

**BHCD CODES AND STANDARDS COMMITTEE**  
**2012 CODE CHANGE CYCLE – BOOK 3**  
**March 25, 2013**

**SUPPLEMENTAL PACKAGE**

**TAB 1**

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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: Tara Ragland (VHCA) and Richard Bartell (VBCOA)

Proposal Information

Code(s) and Section(s): 2012 International Building Code (IBC) (with 2009 Virginia amendments)

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

Change the following definitions in Section 202 of the IBC as shown:

~~24-HOUR CARE BASIS.~~ 24-HOUR CARE BASIS. The actual time that a person is an occupant within a facility for the purpose of receiving care. It shall not include a facility that is open for 24 hours and is capable of providing care to someone visiting the facility during any segment of the 24 hours.

~~CUSTODIAL CARE.~~ Assistance with day-to-day living tasks; such as assistance with cooking, taking medication, bathing, using toilet facilities and other tasks of daily living. In other than in hospice facilities, Custodial care include includes occupants ~~who~~ that have the ability to respond to emergency situations and evacuate at a slower rate ~~and/or~~ or who have mental and psychiatric complications, or both.

~~GROUP HOME.~~ A facility for social rehabilitation, substance abuse or mental health problems that contains a group housing arrangement that provides custodial care but does not provide ~~acute~~ medical care.

Change Section 308.2 of the IBC to read as shown:

308.2 Definitions. The following terms are defined in Chapter 2:

~~24-HOUR CARE BASIS.~~

(remainder of Section 308.2 unchanged)

Change Section 308.3 of the IBC to read as shown:

~~308.3 Institutional Group I-1. This occupancy shall include buildings, structures or portions thereof for more than 16 persons, excluding staff, who reside on a 24 hour basis in a supervised environment and receive custodial care. The persons receiving care are capable of self preservation. Buildings of Group I-1, other than assisted living facilities licensed by the Virginia Department of Social Services, shall be classified as the occupancy condition indicated in Section 308.3.1. Assisted living facilities licensed by the Virginia Department of Social Services shall be classified as one of the occupancy conditions indicated in Sections 308.3.1 or 308.3.2.~~ This group shall include, but not be limited to, the following:

- Alcohol and drug centers
- Assisted living facilities
- Congregate care facilities
- Convalescent facilities
- Group homes
- Halfway houses
- Residential board and custodial care facilities
- Social rehabilitation facilities

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 staff to respond to an emergency situation when all residents that may require the physical assistance reside on a single level of exit discharge.

Add new Sections 308.3.1 and 308.3.2 to the IBC and change existing Sections 308.3.1 and 308.3.2 of the IBC as shown:

308.3.1 Condition 1. This occupancy condition shall include buildings in which all persons receiving custodial care who, without any assistance, are capable of responding to an emergency situation to complete building evacuation.

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.

~~308.3.2~~ 308.3.3 Six to sixteen persons receiving custodial care. A facility ~~such as above~~, housing not fewer than six and not more than 16 persons receiving ~~such~~ custodial care, shall be classified as Group R-4.

~~308.3.4~~ 308.3.4 Five or fewer persons receiving custodial care. A facility ~~such as the above~~ with five or fewer persons receiving ~~such~~ custodial care shall be classified as Group R-3 or shall comply with the International Residential Code provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or with Section P2904 of the International Residential Code.

Change Section 310.6 of the IBC as shown:

310.6 Residential Group R-4. This occupancy shall include buildings, structures or portions thereof for more than five but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive custodial care. ~~The persons receiving care are capable of self preservation.~~ Buildings of Group R-4, other than assisted living facilities licensed by the Virginia Department of Social Services, shall be classified as the occupancy condition indicated in Section 310.6.1. Assisted living facilities licensed by the Virginia Department of Social Services shall be classified as one of the occupancy conditions indicated in Sections 310.6.1 or 310.6.2. This group shall include, but not be limited to, the following:

- Alcohol and drug centers
- Assisted living facilities
- Congregate care facilities
- Convalescent facilities
- Group homes
- Halfway houses
- Hospice facilities
- Residential board and ~~custodial~~ care facilities
- Social rehabilitation facilities

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code.

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 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 hospice facilities, not more than five of the residents may require physical assistance from 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~~

3. Assisted living facilities licensed by the Virginia Department of Social Services that house no more than eight persons, with one or more resident counselors, and all of the residents are capable of responding to an emergency situation without physical assistance from staff, may be classified as Group R-2, R-3 or R-5.
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:
  - 4.1. The building is protected by an automatic sprinkler system installed in accordance with Section 903.3 or Section P2904 of the IRC.
  - 4.2. Not more than five of the residents may require physical assistance from staff to respond to an emergency situation.
  - 4.3. All residents who may require physical assistance from staff to respond to an emergency situation reside on a single level of exit discharge and other than using a ramp, a change in elevation using steps or stairs is not within the path of egress to an exit door.
5. Hospice facilities with five or fewer occupants are permitted to comply with the IRC provided the building is protected by an automatic sprinkler system in accordance with IRC Section P2904 or IBC Section 903.3.

310.6.1 Condition 1. This occupancy condition shall include buildings in which all persons receiving custodial care, who without any assistance, are capable of responding to an emergency situation to complete building evacuation and hospice facilities.

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.

Change Section 420 of the IBC as shown:

SECTION 420  
GROUPS I-1, R-1, R-2, R-3, R-4

420.1 General. Occupancies in Groups I-1, R-1, R-2 ~~and~~ R-3 and R-4 shall comply with the provisions of Sections 420.1 through ~~420.5~~ 420.6 and other applicable provisions of this code.

(no change to Sections 420.2 and 420.3)

420.4 Smoke barriers in Group I-1 Condition 2. Smoke barriers shall be provided in Group I-1 Condition 2 to subdivide every story used by persons receiving care, treatment or sleeping and to provide other stories with an occupant load of 50 or more persons, into no fewer than two smoke compartments. Such stories shall be divided into smoke compartments with an area of not more than 22,500 square feet (2092 m<sup>2</sup>) and the travel distance from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet (60 960 mm). The smoke barrier shall be in accordance with Section 709.

420.4.1 Refuge area. Refuge areas shall be provided within each smoke compartment. The size of the refuge area shall accommodate the occupants and care recipients from the adjoining smoke compartment. Where a smoke compartment is adjoined by two or more smoke compartments, the minimum area of the refuge area shall accommodate the largest occupant load of the adjoining compartments. The size of the refuge area shall provide the following:

1. Not less than 15 net square feet (1.4 m<sup>2</sup>) for each care recipient.
2. Not less than 6 net square feet (0.56 m<sup>2</sup>) for other occupants.

Areas or spaces permitted to be included in the calculation of the refuge area are corridors, lounge or dining areas and other low hazard areas.

~~420.4~~ 420.5 Automatic sprinkler system. Group R occupancies shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.2.8. Group I-1 occupancies shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.2.6. Quick response or residential automatic sprinklers shall be installed in accordance with Section 903.3.2.

~~420.5~~ 420.6 ~~Smoke detection and fire alarm systems and smoke alarms.~~ Fire alarm systems and smoke alarms shall be provided in Group I-1, R-1 ~~and~~, R-2 ~~and~~ Group R-4 occupancies in accordance with Sections 907.2.6, 907.2.8 ~~and~~, 907.2.9 ~~and~~ 907.2.10, respectively. Single- or multiple- station smoke alarms shall be provided in Groups I-1, R-2, R-3 and R-4 in accordance with Section 907.2.11.

Change Section 504.2 of the IBC as shown:

504.2 Automatic sprinkler system increase. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one. These increases are permitted in addition to the building area increase in accordance with Sections 506.2 and 506.3. For Group R buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum building height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one, but shall not exceed 60 feet (18 288 mm) or four stories, respectively.

Exception: The use of an automatic sprinkler system to increase building heights shall not be permitted for the following conditions:

1. Buildings, or portions of buildings, classified as a Group I-1 Condition 2, of Type IIB, III, IV or V construction or Group I-2 occupancy occupancies of Type IIB, III, IV or V construction.
2. Buildings, or portions of buildings, classified as a Group H-1, H-2, H-3 or H-5 occupancy.
3. Buildings where an automatic sprinkler system is substituted for fire-resistance rated construction in accordance with Table 601, Note d.

Change Section 709.5 of the IBC as shown:

709.5 Openings. Openings in a smoke barrier shall be protected in accordance with Section 716.

Exceptions:

1. In Group I-1 Condition 2, Group I-2 and ambulatory care facilities, where doors are installed across corridors, a pair of opposite- swinging doors without a center mullion shall be installed having vision panels with fire-protection- rated glazing materials in fire-protection-rated frames, the area of which shall not exceed that tested. The doors shall be close fitting within operational tolerances, and shall not have undercuts in excess of 3/4-inch, louvers or grilles. The doors shall have head and jamb stops, astragals or rabbets at meeting edges and shall be automatic-closing by smoke detection in accordance with Section 716.5.9.3. Where permitted by the door manufacturer's listing, positive-latching devices are not required.
2. In Group I-1 Condition 2, Group I-2 and ambulatory care facilities, horizontal sliding doors installed in accordance with Section 1008.1.4.3 and protected in accordance with Section 716.

Change Section 903.2.6 of the IBC as shown:

903.2.6 Group I. An automatic sprinkler system shall be provided throughout buildings with a Group I fire area.

Exceptions:

1. An automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be permitted in Group I-1 Condition 1 facilities.
- ~~2. An automatic sprinkler system installed in accordance with Section 903.3.1.3 shall be allowed in Group I-1 facilities when in compliance with all of the following:~~
  - ~~2.1. A hydraulic design information sign is located on the system riser~~
  - ~~2.2. Exception 1 of Section 903.4 is not applied, and~~
  - ~~2.3. Systems shall be maintained in accordance with the requirements of Section 903.3.1.2.~~
- 2.3. An automatic sprinkler system is not required where Group I-4 day care facilities are at the level of exit discharge and where every room where care is provided has at least one exterior exit door.
- 3.4. In buildings where Group I-4 day care is provided on levels other than the level of exit discharge, an automatic sprinkler system in accordance with 903.3.1.1 shall be installed on the entire floor where care is provided and all floors between the level of care and the level of exit discharge, all floors below the level of exit discharge, other than areas classified as an open parking garage.

Change Section 903.2.8 (and all subsections) of the IBC as shown:

903.2.8 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area.

~~903.2.8.1 Group R-3 or R-4 congregate residence. An automatic sprinkler system installed in accordance with 903.3.1.3 shall be permitted in Group R-3 or R-4 congregate residences with 16 or fewer residents.~~

903.2.8.2 Group R-4 Condition 1. An automatic sprinkler system installed in accordance with 903.3.1.3 shall be permitted in Group R-4 Condition 1.

903.2.8.3 Group R-4 Condition 2. An automatic sprinkler system installed in accordance with 903.3.1.2 shall be permitted in Group R-4 Condition 2. Attics shall be protected in accordance with Sections 903.2.8.3.1 or 903.2.8.3.2.

903.2.8.3.1 Attics used for living purposes, storage or fuel fired equipment. Attics used for living purposes, storage or fuel fired equipment shall be protected throughout with automatic sprinkler system installed in accordance with 903.3.1.2.

903.2.8.3.2 Attics not used for living purposes, storage or fuel fired equipment. Attics not used for living purposes, storage or fuel fired equipment shall be protected in accordance with one of the following:

1. Attics protected throughout by a heat detector system arranged to activate the building fire alarm system in accordance with Section 907.2.10.
2. Attics constructed of non-combustible materials.
3. Attics constructed of fire-retardant-treated wood framing complying with Section 2303.2.
4. The automatic fire sprinkler system shall be extended to provide protection throughout the attic space.

~~903.2.8.2~~ 903.2.8.4 Care facilities. An automatic sprinkler system installed in accordance with 903.3.1.3 shall be permitted in care facilities with 5 or fewer individuals in a single family dwelling.

Change Section 903.3.1.3 of the IBC as shown:

903.3.1.3 NFPA 13D sprinkler systems. Automatic sprinkler systems installed in one and two-family dwellings, Group R-3, ~~and R-4~~ congregate residences Condition 1 and townhouses shall be permitted to be installed throughout in accordance with NFPA 13D.

Change Section 907.2.6.1 of the IBC as shown:

907.2.6.1 Group I-1. In Group I-1 occupancies, an automatic smoke detection system shall be installed in corridors, waiting areas open to corridors and habitable spaces other than sleeping units and kitchens. The system shall be activated in accordance with Section 907.5.

Exceptions:

1. For Group I-1 Condition 1, ~~S~~smoke detection in habitable spaces is not required where the facility is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Smoke detection is not required for exterior balconies.

Change Section 1018.1 of the IBC as shown:

1018.1 Construction. Corridors shall be fire-resistance rated in accordance with Table 1018.1. The corridor walls required to be fire-resistance rated shall comply with Section 708 for fire partitions.

Exceptions:

1. A fire-resistance rating is not required for corridors in an occupancy in Group E where each room that is used for instruction has at least one door opening directly to the exterior and rooms for assembly purposes have at least one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A fire-resistance rating is not required for corridors contained within a dwelling or sleeping unit in an occupancy in Group I-1 and Group R.

(no change to remainder of section)

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

This proposal was developed by a sub-workgroup of Workgroup 2, a workgroup consisting of client groups and affected parties with expertise in the technical aspects of the code, established as part of the 2012 code change process to assist in evaluating proposals and addressing issues in the use of the International Codes and standards as part of the Virginia Uniform Statewide Building Code. This proposal is taken from proposal submitted and approved in the International Code Council's code development process for the 2015 International Building Code (IBC). Minor changes were made to it to accommodate Virginia's current amendments to the IBC. Essentially the proposal establishes two new classifications (I-1 Condition 2 and R-4 Condition 2) in the IBC. These classifications apply to Assisted Living Facilities licensed by the Virginia Department of Social Services and will permit residents needing limited assistance in evacuating to be present due to enhanced safety requirements inherent in the new classifications, such as the use of a full building sprinkler system (NFPA 13 system) and smoke detection systems. While the R-4 Condition 2 classification does not have as many safety features required as the I-1 Condition 2 classification, the R-4 facilities are small, having only up to 16 residents.

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: J. Kenneth Payne, Jr., AIA (on behalf of)

Representing: VSAIA/VPMIA/VBCOA PMG

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 IMC, Section 505.1, 505.3 (new), and 507.2.3

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

**SECTION 505  
DOMESTIC KITCHEN EXHAUST EQUIPMENT**

**505.1 Domestic systems.** Where domestic range hoods and domestic appliances equipped with downdraft exhaust are located within dwelling units provided, such hoods and appliances shall discharge to the outdoors through sheet metal ducts constructed of galvanized steel, stainless steel, aluminum or copper. Such ducts shall have smooth inner walls, shall be air tight, shall be equipped with a backdraft damper, and shall be independent of all other exhaust systems.

**Exceptions:**

1. In Group R buildings, ~~where~~ where installed in accordance with the manufacturer's installation instructions and where mechanical or *natural ventilation* is otherwise provided in accordance with Chapter 4, *listed* and *labeled* ductless range hoods shall not be required to discharge to the outdoors.
2. Ducts for domestic kitchen cooking appliances equipped with downdraft exhaust systems shall be permitted to be constructed of Schedule 40 PVC pipe and fittings provided that the installation complies with all of the following:
  - 2.1. The duct shall be installed under a concrete slab poured on grade.
  - 2.2. The under floor trench in which the duct is installed shall be completely backfilled with sand or gravel.
  - 2.3. The PVC duct shall extend not more than 1 inch (25 mm) above the indoor concrete floor surface.
  - 2.4. The PVC duct shall extend not more than 1 inch (25 mm) above grade outside of the building.
  - 2.5. The PVC ducts shall be solvent cemented.

**505.2 Makeup air required.** Exhaust hood systems capable of exhausting in excess of 400 cfm (0.19 m<sup>3</sup>/s) shall be provided with *makeup air* at a rate approximately equal to the *exhaust air* rate. Such *makeup air* systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

**505.3 Other than Group R.** In other than Group R occupancies, where electric domestic cooking appliances are utilized for domestic purposes, such appliances shall be provided with domestic range hoods. Hoods and exhaust systems for such electric domestic cooking appliances shall be in accordance with Sections 505.1 and 505.2. In other than Group R occupancies, where fuel-fired domestic cooking appliances are utilized for domestic purposes, Type I or Type II hoods shall be provided as required for the type of appliances and processes in accordance with Sections 507.2.

**SECTION 507  
COMMERCIAL KITCHEN HOODS**

**507.2.3 Domestic cooking appliances used for commercial purposes.** Domestic cooking appliances utilized for commercial purposes shall be provided with Type I or Type II hoods as required for the type of appliances and processes in accordance with Sections 507.2, 507.2.1 and 507.2.2. Domestic cooking appliances utilized for domestic purposes shall comply with Section 505.

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

Currently, the interpretation and application of when a Type I or II hood is required for domestic or residential type appliances is inconsistent. This has created numerous and costly issues usually resulting in the requirement to provide a Type I hood over a domestic appliance, or request a code modification. Oftentimes, if it is a commercial facility, any domestic or residential cooking appliance within the facility is also classified as a commercial cooking appliance – thus typically requiring a Type I hood – where a domestic or residential hood would otherwise be sufficient to meet the intent of the code, which is captured in the IMC Commentary (excerpts below).

*The following are examples of kitchens serving occupancies that, depending on the nature of the cooking and the code official's interpretation of this section, might require only a Type II hood, a residential-type hood or no hood at all for the cooking appliances: church assembly halls; child care facilities; office or factory lunch rooms; employee break rooms; police and fire stations; bed-and-breakfast lodgings; VFW and similar halls; domestic-type kitchens in institutional occupancies; cooking classrooms; cooking demonstration displays and charity soup kitchens.*

*Some common scenarios that come up are the type of hoods that are required in a life science classroom in a high school (i.e., a classroom used to teach, among other things, cooking to students) and the type of hood required over a cooking appliance(s) in a fire station. In both cases, the type of cooking is the deciding factor on the type of hood required.*

*Typically, students in a life science class are learning to prepare meals that are the same as those that are prepared for a family in a residential dwelling unit. In most cases, residential-type range/ovens are installed in the classroom. As such, the same byproducts that are produced in a kitchen in a dwelling unit would be produced in the classroom. Based on the residential style of cooking that is being taught, it would seem appropriate that the same type of hood installed in a residential dwelling could be installed over the residential range/ovens used in a classroom. Therefore, a Type I or II hood would not be required and residential kitchen hoods that are ducted to the outdoors could be installed.*

*In the case of a kitchen located in a fire station, once again it depends on the type of cooking and the intended use of the facility. Meals prepared in a kitchen in a fire station that has a residential-type range/oven that is only intended to be used to prepare meals for the fire fighters on that particular shift is similar, if not the same, as those prepared in a home environment. As such, the same byproducts that are produced in a kitchen in a dwelling unit would be produced in the kitchen in the fire station. Based on the residential style of cooking that is being performed, it would seem appropriate that the same type of hood installed in a residential dwelling could be installed or, in a case where the space meets its ventilation requirements in Chapter 4 of the code, no hood at all.*

*It is important to note that cooking appliances installed in commercial occupancies do not necessarily require the installation of a Type I or II hood. There are a number of installations in a commercial occupancy where residential-type cooking occurs that would not require a commercial kitchen hood. Lunchrooms and breakrooms in commercial businesses often have residential ranges/ovens installed. In addition, many multiple-family residential buildings (e.g., condominiums and townhomes) have a clubhouse or community room that the residents can reserve for special functions. Typically these are seldom used, and when they are, it is to warm food or bake frozen food like pizza, lasagna or premade appetizers. Based on the residential style of cooking that is performed on these appliances, it would seem appropriate that the same type of hood installed in a residential dwelling could be installed or there may be no hood at all.*

The proposed code change utilizes the recently ICC approved M76-12 (for the 2015 IMC) as a guide (with some Virginia amendments) in combination with the context of the IMC commentary. The proposed Virginia amendments limit the domestic cooking appliances that can utilize domestic range hoods to *electric* appliances only and the hoods must exhaust to the outdoors.

**Cost Impact:** This proposed code change should result in potentially tens of thousands of dollars worth of savings if a domestic range hood could be utilized in lieu of a Type I hood and all of its associated requirements.

The M76-12 "Supporting Statement" is included below for reference:

**Reason:** The intent of this proposal is to clarify requirements and address new situations as Assisted Living and Nursing Home designs change.

Current requirements for domestic appliances used for domestic purposes are geared towards Group R facilities. When a stove is located in another use group, often a requirement for commercial hoods is misapplied. In a residential dwelling unit, often a range hood is not required if there is enough ventilation. Given the different types of facilities, this proposal would always require a hood when a range was provided in another use group.

As the style of assisted living facilities and nursing homes attempts to produce a more residential atmosphere, domestic ranges are provided either within the unit (some assisted living) or in common use areas (assisted living or nursing home residential 'suites'). Residents use this equipment for light cooking duties (few people and only occasional meals) or special cooking (i.e., cookies, cakes). If this equipment is used for cooking for a large number of residents on a regular basis, it is being used for commercial purposes, and it would fall under 507.2.3.

Hospitals or outpatient rehab facilities sometimes have domestic ranges in occupational therapy and dietician areas. The goal being to provide residents with training on good eating habits when they are at home.

Changes to 505.1 would allow residential and areas such as business break rooms to allow for recirculation if the mechanical system is designed for it.

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.

**Cost Impact:** Reduction

## Staff Clarification of Proposal on Standpipes

Proposed Change (showing how the proposal would change existing text)

**905.2 Installation standard.** Standpipe systems shall be installed in accordance with this section and NFPA 14.

**Exception:** ~~The residual pressure of 100 psi for 2 1/2 inch hose connection and 65 psi for 1 1/2 inch hose connection is not required in~~ Manual wet standpipe systems as per NFPA 14 shall be permitted in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and where the highest floor level is not more than 150 feet above the lowest level of fire department vehicle access. The system shall be designed so that residual pressure and volume requirements of NFPA 14 can be satisfied by pumping through the fire department connection utilizing fire department apparatus of a capacity and maximum pressure as specified by the fire code official.

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

Representing: HBA of Virginia

Mailing Address: 707 East Franklin Street, Richmond, VA 23219

Email Address: mltoalson@hbav.com

Telephone Number: 804-643-2797

Proposal Information

Code(s) and Section(s): 403.2.2 Duct Testing

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

See Attached: 1. Post Construction Test: Change total leakage from less or equal to 4 cfm per 100 square feet to 6 cfm per 100 square feet. → *see modified proposal*

See Attached: 2. Rough-in Test: Change total leakage shall be less than or equal to 4 cfm per 100 square feet to 6 cfm per square feet. → *see modified proposal*

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

The additional limit on air leakage in Zone 4 in the current housing economy does not justify the additional expense.

Submittal Information

Date Submitted: 12-28-12

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 SBCO (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



As Submitted  As Amended  Disapproved  Carry over  Other (specify)

**R403.2.2 Sealing (Mandatory).** Ducts, air handlers, and filter boxes shall be sealed. Joints and seams shall comply with either the *International Mechanical Code* or *International Residential Code*, as applicable.

**Exceptions:**

1. Air-impermeable spray foam products shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressures less than 2 inches of water column (500 Pa) pressure classification shall not require additional closure systems.

Duct tightness shall be verified by either of the following:

1. Postconstruction test: Total leakage shall be less than or equal to ~~4~~ 3 cfm (113.3 L/min) per 100 square feet (9.29 m<sup>2</sup>) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test. 6
2. Rough-in test: Total leakage shall be less than or equal to ~~4~~ 3 cfm (113.3 L/min) per 100 square feet (9.29 m<sup>2</sup>) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to ~~3~~ 2 cfm (85 L/min) per 100 square feet (9.29 m<sup>2</sup>) of conditioned floor area. ~~5~~ 5

**Exception:** The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope. 5

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: Haywood Kines

Representing: IAEI Va. Chapter

Mailing Address: 5 County Complex Ct. Woodbridge Va. 22192 Suite #120

Email Address: hkines@pwcgov.org

Telephone Number: (703) 792-7064

Proposal Information

Code(s) and Section(s): 2012 IRC Chapter 39 Section E3802.4

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

~~Admen U.S.B.C. E3802.4 **In unfinished Basements.** Where type SE or MN cable is run at right angles with joists in unfinished basements, cable assemblies containing two or more conductors of sizes 6AWG and larger shall not require additional protection where attached directly to the bottom of the joists. Smaller cables shall be run either through bored holes in joists or on running boards. NM cables installed on the wall of an unfinished shall be permitted to be installed in a listed conduit or tubing or shall be protected in accordance with table E3802.1. Conduit or tubing shall be provided with a suitable insulating bushing or adapter at the point where the cable enters the raceway. The NM or SE cable sheath shall extend through the conduit or tubing and into the outlet or device box not less than ¼ inches (6.4mm). The cable shall be secured within 12 inches (305mm) of the point where the cable enters the conduit or tubing. Metal conduit, tubing, and metal outlet boxes shall be connected to an equipment grounding conductor.~~

**REPLACE WITH**

**E3802.4 In unfinished Basements and Crawl Spaces.** Where type SE or MN cable is run at right angles with joists in unfinished basements and crawl spaces, cable assemblies containing two or more conductors of sizes 6AWG and larger shall not require additional protection where attached directly to the bottom of the joists. Smaller cables shall be run either through bored holes in joists or on running boards. NM cables installed on the wall of an unfinished shall be permitted to be installed in a listed conduit or tubing or shall be protected in accordance with table E3802.1. Conduit or tubing shall be provided with a suitable insulating bushing or adapter at the point where the cable enters the raceway. The NM or SE cable sheath shall extend through the conduit or tubing and into the outlet or device box not less than ¼ inches (6.4mm). The cable shall be secured within 12 inches (305mm) of the point where the cable enters the conduit or tubing. Metal conduit, tubing, and metal outlet boxes shall be connected to an equipment grounding conductor.

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

The intent of the change to add Crawl Spaces into the code section was to require protection for all nm cables exposed and subject to physical damage in crawl spaces. The U.L. listing for this product prevents this product from being installed in any area where it is exposed and subject to physical damage. Crawl Spaces contain mechanical equipment requiring servicing and they are generally used for storage, cables exposed below the joists can be damage or cut creating potential hazards for fire or personnel injury from being shocked from exposed conductors. Installing th...

\_\_\_ As Submitted    \_\_\_ As Amended    \_\_\_ Disapproved    \_\_\_ Carry over    \_\_\_ Other (specify)

cables in the joist cavities or providing running boards will prevent personnel entering the crawl space or working on equipment located in the crawl spaces from damaging the cables and preventing potential safety hazards to personnel in crawl spaces.

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)  
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  Association

Name: Paul W. Abernathy

Representing: National Electrical Manufacturers Association

Mailing Address: 1300 North 17<sup>th</sup> Street, Rosslyn, Virginia 22209

Email Address: Paul.Abernathy@nema.org

Telephone Number: 703-825-5235

Proposal Information

Code(s) and Section(s): Virginia Construction Code, Part I - Section E3802.4

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

Delete the entire amendment to Section E3802.4 as written in the 2009 Virginia Construction Code.

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

The intent is to remove the amendment to section E3802.4 and restore it back to the original intent of the language as it is written in the 2012 International Residential Code. The removal of "Crawl Spaces" in the original requirement only serves to create a potential hazard to construction workers and homeowners alike. The installation of SE and NM Cables in crawl spaces has no less of a potential of physical damage than in an unfinished basement. The code development process of the International Residential Code confirmed this with the adoption of section E3802.4 as written . The impact is zero to the contractors or homeowners since routing of cables are a design choice only. As an electrician for over 22 years I can cost effectively install SE or NM Cables in compliance with the original intent of the IRC E3802.4 without any additional cost impact. Installing NM Cable on running boards or through bored holes is standard installation practices.

Submittal Information

Date Submitted: 11/26/2012

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



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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: Haywood Kines

Representing: IAEI Va. Chapter

Mailing Address: 5 County Complex Ct. Woodbridge Va. 22192 Suite #120

Email Address: hkines@pwcgov.org

Telephone Number: (703) 792-7064

Proposal Information

Code(s) and Section(s): 2012 IRC Chapter 39 Section E3902.11

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

Delete U.S.B.C. Amendment to E3902.11 for ~~Arc-Fault Protection of Bedroom Outlets~~.  
Adopt the 2012 IRC Code requirements Section E3902.11 as written.  
E3902.11 **Arc-Fault circuit-interrupter protection.** All branch circuits that supply 120 volt, single phase 15-and20-ampere outlets installed in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways and similar rooms shall be protected by a combination type arc-fault interrupter installed to provide protection of the branch circuit.

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

The additional Life Safety provided and protection from unnecessary fires provided by the Arc-Fault devices needs to be adopted by Virginia as written and adopted by International Code Council. These devices provide an additional level of protection for the Branch circuits and equipment connected to the circuits ( Lamps, appliances, computers, etc.) for both series and parallel arc-faults that standard breakers cannot detect. This Code change will save lives, save families from loss of properties and prevent our Fire and rescue personnel from having to risk their lives to fight unnecessary fires that could have been prevented by these devices.

As Submitted  As Amended  Disapproved  Carry over  Other (specify)

## Arc Fault Circuit Interrupters (AFCI)

### **AFCIs Prevent Home Fires**

Over the last thirty years, our homes have been dramatically transformed by electrical devices; however, these same devices have also contributed to the shocking number of electrical fires this country suffers every year. Many existing homes are simply overwhelmed by today's electrical demands, putting them at greater risk of arc faults and arc induced fires.

An arc fault is a dangerous electrical problem caused by damaged, overheated, or stressed electrical wiring or devices. Arc faults can occur when older wires become frayed or cracked, when a nail or screw damages a wire behind a wall, or when outlets or circuits are overburdened.

In the United States, arcing faults cause more than 30,000 home fires each year, resulting in hundreds of deaths and injuries and more than \$750 million in property damage. The solution to this problem is a combination arc fault circuit interrupter, or AFCI. The CPSC estimates that AFCIs could prevent more than 50 percent of the electrical fires that occur every year.

### **Safety by Design**

Arc fault circuit interrupters, or AFCIs, are devices that replace standard circuit breakers in your home's electrical service panel. Combination AFCIs provide a higher level of protection by detecting hazardous arcing conditions and shutting down the electricity before a fire can start. AFCIs offer greater protection than traditional breakers because they are equipped with advanced internal electronics that detect arc fault hazards traditional breakers were not designed to recognize.

While AFCIs were previously only required to protect bedroom circuits, the new code requires this technology to be installed in additional areas of the home, including dining rooms and living rooms.

Though the new safety requirements are limited to new home construction, AFCIs can provide increased protection in existing homes as well. Since the probability of electrical fires increases with the age of the home, older homes with aging and deteriorating wiring systems can especially benefit from the added protection offered by these devices.

These devices can be purchased at any local electrical distributor, hardware store, and home improvement center across the country for approximately \$35 each.

Depending on the size of a given home, the cost impact for installing the additional AFCI protection for rooms other than bedrooms is \$100 - \$150. This is based on the required circuits for general lighting per the 2011 NEC.

Currently, 28 states have voted to adopt the 2011 NEC in its entirety, expanding or maintaining existing requirements for AFCI installation.

## 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:

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  Association

Name: Paul Wilson Abernathy

Representing: National Electrical Manufacturers Association

Mailing Address: 1300 North 17<sup>th</sup> Street, Rosslyn, Virginia 22209

Email Address: Paul.Abernathy@nema.org

Telephone Number: 703-825-5235

Proposal Information

Code(s) and Section(s): Virginia Construction Code, Part I - Section E3902.11

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

Delete the entire amendment to Section E3902.11 as written in the 2009 Virginia Construction Code.

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

The intent of this proposal is to restore the requirements of section E3902.11 as it is stated in the 2009 International Residential Code and 2012 International Residential Code. The need is reflective on the reduced safety due to an arc-fault condition that could result in a fire, loss of life and loss of property. Detailed studies have been posted on [www.AFCISAFETY.ORG](http://www.AFCISAFETY.ORG) and recent notices posted by the Consumer Product Safety Commission are factual statistics and results showing the importance of this technical advancement. The impact is minimal in terms of economic costs but high on establishing a safer one and two family dwelling. The average cost of an AFCI Device is \$ 42.00, subtract the \$ 6.00 for a standard circuit breaker and you are left with a cost of \$36.00 per device. The average home will need between 8-10 AFCI Devices to comply with the code standards. The added cost to the consumer is \$360.00, less than 1/2 of 1 percent of the cost of a typical \$250,000.00 home. Virginia is well behind on removing this amendment as the vast majority of states have adopted the full use of Arc Fault Circuit Interrupters without amendment.

Documentation, Studies and Fire Reports will be provided with this proposal for review and consideration

Submittal Information

Date Submitted: 11/25/2012

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

\_\_\_ As Submitted    \_\_\_ As Amended    \_\_\_ Disapproved    \_\_\_ Carry over    \_\_\_ Other (specify)