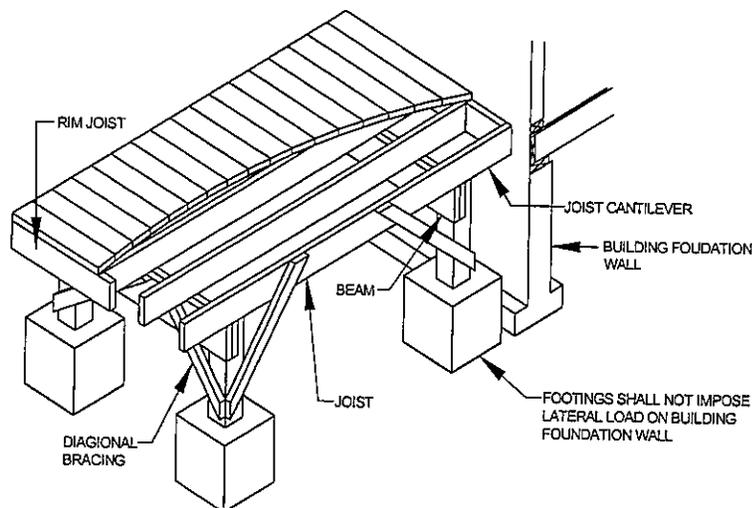


**FIGURE R507.9.5.1(2)  
OFFSET AT PARALLEL JOISTS**



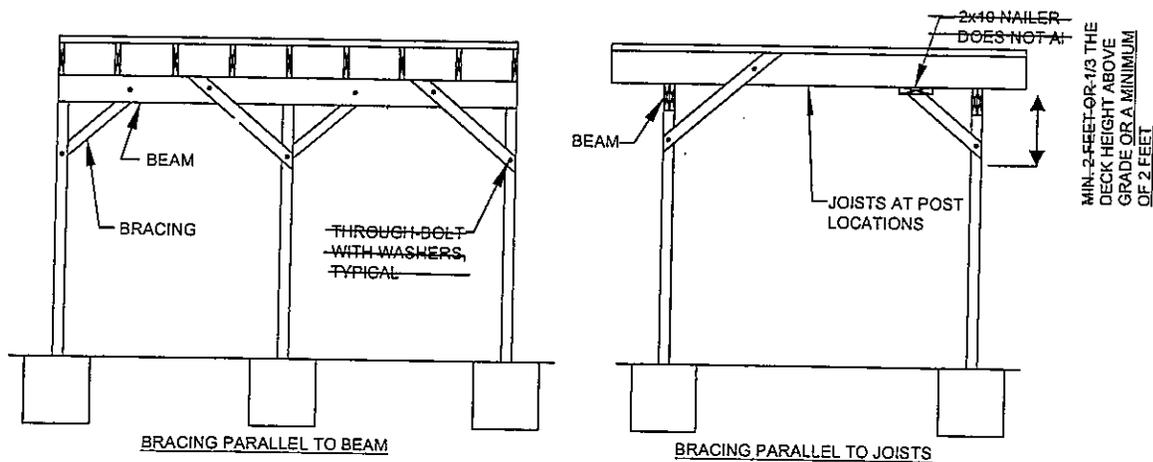
**FIGURE R507.9.5.2**  
**LATERAL SUPPORT WHERE INTERIOR JOIST ARE PERPENDICULAR TO DECK**

**R507.10 Free-standing decks.** As shown in Figures R507.5 and R507.10, free-standing decks shall transfer all of the deck loads directly to the footings. Beams shall be sized in accordance with Section R507.6.



**FIGURE R507.10**  
**TYPICAL FREE-STANDING DECK**

**R507.10.1 Diagonal bracing.** Diagonal bracing shall be provided in accordance with Figure R507.10.1 on free-standing decks greater than 30 inches above grade. Bracing shall be placed at a 45 degree angle at each post location in the parallel and perpendicular directions to the beam. Bracing shall be constructed with nominal 2x4 lumber and shall be fastened to framing with one 1/2 inch (9 mm) diameter through bolt or by the use of other mechanical devices. The length of the diagonal brace shall be 1/3 the height of the deck above grade or a minimum of 2 feet.



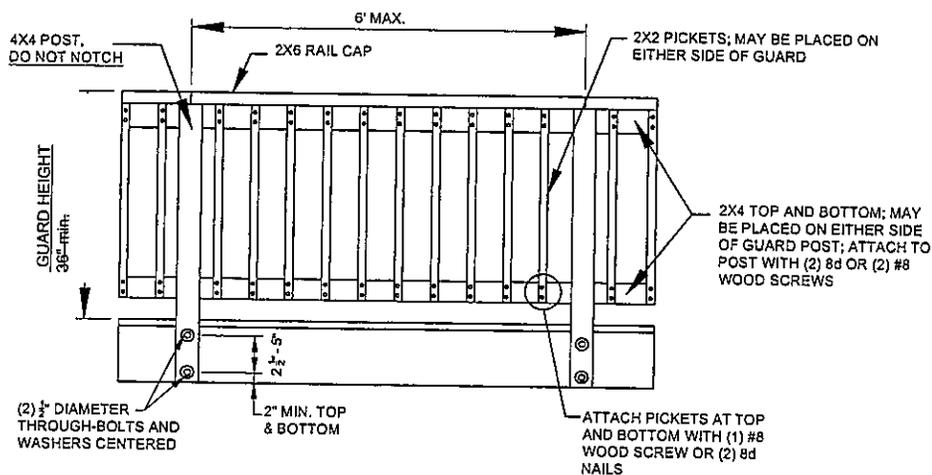
For SI: 1 foot = 304.8 mm

**FIGURE R507.10.1  
FREE-STANDING DECK DIAGONAL BRACING**

**R507.11 Deck guards.** Deck guards shall be designed and constructed in accordance with Sections R301.5 and R312. Other materials and construction details shall be permitted in accordance with Section R301. Wood deck guards shall not be notched.

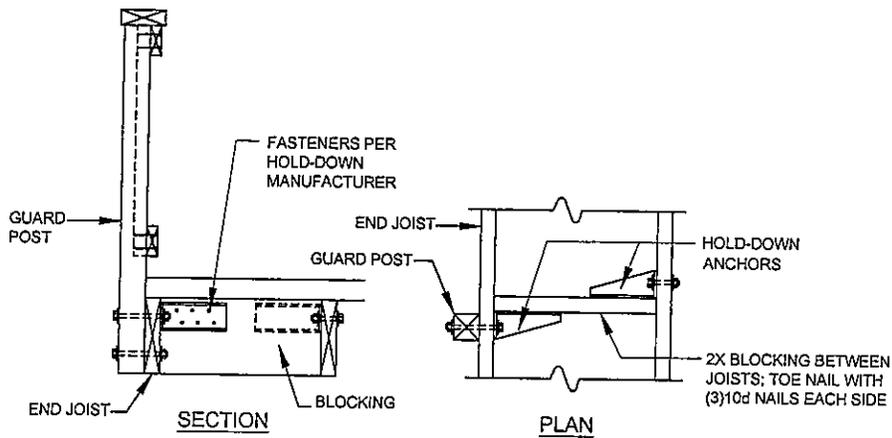
**R507.11.1 Guard construction.** Guard posts shall be attached to the inside or outside face of the rim joist or end joist as shown in Figures R507.11.1(1) through R507.11.1(3). Hold-down fasteners shall have a minimum capacity of 1,800 pounds (8006 N).

**R507.11.2 Guard rail construction.** The guard rail cap shall be nailed to the top of the guard post with a minimum of four 16d common nails or #12 by 3" long screws, or an alternate connection that will resist 200 pounds of shear force.

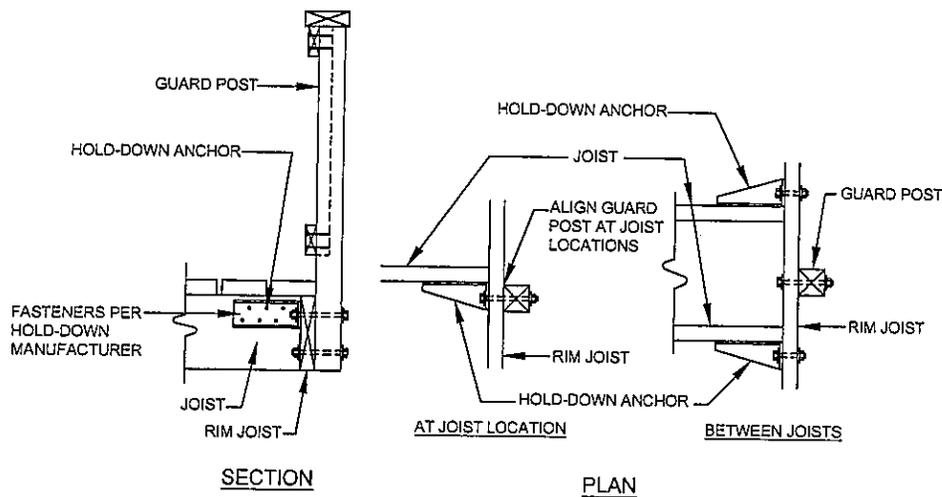


For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm

**FIGURE R507.11.1(1)  
TYPICAL DECK GUARD**



**FIGURE R507.11.1(2)**  
**GUARD POST TO END JOIST CONNECTION**



**FIGURE R507.11.1(3)**  
**GUARD POST TO RIM JOIST CONNECTION**

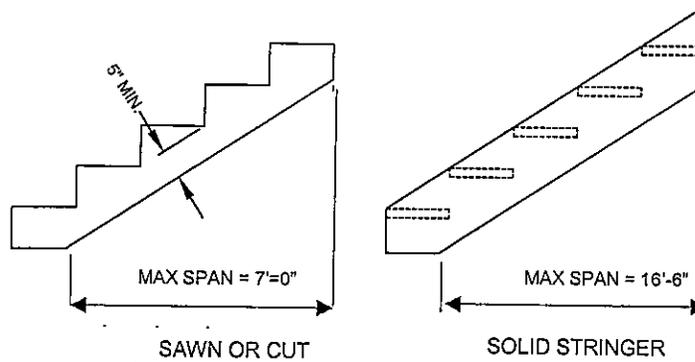
**R507.12 Deck stairs.** Deck stairs shall be constructed in accordance with this section and Section R311.7. Where a flight of stairs has a vertical rise greater than that allowed per Section R311.7.3, an intermediate landing shall be provided.

**R507.12.1 Stair stringers.** Stair stringers shall be constructed of nominal 2x12 lumber as shown in Figures R507.12.1(1) and R507.12.1(2). Stringers with spans greater than those shown in Figure R507.12.1(1) shall be supported with intermediate posts and footings spaced along its length.

**R507.12.2 Treads and risers.** Stair treads shall be constructed in accordance with Section R311.7 and Figure R507.12.1(2). Treads shall be composed of nominal 2x lumber or plastic composites. Risers shall be permitted to be composed of nominal 1x lumber. Openings in risers shall not allow the passage of a 4 inch (102 mm) diameter sphere.

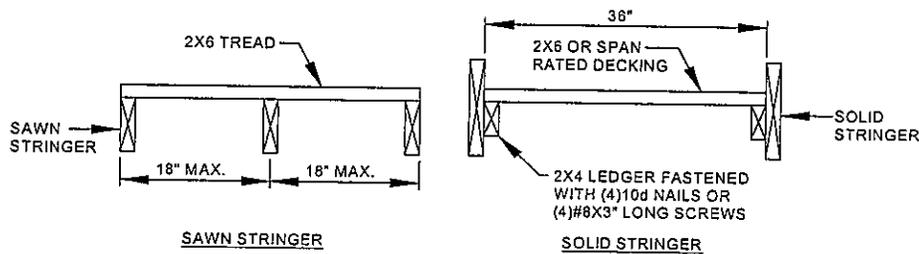
**R507.12.3 Stair guards.** Guards for stairs shall be as required per Section R312.1.

**R507.12.4 Stair handrails.** A stair handrail may be required per Section R311.7.8. When a guard is required in accordance with Section R312.1.1, the top rail shall comply with the handrail grip size requirements of Section R311.7.8.3 or a separate handrail shall be provided.



For SI: 1 inch = 25.4 mm, 1 foot = 304.8

**FIGURE R507.12.1(1)  
STAIR STRINGER REQUIREMENTS**



For SI: 1 inch = 25.4 mm

**FIGURE R507.12.1(2)  
STRINGER WIDTH REQUIREMENTS**

**R507.13 Ramps.** Ramps from decks shall be as required in Section R311.8. Details for stringers, guards and handrails shall be similar to those for stairs.

**Reason:**

This proposal was originally submitted to address the lack of prescriptive deck construction details in the IRC. Prescriptive details are needed in the code to help the “weekend warrior” or other inexperienced builders who do not build decks on a regular basis. The construction of safe decks is an important issue that warrants inclusion in the IRC.

The committee in Dallas agreed that Section R507 was woefully deficient in providing minimum prescriptive deck criteria. This public comment integrates many comments from multiple interested parties.

Arguing in support of this proposal in Dallas, several proponents rightfully pointed out that many jurisdictions across the country have deferred to DCA6 as an acceptable guide for building decks. In the absence of IRC criteria, DCA6 was a respected alternative. This submission is based on many of the provisions in DCA6.

The opponents in Dallas argued that some of the details were different than those used in their parts of the country. They missed the opening sentences in the first section – that this proposed code change was intended to provide 1) *typical* requirements and details and 2) other materials and methods were equally acceptable. It was argued that providing minimum requirements for the average homeowner in no way was intended to stifle deck craftsmen.

Numerous examples of engineered solutions and commonly accepted details have been sent to me from many parts of the country. There are YouTube videos from well established stores, like Home Depot, that are offering “how to” videos that are teaching the average homeowner wrong ways to build decks. Some of these are so egregiously wrong that they could jeopardize life safety. In the absence of good code, the handy homeowner will resort to anything – good or bad: to paraphrase a TV commercial: “everyone knows that everything on the internet is correct”

In conclusion, there are several public comments to RB 264 and RB268 being submitted to fill the void on how to build decks safely. There is a short version, a medium length version and this more complete version. We think that less is less, and more is better. We submit this longer version because the average deck builders, plan reviewers and inspectors have nothing in the IRC to help them with a deck design. Homeowners and non-professionals need to have simple prescriptive methods for building a safe deck, and we believe this proposal provides those guidelines.

I strongly recommend that you support RB268 so that we will have prescriptive criteria in the code for building decks.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Chuck Bajnai

Representing: VBCOA IRC Committee

Mailing Address: 9800 Government Center Parkway, Chesterfield, VA, 23832

Email Address: bajnaic@chesterfield.gov

Telephone Number: 804-717-6428

Proposal Information

Code(s) and Section(s): R806.

Delete current Section R806 and replace it with the following:

**R806.1 Ventilation.** The requirements for vented and unvented attic space and enclosed rafter space shall be in accordance with this section.

**R806.2 Vented attics.** Vented attics shall have a minimum net free ventilation area at least 1/300 of the area of the vented space. A minimum of 50 percent and a maximum of 60 percent of the provided ventilation shall be served by eave, gable or cornice vents. The remaining ventilation shall be located no more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically. The ventilation openings shall have a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than 1/4 inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware cloth, or similar material with openings having a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Openings in roof framing members shall conform to the requirements of Section R802.7. Required ventilation openings shall open directly to the outside air.

Where eave or cornice vents are installed, insulation shall not block the free flow of air. A minimum of a 1-inch (25 mm) space shall be provided between the insulation and the roof sheathing and at the location of the vent.

**R806.2.1 Installation and weather protection.** Ventilators shall be installed in accordance with manufacturer's installation instructions. Installation of ventilators in roof systems shall be in accordance with the requirements of Section R903. Installation of ventilators in wall systems shall be in accordance with the requirements of Section R703.1.

**R806.3 Unvented attic and unvented enclosed rafter assemblies.** (no change to current text)

**Reason:**

1. This section was rewritten to clarify vented and unvented attics. The current charging language in the first sentence of Section R806.1 says that all attics shall have cross ventilation, and yet Section R806.5 acknowledges unvented attics. The new Section R806.1 offers charging language for both conditions.
2. More importantly however, Section 806.2 now incorporates the concepts that were passed in Portland for the IBC, namely that more than half of the incoming ventilation for attics should come from low sources and exit up high (roof vent, mechanical vents, gable end vents, etc.). The ratio of low to high ventilation was modified by the public comment (originally 50-66% and changed as shown to 50 – 60%). This was a compromise that still guaranteed proper air movement to achieve the proper chimney effect. As written in the 2012 IRC, 100% of the attic ventilation could be from ridge vents...where would the cross ventilation come from?

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Mike Toalson-Randy Melvin

Representing: HBA of Virginia

Mailing Address: 707 East Franklin Street, Richmond, VA 23219

Email Address: mltoalson@hbav.com  
randy.melvin@whihomes.com

Telephone Number: 804 643 2797  
410 365 7781

Proposal Information

Code(s) and Section(s): IRC Section Number: M1501.2 Transfer Air (new)

Proposed Change (including all relevant section numbers, if multiple sections):

*Modify the section as shown below:*

**M1501.2 Transfer air (new).** Air transferred from occupiable spaces other than kitchens, baths and toilet rooms shall not be prohibited from serving as makeup air for exhaust systems. Transfer openings between spaces shall be of the same cross-sectional area as the free area of the makeup air openings. Where louvers and grilles are installed, the required size of openings shall be based on the net free area of each opening. Where the design and free area of louvers and grilles are not known, it shall be assumed that wood louvers will have 25-percent free area and metal louvers and grilles will have 75-percent free area.

Supporting Statement (including intent, need, and cost impact of the proposal):

The IMC contains language allowing makeup air to be provided from areas other than the room where the exhaust system is located (transfer air). It is just as important to clarify the allowable use of transfer air for exhaust systems in the IRC as it is in the IMC. Without this provision, Section M1503.4 can be interpreted that the total amount of makeup air is required to be introduced in the direct vicinity of the exhaust. This is not required in commercial construction, and so the IRC should be brought into alignment with the IMC in this area. Most of the language is taken from existing sections of the code. They include: Transfer air: IMC Section 403; Transfer openings: Section M1602 Item 6; and Louvers and grilles: Section G2407.10.

Submittal Information

Date Submitted: February 18, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Mike Toalson-Randy Melvin

Representing: HBA of Virginia

Mailing Address: 707 East Franklin Street, Richmond, VA 23219

Email Address: mltoalson@hbav.com  
randy.melvin@whihomes.com

Telephone Number: 804 643 2797  
410 365 7781

Proposal Information

Code(s) and Section(s): IRC Section Number: M1503.4 Makeup Air Required

Proposed Change (including all relevant section numbers, if multiple sections):

*Modify the section as shown below:*

M1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19 m<sup>3</sup>/s) shall be mechanically or naturally provided with makeup air at a rate approximately equal to the difference between the exhaust air rate and 400 cubic feet per minute. Such makeup air systems shall be equipped with a not less than one damper. Each damper shall be a gravity damper or electrically operated damper that automatically opens when the exhaust system operates ~~means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.~~

Exception: Where all appliances in the house are of sealed combustion, power-vent, unvented, or electric, the exhaust hood system shall be permitted to exhaust up to 600 cubic feet per minute (0.28 m<sup>3</sup>/s) without providing makeup air. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute (0.28 m<sup>3</sup>/s) shall be provided with a makeup air at a rate approximately equal to the difference between the exhaust air rate and 600 cubic feet per minute.

Supporting Statement (including intent, need, and cost impact of the proposal):

As originally written in the 2012 IRC, this section allows range hoods up to 400 cfm to be installed without makeup air. It would be consistent to require makeup air equaling the amount above and beyond 400 cfm for larger fans. Essentially, there would be no difference between the effect a 400 cfm fan has on a house and a 600 cfm fan with 200 cfm of makeup air. This would also improve the feasibility and acceptance of this code section as well as cut down on the amount of wasted energy and potential occupant discomfort caused by needlessly introducing excessive amounts of unconditioned air.

Currently this section of the code does not take into effect the difference between homes where all appliances in the home are of sealed combustion, power-vent, unvented or electric, power and those which contain one or more naturally vented appliances. Because the potential for appliance back drafting is greatly reduced where naturally vented appliances are not present, the 400 cfm threshold can be raised to 600 cfm where only sealed combustion, power-vent, unvented, or electric, power appliances are used in the dwelling. This would allow for the use of more effective, common residential, 500 to 600 cfm cooktop down-draft exhaust fans without the need to unnecessarily add makeup air.

Adding the words, "mechanically or naturally" clarify either means of providing the required quantity of make-up air, including transfer air, and the added words "electrical or gravity" clarify either type of damper is allowed. A gravity damper has the added benefit of equalizing depressurization in the house for any other reason such as the use of bath fans and clothes dryers.

Submittal Information

Date Submitted: February 18, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: Robert Torbin

Representing: Omega Flex, Inc

Mailing Address: 213 Court Street Suite 1001 Middletown, CT 06457

Email Address: bob.torbin@omegaflex.net

Telephone Number: (413) 388-2390

Proposal Information

Code(s) and Section(s): USBC G2411.1

Proposed Change (including all relevant section numbers, if multiple sections):

ADD THE FOLLOWING NEW TEXT TO SECTION G2411.1:

CSST with an arc-resistant jacket listed by an approved agency for installation without the direct bonding, as prescribed in this section, shall be installed in accordance with its listing and the manufacturer's installation instructions.

Supporting Statement (including intent, need, and impact of the proposal):

See attached Supporting Statement.

Submittal Information

Date Submitted: 6 August 2012

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



## Supporting Statement

The use of a CSST product with a protective, arc-resistant jacket is an alternate method of protection against electrical arcing damage caused by high voltage transient events such as a nearby lightning strike. An arc-resistant jacket does not rely on direct bonding to the grounding electrode system to reduce or eliminate damage from electrical arcing. Instead, the protective jacket acts as a resistor and is designed to locally absorb and dissipate the arcing energy over a short length of the jacket. The jacket, in essence, disrupts the focus of the arc and reduces the energy level below the threshold value that can cause a perforation of the tubing wall. This dynamic action is equally effective compared to the current CSST bonding method regardless of the bonding conductor size or length. The protection against arcing is provided uniformly throughout the piping system, and is not affected by close proximity to other metallic systems that may not be similarly bonded.

The ICC Evaluation Service has developed listing criteria for arc-resistant jackets to verify that this design approach will provide an ability to resist damage from transient arcing currents under a wide range of conditions. A copy of the PMG Listing Criteria (LC1024) is included with this proposal. Currently, three CSST products are listed to PMG LC1024. The listing criteria defines the experimental means to determine whether the protective jacket provides resistance to damage from indirect lightning strikes without the need for additional bonding as prescribed currently in Section G2411.1 of the VA Uniform Statewide Building Code. A proposal to include performance requirements for an arc-resistant jacket based on the PMG LC1024 Listing Criteria is presently under consideration by the ANSI LC-1 TAG.

Extensive testing has been performed by Lightning Technologies Inc. (Pittsfield, MA) to demonstrate that the protective, arc-resistant jacket can resist in excess of 4.5 coulombs without a perforation of the tubing wall. A copy of a pertinent LTI test report is attached. By comparison, experimental testing has determined that energy levels around 0.15 coulombs are sufficient to perforate uncoated CSST. While no product or system is immune to damage from a direct lightning strike, lightning experts agree that a level of approximately 2 coulombs is the upper end of the energy level induced in metallic systems (inside the building) from a nearby/indirect lightning strike. A recent IEEE paper by Dr. Michael Stringfellow (attached) on lightning damage confirms that the proposed energy value (2 coulombs and lower) appears consistent with lightning damage observed in the field, and the acceptance level (4.5 coulombs) represents an appropriate safety threshold for this type of lightning protection.

The cost impact to the consumer of allowing the use of arc-resistant jacket CSST as an alternate method of bonding CSST should be minimal if not zero. The small extra cost per foot of arc-resistant jacket is more than offset by the elimination of the two bonding connections, the 6 AWG conductor wire, and the labor time for the electrician to install.

CSST with arc-resistant jacket has been commercially installed since 2004, and at the present time, three different (black-jacketed) products are commercially available. Field experience has been very favorable with no known cases of indirect lightning damage to CSST piping systems using these arc-resistant jackets. Currently, at least 10 states permit the installation of the arc-resistant CSST without the need for additional bonding. Given that both conventional (yellow) and advanced (black) CSST products will continue to be commercially available, both methods of electrical protection of CSST systems should be recognized and permitted within the Code.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information (Check one):  Individual  Government Entity  Company

Name: Mike Toalson-Randy Melvin Representing: HBA of Virginia

Mailing Address: 707 East Franklin Street, Richmond, VA 23219

Email Address: mltoalson@hbav.com Telephone Number: 804 643 2797  
randy.melvin@whihomes.com 410 365 7781

Proposal Information

Code(s) and Section(s): IRC Section Number: 2012 IPC Section Number: 607.2 Hot or tempered water supply to fixtures

Proposed Change (including all relevant section numbers, if multiple sections):  
*Modify the section as shown below:*

**607.2 Hot or tempered water supply to fixtures.**

~~The developed length of hot or tempered water piping, from the source of hot water to the fixtures that require hot or tempered water, shall not exceed 50 feet (15 240 mm). Recirculating system piping and heat-traced piping shall be considered to be sources of hot or tempered water.~~

**607.2.3 Hot water supply temperature maintenance.** Where the developed length of hot water piping from the source of hot water supply to the farthest fixture exceeds 100 feet (15 240 to 30 480mm), the piping from the source of hot water supply to all fixtures exceeding 100 feet (15 240mm) in developed length shall be insulated to a minimum of R-3.

Supporting Statement (including intent, need, and cost impact of the proposal):

Reason: There is no life cycle or other analysis to justify the limited amount of water lost in purging 50' lines of cool water before the hot water arrives will ever, yet alone under typical real world water use patterns with a reasonable payback period, offset the additional natural and human resources required to manufacture, deliver, install, maintain and periodically replace the addition of a second water heater.

The amendment maintains the 100' requirement for adding pipe insulation from the 2009 IPC.

Submittal Information

Date Submitted: March 5, 2013

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Staff

Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s): VCC 425.2

Proposed Change (including all relevant section numbers, if multiple sections):

Make further changes to the proposed regulations approved by the BHCD as shown with the use of brackets:

~~424.2~~ 425.2 Site work for manufactured homes. ~~The aspects for the installation and set up of a new manufactured home covered by this code rather than the Virginia Manufactured Home Safety Regulations (13VAC5-95) include, but are not limited to, footings, foundations systems, anchoring of the home, exterior, interior close up, and additions and alterations done during initial installation. Such aspects shall be subject to and shall comply with the manufacturer's installation instructions provided by the manufacturer of the home. To the extent that the manufacturer's installation instructions do not address any aspect enumerated above or when the manufacturer's installation instructions are not available, such aspects shall be subject to and comply with 24 CFR Part 3285 — Model Manufactured Home Installation Standards. To the extent that the manufacturer's installation instructions and 24 CFR Part 3285 do not address any aspect enumerated above, the installer must first attempt to obtain Design Approval Primary Inspection Agency (DAPIA) as defined in 24 CFR Part 3285.5, approved designs and instructions prepared by the manufacturer; or if designs and instructions are not available from the manufacturer, obtain an alternate design prepared and certified by an RDP that is consistent with the manufactured home design, conforms to the requirements of the Manufactured Housing Consensus Committee (MHCCS) as defined in 24 CFR Part 3285.5, and has been approved by the manufacturer and the DAPIA. Stoops Footing design, basement, grading, drainage, decks, stoops, porches and used manufactured homes utility connections shall comply with [ applicable ] the provisions of this code, which shall include the option of using the IRC for the technical requirements for the installation and set up of the home and the use of Appendix E of the IRC for additions, alterations and repairs to the home [ applicable to Group R-5 occupancies ]. Additionally, all applicable provisions of Chapter 1 of this code, including but not limited to requirements for permits, inspections, certificates of occupancy and requiring compliance, are applicable to the installation and set up of a manufactured home. Where the installation or erection of a manufactured home utilizes components that are to be concealed, the installer shall notify the building official that an inspection is necessary and assure that an inspection is performed and approved prior to concealment of such components, unless the building official has agreed to an alternative method of verification.~~

Supporting Statement (including intent, need, and cost impact of the proposal):

This proposal clarifies that the aspects of the set-up of a manufactured home that are regulated by the USBC would use the pertinent provisions of the International Residential Code.

Submittal Information

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Staff

Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s): MHSR, Section 13VAC5-95-20(F)

Proposed Change (including all relevant section numbers, if multiple sections):

Make further changes to the proposed regulations approved by the BHCD as shown with the use of brackets:

13VAC5-95-20

F. Mounting and anchoring In accordance with § 36-85.11 of the Code of Virginia, site preparation, utility connection and skirting installation of manufactured homes shall be in accordance with meet the applicable requirements of the USBC. In addition, as a requirement of this chapter and the USBC, administrative provisions of the USBC, such as requirements for permits, inspections and certificates of occupancy [ and the specific requirements of Section 425 of Part I of the USBC ], shall also be applicable.

Supporting Statement (including intent, need, and cost impact of the proposal):

This proposal is to correlate to a proposal in the VCC which clarifies that the aspects of the set-up of a manufactured home that are regulated by the USBC would use the pertinent provisions of the International Residential Code.

Submittal Information

Date Submitted: \_\_\_\_\_

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual       Government Entity       Company

Name: Ed Altizer

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): \_\_\_\_\_

Proposed Change (including all relevant section numbers, if multiple sections):

**1008.1.9.8 (IFC [B] 1008.1.9.8) ~~Access-controlled~~ Sensor release of electrically locked egress doors.**

~~Electromagnetically locked~~ The entrance doors located in a means of egress in buildings with an occupancy in Groups A, B, E, I-2, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in groups A, B, E, I-2, M, R-1 or R-2 are permitted to be equipped with an approved entrance and egress access control system, listed in accordance with UL 294, which shall be where installed and operated in accordance with all of the following criteria:

1. A motion sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to ~~that the lock part of the access control system which locks the doors~~ shall automatically unlock the doors.
3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016mm to 1219mm) vertically above the floor and within 5 feet (1524mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock—~~independent of the access control system other electronics~~—and the doors shall remain unlocked for a minimum of 30 seconds.
4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. ~~Entrance doors in buildings with an occupancy in Group A, B, E, or M shall not be secured from the egress side during periods that the building is open to the general public.~~ All components of the door locking system shall be listed in accordance with UL 294.

Supporting Statement (including intent, need, and cost impact of the proposal):

This change is a combination of ICC code changes E78-12 and E80-12. E79-12 was withdrawn by the proponent due to the successful action to modify E78. Below are copies of the proposed changes to the IBC, the supporting reasons, and the IBC Egress Committee reason statements.

This change is also supported by the FSBCC at its May 30, 2013 meeting.

## E78-12

### 1008.1.9.8 (IFC [B] 1008.1.9.8)

**Proponent:** John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

**Revise as follows:**

**1008.1.9.8 (IFC [B] 1008.1.9.8) ~~Access-controlled~~ Motion sensor release of electromagnetically locked egress doors. ~~Electromagnetically locked~~ The entrance doors located in a means of egress in buildings with an occupancy in Groups A, B, E, I-2, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in groups A, B, E, I-2, M, R-1 or R-2 are permitted to be equipped with an approved entrance and egress access control system, listed in accordance with UL 294, which shall be where installed and operated in accordance with all of the following criteria:**

1. A motion sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to that the lock part of the access control system which locks the doors shall automatically unlock the doors.
3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016mm to 1219mm) vertically above the floor and within 5 feet (1524mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock—~~independent of the access control system~~ other electronics—and the doors shall remain unlocked for a minimum of 30 seconds.
4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. Entrance doors in buildings with an occupancy in Group A, B, E, or M shall ~~not be secured from the~~ always allow immediate free egress side during periods that the building is open to the general public.
7. All components of the door locking system shall be listed in accordance with UL 294.

**Reason:** This code was originally proposed to NFPA, UBC/UFC, and BOCA as an **alternative** way to release electromagnetic locks. It came from Washington, D.C. security contractors in the early 1980s when faced with installing electromagnetic locks on hundreds of all glass doors on defense contractors' facilities. There was no way to install bars with switches and no way to conceal the wiring. The title, Access Controlled Egress Doors, **meant** that access to free egress was controlled. It had nothing to do with the (then) new *electronic access control systems*.

The code addressed fire safety by taking aspects of devices not allowed and making them safer when used together. Buttons, once special knowledge, were given specific placement parameters and requirements to break the power to the lock, directly; the somewhat unreliable motion sensor was backed up by the button; the 30 second re-triggerable and independent timer attached to the button protected against CPU failure and allowed 30 seconds before relocking so the disabled could get through the door; and the connection to the fire system meant that the door would unlock upon alarm. It was an alternate code, designed to be used sparingly and in certain situations.

This code is used heavily in hospitals, but its application is often misunderstood. It is time to clean up this code by eliminating confusing references to *access control systems*, directly or implied. Access has never been an issue for the codes, except in high-rise stair towers.

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the

proposed changes. All meeting materials and reports are posted on the AHC website at:  
<http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

This proposal is being co-sponsored by the ICC Code Technology Committee. The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: <http://www.iccsafe.org/cs/cc/ctc/index.html>. Since its inception in April, 2005, the CTC has held twenty-two meetings – all open to the public.

## E79 – 12

### 1008.1.9.8 (IFC [B] 1008.1.9.8)

**Proponent:** John Woestman, Kellen Company, representing Builders Hardware Manufacturers Association (BHMA) ([jwoestman@kellencompany.com](mailto:jwoestman@kellencompany.com))

**Revise as follows:**

**1008.1.9.8 (IFC [B] 1008.1.9.8) Access-controlled Electrically locked egress doors.** ~~Electrically locked The entrance doors without a door mounted manual lock release located in a means of egress in buildings with an occupancy in Groups A, B, E, I-2, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in groups A, B, E, I-2, M, R-1 or R-2 are shall be permitted to be equipped with an approved entrance and egress access control system, listed in accordance with UL-294, which shall be where installed and operated in accordance with all of the following criteria:~~

1. A sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to that the ~~lock part of the access control system which locks the doors~~ shall automatically unlock the doors.
3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016mm to 1219mm) vertically above the floor and within 5 feet (1524mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock— independent of the ~~access control locking system electronics~~—and the doors shall remain unlocked for a minimum of 30 seconds.
4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. Entrance doors in buildings with an occupancy in Group A, B, E, or M shall ~~not be secured from the~~ always allow immediate free egress side during periods that the building is open to the general public.
7. The components of the door locking system shall be listed in accordance with UL 294.

**Reason:** Changes above illustrate BHMA's suggested revisions from the 2012 IBC incorporating the ICC AHC MOE work group's proposed revisions, and further BHMA revisions. Revisions are to the main paragraph, Items 1, 3 and 7.

The doors included in this section utilize electrical components in their locking systems to help ensure egress. These systems use a sensor to recognized the presence of a pedestrian, and then unlock the electrical lock (such as an electromagnetic lock) but these electrical locking systems are also required to be unlockable by a manually operated button mounted on the wall on the egress side of the door (Item 3 of the criteria). Regarding the sensors, the sensor technologies used with these doors may not technically be a motion sensor.

Access-controlled egress doors are commonly configured without a door-mounted manual lock release on the egress side such as panic hardware. These doors usually require a magnetic card or similar instrument for authorized entry, and the absence of the door-mounted manual lock release on the egress side prevents a person on the outside from inserting a wire or similar tool between the gaps in the door edges to release the lock.

The other revisions are essentially editorial or help to clarify the intent.

Background: the Builders Hardware Manufacturers Association (BHMA) members have been observing the AHC and CTC meetings and activities with most interest in the potential code proposals that may have implications to the means of egress, and to doors and door hardware requirements.

The BHMA Codes and Government Affairs (CGA) committee met immediately after the Orlando ICC AHC meeting for a final look-see at the proposed language. Many of the BHMA CGA members had reviewed the draft AHC MOE language individually without identifying concern or opportunities for improvement. But when together in Orlando, the BHMA members identified several opportunities for further revision to the AHC proposals.

We've captured our suggestions for additional considerations in this proposal. We're not wanting to circumvent the work of the AHC and CTC; that's why several of us have been attending the AHC and CTC meetings and phone calls. We just did not recognize some of the opportunities while reviewing the language individually, and only when the BHMA CGA committee got together for – what we thought would be – a quick final review, did we realize several concerns and opportunities for revisions

## E80 – 12

### 1008.1.9.8 (IFC [B] 1008.1.9.8)

**Proponent:** Robert Trotter, representing Tennessee Code Development Committee (bobtrotter1023@aol.com)

**Revise as follows:**

**1008.1.9.8 (IFC [B] 1008.1.9.8) Access-controlled egress doors.** The entrance doors in a means of egress in buildings with an occupancy in Group A, B, E, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in Groups A, B, E, M, R-1 and R-2 are permitted to be equipped with an approved entrance and egress access control system, listed in accordance with UL 294, which shall be installed in accordance with all of the following criteria:

1. A sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.
3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock—~~independent of the access control system electronics—and the doors shall remain unlocked for a minimum of 30 seconds.~~
4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. ~~Entrance doors in buildings with an occupancy in Group A, B, E or M shall not be secured from the egress side during periods that the building is open to the general public.~~

**Reason:** The sixth criterion is redundant and should be removed from the code. The first five requirements satisfactorily meet the needs for access-controlled egress doors. The doors are not secured from the egress side when the first five criteria are met.

## E78-12

**Committee Action:** Approved as Modified

**Modify proposal as follows:**

**1008.1.9.8 (IFC [B] 1008.1.9.8) ~~Motion-Sensor~~ release of electromagnetically electrically locked egress doors.**

~~Electromagnetically locked~~ The electric locks on sensor released doors located in a means of egress in buildings with an occupancy in Groups A, B, E, I-2, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in groups A, B, E, I-2, M, R-1 or R-2 are permitted where installed and operated in accordance with all of the following criteria:

1. ~~A motion~~ The sensor shall be provided installed on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to the lock or locking system shall automatically unlock the doors.
- 3 through 6 (*no change*)
7. ~~All components of~~ The door locking system units shall be listed in accordance with UL 294.

**Committee Reason:** The modification coordinates with the terminology used in the referenced standard, UL 294 and recognizes that locks are part of a system. The modification also coordinates with the suggested language clarifications brought up in E79. The revision to the title and the start of the section allows for a variety of types of sensors and electric locks. The updated language will improve consistency between the code and the industry. The reference to UL294 would provide consistency between the different types of access control systems.

**Assembly Action:** None

## E79-12

**Committee Action:** Disapproved

**Committee Reason:** The issues are addressed and coordinated in E78 with the modifications.

**Assembly Action:** None

## E80-12

**Committee Action:** Approved as Submitted

**Committee Reason:** Deletion of Item 6 removes redundant language in this section. The committee agreed

that the doors are effectively open for egress if Items 1 through 5 are met.

**Assembly Action: None**

Submittal Information

Date Submitted: 6/3/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: DHCD Placeholder

Representing: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Proposal Information

Code(s) and Section(s): USBC IFC 2306.7.1

Proposed Change (including all relevant section numbers, if multiple sections):

E85 dispensing systems now U.L. listed (see attached).

Supporting Statement (including intent, need, and impact of the proposal):  
Enable building officials to approve these E85 systems without a modification. 2015 IFC code change was approved.

Submittal Information

Date Submitted: 6/25/13

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DEBAR State Building Codes Office  
600 East Main Street,  
Suite 300  
Richmond, VA 23219

Email Address: [vernon.hodge@dhcd.virginia.gov](mailto:vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150



## F246 – 13

### 2306.8.1, 2306.8.2 (New), Chapter 80

Proponent: Bob Eugene, representing UL LLC

#### Revise as follows:

**2306.8 Alcohol-blended fuel-dispensing operations.** The design, fabrication and installation of alcohol-blended fuel dispensing systems shall also be in accordance with Section 2306.7 and Sections 2306.8.1 through 2306.8.5.

**2306.8.1 ~~Listed Approval of equipment.~~** Dispensers shall be listed in accordance with UL 87A. Hoses, nozzles, breakaway fittings, swivels, flexible connectors or dispenser emergency shutoff valves, vapor recovery systems, leak detection devices and pumps used in alcohol-blended fuel-dispensing systems shall be listed ~~or approved~~ for the specific purpose.

**2306.8.2 Compatibility.** Dispensers shall only be used with the fuels for which they have been listed, which are marked on the product. Field installed components including hose assemblies, breakaway couplings, swivel connectors and hose nozzle valves shall be provided in accordance with the listing and the marking on the unit.

*(Renumber subsequent sections)*

#### Add a new standard to Chapter 80 as follows:

### UL

#### 87A – 12 Outline of Investigation for Power-Operated Dispensing Devices for Gasoline and Gasoline/ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent

**Reason:** In 2007 UL submitted proposal F230 07/08 which added the section on alcohol-blended fuel-dispensing operations. This was done to address the growing number of E-85 installations. Part of that proposal allowed alcohol-blended fuel-dispensers and components to be listed or approved, where normal gasoline dispensers were required to be listed. This was done in recognition that standards and listings for these dispensers did not exist at the time.

The UL 87A Outline of Investigation for Power-Operated Dispensing Devices for Gasoline and Gasoline/ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent was subsequently developed to cover dispensers intended for use with high concentration ethanol blends. Listed dispensers and the related hanging hardware are now listed for high concentration ethanol blends, and are being installed across the U.S. This proposal recognizes the current E-85 dispensing practices and accomplishes the following:

1. Reintroduces the requirements for these dispensers and related hardware to be listed, rather than listed or approved.
2. Includes reference to the UL 87A Outline of Investigation used to investigate these products.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

**Code Change Form for the 2012 Code Change Cycle**

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual       Government Entity       Company

Name: Ed Altizer, State Fire Marshal

Representing: State Fire Marshal's Office

Mailing Address: 1005 Technology Park Drive, Glen Allen, VA 23059

Email Address: ed.altizer@vdfp.virginia.gov

Telephone Number: 804-371-0220

Proposal Information

Code(s) and Section(s): International Wildland-Urban Interface Code (IWUIC)

Proposed Change (including all relevant section numbers, if multiple sections):

**Adoption of the ICC model IWUIC, 2012 edition in its entirety.**

Supporting Statement (including intent, need, and impact of the proposal):

While areas west of the Mississippi River garner a lot of attention when wildland fires occur, it is on the east side of the Mississippi River that more fires occur consuming more acreage, damaging more homes, injuring more people, and has a higher total dollar loss than the west of the Mississippi River. This is according to recent periods as reported by the Virginia Department of Forestry (VDOF) which revealed that in 2008, by example, saw a 130 percent increase in acres burned across the state as the number of fires decreased 12.4 percent. The agency logged 1,322 fires that burned 25,704 acres. Records show 1,509 fires burned 11,200 acres during 2007. Sixteen homes were damaged in 2008 alone. Virginia saw the worst fire day in memory that year on Sunday, Feb. 10, 2008. High winds across the state whipped up 354 fires that burned more than 16,000 acres.

In January 2009 the VDOF had reported not less than 810 fires covering 6,847 acres with 32 structures damaged.

With the construction of housing to meet the demand of an increased population, with the movement of population to forested and rural areas, it's only prudent to use the IWUIC model code to mitigate the risk of a structure's exposure to wildland fires and the spread of fire from structures to wildland fuels itself.

Submittal Information

Date Submitted: 6/25/13 by GAD for SFMO

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Code Change - FWUIC, SFMO.docx

E: 308.3 Institutional Group I-1.

Exception: In Group I-1 occupancies classified as the occupancy condition indicated in Section 308.3.1, not more than five of the residents may require physical assistance from more than one staff member to respond to an emergency situation when all residents that may require the physical assistance reside on a single level of exit discharge.

F. 308.3.2:

308.3.2 Condition 2. This occupancy condition shall include buildings in which there are any persons receiving custodial care who require assistance by not more than one staff member while responding to an emergency situation to complete building evacuation. Five of the residents may require physical assistance from one staff member to respond to an emergency.

K. Section 310.6:

Exceptions:

1. Group homes licensed by the Virginia Department of Behavioral Health and Developmental Services that house no more than eight persons with one or more resident counselors shall be classified as Group R-2, R-3, R-4 or R-5. Not more than five of the persons may require physical assistance from more than one staff member staff to respond to an emergency situation.

2. In Group R-4 occupancies classified as the occupancy condition indicated in Section 310.6.1, other than in hospice facilities, not more than five of the residents may require physical assistance from more than one staff member staff to respond to an emergency situation when all residents who may require the physical assistance from staff reside on a single level of exit discharge and other than using a ramp, a change of elevation using steps or stairs is not within the path of egress to an exit door.

4. Assisted living facilities licensed by the Virginia Department of Social Services that house no more than eight persons, with one or more resident counselors, may be classified as Group R-5 when in compliance with all of the following:

4.2. Not more than five of the residents may require physical assistance from more than one staff member staff to respond to an emergency situation.

L. Section 310.6.2:

310.6.2 Condition 2. This occupancy condition shall include buildings in which there are any persons receiving custodial care who require assistance by not more than one staff member while responding to an emergency situation to complete building evacuation. Five of the residents may require physical assistance from more than one staff member to respond to an emergency.

Supporting Statement: This DHCD code change is to retain for DSS licensed ALF's the current situations where five residents may require assistance from more than one staff member to respond to an emergency. DSS brought this to our attention.

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: \_\_\_\_\_

Proponent Information

(Check one):  Individual  Government Entity  Company

Name: John Catlett.

Representing: VBCOA Admin Committee

Proposal Information

Code(s) and Section(s): VCC and VADR

Proposed Change (including all relevant section numbers, if multiple sections):

Add new Section 107.1.3 to the VCC to read:

107.1.3 Fees for generators used with amusement devices. Fees for generators and associated wiring used with amusement devices shall be only charged under the Virginia Amusement Device Regulations (13VAC5-31).

Change Section 13VAC5-31-75 of the VADR to read:

13VAC5-31-75. Local building department.

A. In accordance with §§ 36-98.3 and 36-105 of the Code of Virginia, the local building department shall be responsible for the enforcement of this chapter and may charge fees for such enforcement activity. The total amount charged for any one permit to operate an amusement device or devices or the renewal of such permit shall not exceed the following, except that when a private inspector is used, the fees shall be reduced by 50%:

1. \$25 for each kiddie ride covered by the permit;
2. \$35 for each circular ride or flat-ride less than 20 feet in height covered by the permit;
3. \$55 for each spectacular ride covered by the permit that cannot be inspected as a circular ride or flat-ride in subdivision 2 of this subsection due to complexity or height; and
4. \$150 for each coaster covered by the permit that exceeds 30 feet in height.

5. The local building department may charge an additional fee for permits and inspections of generators and associated wiring for amusement device events for generators 6500 watt or larger. Generators subject to these fees are those used exclusively with amusement devices subject to this code and are inspected by the local building department. The fee charged by the local governing body per event set up for the inspection of all generators and associated electrical components shall not exceed \$165.00 per event and shall not exceed the actual cost to perform the inspection(s).

Supporting Statement (including intent, need, and cost impact of the proposal):

The VBCOA Admin Committee viewed the two proposals and offers the above compromise language to address the need to cover generator and electrical installations associated with amusement device events.

The original Supporting Statement from the proponents of the other two code submittals still remains valid.

***This proposal addresses the concern of operators of amusement devices that some local building departments are requiring electrical permits under the VCC for generators used with amusement devices and are using the fee schedule established by the local government for electrical permits to charge separate fees for such permits. This proposal only addresses the fee aspect of this situation and clarifies that fees may not be charged under the VCC for any electrical***

*permits issued by the local building department for generators and associated wiring used with amusement devices. The proposal does however establish a new fee under the VADR for inspecting such generators when the local building department does the inspection.*

Submittal Information

Date Submitted: August 13, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)  
600 East Main Street  
Suite 300  
Richmond, VA 23219

Email Address: [Vernon.hodge@dhcd.virginia.gov](mailto:Vernon.hodge@dhcd.virginia.gov)  
Fax Number: (804) 371-7092  
Phone Numbers: (804) 371-7150

