

**Minutes of the North Carolina Building Code Council**  
**June 11, 2019**  
**Raleigh, NC**

All members of the North Carolina Building Code Council were present for the Council meeting except Robert Morrow and Tony Sears.

The following are summary minutes. The official minutes of this meeting are recorded on CD. Anyone desiring verbatim CDs or excerpts from these CDs should contact the Engineering Division of the NC Department of Insurance for information and reproduction costs. The next scheduled NC Building Code Council meeting will be held **Tuesday, September 10, 2019**. The location will be announced 30 days before the meeting.

**Part A Administrative Items**

**Item A – 1 Ethics Statement: Inquire upon conflicts of interest or appearance of conflicts of interest that exist within the Council.**

There were no actual or potential conflicts of interest noted.

**Item A – 2 Approval of Minutes of the March 12, 2019 NC Building Code Council Meeting.**

A motion to accept the March 12, 2019 meeting minutes was made. A second motion was made. Approved

**Item A – 3 Request by Ronnie Hayes representing Town of Leland, for approval of the Town Fire Protection and Prevention Ordinance.**

Motion to approve was made. A second motion was made. Approved.

**Item A – 4 Rules Review Commission Meeting Report**

Barry Gupton reported the D-items from the January and March Council meetings were approved with minor editorial changes.

**Item A – 5 Public Comments**

There were no public comments.

**Part B – New Petition for Rulemaking**

The following Petitions for Rulemaking have been received since the last Council meeting. The Council will vote either to deny or grant these Petitions. The Council will give no further consideration to Petitions that are denied. Petitions that are granted may proceed through the Rulemaking process. The council may send any Petition to the appropriate committee. The hearing will take place during or after the September 10<sup>th</sup> meeting.

**Item B – 1 Request by Dan Dittman representing the NC Department of Insurance to amend the 2018 NC Mechanical Code, Section 202 General Definition as follows:**

**EXTRA-HEAVY-DUTY COOKING APPLIANCE.** Extra-heavy-duty cooking appliances are those utilizing open flame combustion of solid fuel at any time. Shall not use solid fuel to provide source of heat for cooking. Pellets and chips if used as flavoring shall not be in a state of open flame combustion at any time. Smoldering chambers shall not introduce embers into the flue at any time.

**HEAVY-DUTY COOKING APPLIANCE.** Heavy-duty cooking *appliances* include electric under-fired broilers, electric chain (conveyor) broilers, gas under-fired broilers, gas chain (conveyor) broilers, gas open-burner ranges (with or without oven), electric and gas wok ranges, smokers, smoker ovens, and electric and gas over-fired (upright) broilers and salamanders.

Such an appliance shall not use solid fuel to provide source of heat for cooking. Pellets and chips if used as flavoring shall not be in a state of open flame combustion at any time. Smoldering chambers shall not introduce embers into the flue at any time.

**Commercial Super Committee: Motion by K. Rogers. Second by W. Hamilton. Accepted. Building Code Council: Motion by D. Priest. Second. Granted.**

**Item B – 2 Request by Dan Dittman representing the NC Department of Insurance to amend the 2018 NC Residential Code, Section M1411.3.2 as follows:**

**M1411.3.2 Drain pipe materials and sizes.** Components of the condensate disposal system shall be ABS, cast iron, copper, cross-linked polyethylene, CPVC, galvanized steel, PE-RT, polyethylene, polypropylene or PVC pipe or tubing. Components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 30. Condensate waste and drain line size shall be not less than 3/4 -inch (19 mm) nominal diameter from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with an approved method.

Provisions shall be made to prevent the formation of condensation on the exterior of primary condensate drain piping if condensate dripping off the pipe could cause damage to any building component.

**NOTE: Items B-2 through B-5 were voted on as a group by the Council.**

**Residential Super Committee: Motion. Second. Accepted. Building Code Council: Motion. Second. Granted.**

**Item B – 3 Request by Dan Dittman representing the NC Department of Insurance to amend the 2018 NC Residential Code, Section M1502.1 as follows:**

**M1502.1 General.** Clothes dryers shall be exhausted in accordance with the manufacturer's instructions.

**M1502.1.1 (504.6) Makeup air.**

Where a closet is designed for the installation of a clothes dryer, an opening having an area of not less than 100 square inches (0.0645 m<sup>2</sup>) shall be provided in the closet enclosure or *makeup air* shall be provided by other *approved* means.

**NOTE: Items B-2 through B-5 were voted on as a group by the Council.**

**Residential Super Committee: Motion. Second. Accepted.**

**Building Code Council: Motion. Second. Granted.**

**Item B – 4 Request by Dan Dittman representing the NC Department of Insurance to amend the 2018 NC Residential Code, Section M1502.4.2 as follows:**

**M1502.4.2 Duct installation.** Exhaust ducts shall be supported at intervals not to exceed **12 4** feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with Section M1601.4.1 and shall be mechanically fastened... (remainder of paragraph unchanged)

**NOTE: Items B-2 through B-5 were voted on as a group by the Council.**

**Residential Super Committee: Motion. Second. Accepted.**

**Building Code Council: Motion. Second. Granted.**

**Item B – 5 Request by Dan Dittman representing the N.C. Department of Insurance to amend the 2018 NC Residential Code, Section M1602.3 as follows:**

**M1602.3 (603.18) Return-air intake (nonengineered systems).** If only one central return-air grille is installed, it shall be of a size sufficient to return a volume of air compatible with the CFM requirements and the temperature rise limitations specified by the equipment manufacturer. The face velocity of return air grilles shall not exceed 450 feet per minute (fpm) (2.3 m/s). At least one separate return shall be installed on each level of a multi-level structure. For split-level and split-foyer structures, one return may serve more than one level if located within the split area and the total area of the levels does not exceed 1,600 square feet (148.6 m<sup>2</sup>). Return-air grilles shall not be located in bathrooms. The return air from one residential living unit shall not be mixed with the return air from other living units.

In dwellings with 1,600 square feet (148.6m<sup>2</sup>) or less of conditioned area, a central return is permitted. When the dwelling contains more than 1,600 square feet (148.6m<sup>2</sup>) of conditioned area, additional returns shall be provided. Each return shall serve not more than 1,600 square feet (148.6 m<sup>2</sup>) of area and shall be located in the area it serves. Return air may travel through the living space to the return-air intake if there are no restrictions, such as solid doors, to the air movement. Undercut doors are allowed. When panned joists are used for return air, the structural integrity shall be maintained. Air capacity for joists 16 inches (406 mm) on center shall be a maximum of 375 cubic feet per minute (0.177 m<sup>3</sup>/s) for 8-inch (203 mm) joists and 525 cubic feet per minute (0.248 m<sup>3</sup>/s) for 10-inch (254 mm) joists. Wiring located in spaces used for return-air ducts shall comply with the *North Carolina Electrical Code*.

**NOTE: Items B-2 through B-5 were voted on as a group by the Council.**

**Residential Super Committee: Motion. Second. Accepted.**

**Building Code Council: Motion. Second. Granted.**

**Item B – 6 Request by Kevin Schwartz representing Valet Living LLC to amend the 2018 NC Fire Code, Section 304.4 as follows:**

304.4 Valet Trash Collection Services

1. Combustible trash in means of egress. Combustible trash or recyclable materials shall not be placed in exits, exit passageways, in enclosures for stairways or ramps, in corridors, in elevator lobbies or on egress balconies except as permitted by the following:

2. Combustible trash or recyclable materials in corridors or on egress balconies of Group R-2 occupancies that is awaiting scheduled valet trash collection in accordance with subsections below.

3. Valet Trash collection. Trash or recyclable materials awaiting valet trash collection shall only be placed in a corridor or on an egress balcony within 5 hours of scheduled pickup and shall not obstruct the minimum egress width required by Section 1031. Trash or recyclable materials awaiting valet trash collection shall be placed completely inside of one or more containers with a closed lid that complies with subsections below. Additional trash or recyclable material placed outside of compliant containers are prohibited in exits, exit passageways, corridors or egress balconies.

4. Valet trash collection containers. Containers used for valet trash collection shall not exceed a capacity of 2.0 cubic feet (15 gallons, 0.06 cubic meters) and shall be provided with tight-fitting or self-closing lids. Containers and lids shall comply with the following:

a. Containers and lids located in an area that is protected by fire

sprinklers in accordance with Item 1 shall be constructed entirely of noncombustible materials or materials that meet a peak rate of heat release not exceeding 300 kW/m<sup>2</sup> when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m<sup>2</sup> in the horizontal orientation. Containers and lids shall be listed or bear the label of an approved agency that validates compliance with this requirement.

b. Containers and lids located in an area that is not protected by fire sprinklers in accordance with Item 1 shall be constructed entirely of noncombustible materials or materials that meet a peak rate of heat release not exceeding 150 kW/m<sup>2</sup> when tested in accordance with ASTM E 1354 at an incident heat flux of 50 kW/m<sup>2</sup> in the horizontal orientation. Containers and lids shall be listed or bear the label of an approved agency that validates compliance with this requirement.

**Commercial Super Committee: Motion made by K. Rogers. Second by W. Hamilton. Accepted.**

**Building Code Council: Motion made by K. Rogers. Second by W. Hamilton. Granted.**

**Item B – 7 Request by Patrick Granson representing the Mecklenburg County Code Enforcement to amend the 2018 NC Fire Code Section 3103.2 as follows:**

**3103.2 Approval required.** Tents and membrane structures shall not be erected, operated or maintained for any purpose without first obtaining a permit and approval from the fire and building code official, as specified in the permit.

**Commercial Super Committee: Motion. Second. Accepted.**

**Building Code Council: Motion. Second. Granted.**

**Item B – 8 Request by Keith Rogers representing the North Carolina Building Code Council Mechanical Standing Committee to amend the 2018 NC Residential Code Section P2603.5 as follows:**

**P2603.5.2 Frost protection.** No traps of soil or waste pipe shall be installed or permitted outside of a building or concealed in outside walls or in any place where they may be subjected to freezing temperatures, unless approved provisions are made to protect them from freezing.

**P3201.3 (1002.7) Trap setting and protection.** Trap shall be set level with respect to their water seals and shall be protected from freezing. Trap seals shall be protected from siphonage, aspiration or back pressure by an approved system of venting (see Sections P3101 and P2603.5.2).

**Residential Super Committee: Motion. Second. Accepted.**

**Building Code Council: Motion. Second. Granted.**

**Item B – 9 Request by Robert Privott representing the North Carolina Home Builders Association to amend the 2018 Residential Code, Section R506.2.1 as follows:**

**R506.2.1 Fill.** Fill material shall be free of vegetation and foreign material. The fill shall be compacted to ensure uniform support of the slab, and except where *approved*, the fill depths shall not exceed 24 inches (610 mm) for clean sand or gravel and 8 inches (203 mm) for earth.

**Exception:** #57 or #67 stone may be used as fill without a compaction test for a maximum depth of 4 feet.

**Residential Super Committee: Motion. Second. Accepted.  
Building Code Council: Motion. Second. Granted.**

**Part C – Notice of Rulemaking Proceedings and Public Hearing**

The following Petitions for Rulemaking have been granted by the Council. Notice of Rulemaking proceedings has been made. The Public Hearing was held June 11, 2019 and the Final Adoption meeting may take place on or after September 10, 2019. The written public comment period expires on July 15, 2019.

**Item C – 1 Request by Carl Martin representing the North Carolina Department of Insurance to amend the 2018 NC Building Code, Sections 429.1.1 and 430.3.**

**429.1.1 Location.**

Rooms where occupants receive care in I-4 and R-3 adult and child day care facilities shall be on the level of exit discharge.

**Exception:** Second story rooms used for first grade children and younger but not younger than 2-1/2 years of age in licensed Group I-4 daycare facilities that meet all the following:

1. Fully sprinklered in compliance with 903.3.1.1,
2. Maximum of 49 children on the second story,
2. Maximum exit access travel distance is 75 feet,
3. Two remote means of egress are provided from each room containing children
4. Interior egress stairs shall be a minimum of 1-hour fire-resistant-rated and shall discharge directly to the exterior, and
5. Atriums shall not connect the first and second floor unless the atrium is 1-hour separated from the second floor.

**430.3 Group E in churches, private schools and public schools.**

Rooms used for first grade children and younger shall be located on the

level of exit discharge. Rooms used for second grade children shall not be located more than one story above the level of exit discharge.

**Exception:** Second story rooms used for first grade children and younger but not younger than 2-1/2 years of age in licensed Group E daycare facilities

that meet all the following:

1. Fully sprinklered in compliance with 903.3.1.1,
2. Maximum of 49 children on the second story,
2. Maximum exit access travel distance is 75 feet,
3. Two remote means of egress are provided from each room containing children
4. Interior egress stairs shall be a minimum of 1-hour fire-resistant-rated and shall discharge directly to the exterior, and
5. Atriums shall not connect the first and second floor unless the atrium is 1-hour separated from the second floor.

Carl Martin spoke in favor of this item.

**Item C – 2 Request by Carl Martin representing the North Carolina Department of Insurance to amend the 2018 NC Building Code, Section 714.4.2 as follows:**

**714.4.2 Membrane penetrations.**

Penetrations of membranes that are part of a *horizontal assembly* shall comply with Section 714.4.1.1 or 714.4.1.2. Where floor/ceiling assemblies are required to have a *fire-resistance rating*, recessed fixtures shall be installed such that the required *fire resistance* will not be reduced.

**Exceptions:**

7. The ceiling membrane of 1- and 2-hour fire-resistance-rated horizontal assemblies is permitted to be interrupted with the double wood top plate of a wall assembly ~~that is sheathed with Type X gypsum wallboard~~, provided that all penetrating items through the double top plate are protected in accordance with Section 714.4.1.1 or 714.4.1.2 and the ceiling membrane is tight to the top plate. For 2-hour fire-resistance-rated horizontal assemblies the wall assembly must be sheathed with Type X gypsum wallboard.

Carl Martin spoke in favor of this item.

**Item C – 3 Request by Terry Cromer representing the North Carolina Association of Electrical Contractors to amend the 2018 Administrative Code, Section 106.3.1 as follows:**

**106.3 Permit Application.**

**106.3.1 Information required.** A permit application shall be filed with the Inspection Department on a form furnished for that purpose. The Inspection Department shall make available a list of information which must be submitted with the building permit application, including a complete building code summary (see Appendix A of the Administrative Code and Policies). Trade permit applications for miscellaneous electrical mechanical and plumbing work

to be performed for other than the construction of, alterations, repairs or additions to one- and two- family dwellings, townhouses or other building or structure shall be submitted in the exact format as, and contain only the information in Appendix A-1 of the Administrative Code and Policies. The Inspection Department's building code summary shall be in the exact format as, and contain only the information in, Appendix B of the Administrative Code and Policies. The Inspection Department shall only modify its building code summary or trade permit application as set forth in section 103.5 Modifications, or as necessary to reflect any changes by the Office of State Fire Marshal to Appendix B or trade permit application which have been approved of by the Building Code Council.



APPENDIX A – 1

*This space reserve for department information*

**RESIDENTIAL & COMMERCIAL TRADE PERMIT  
PLUMBING/MECHANICAL/ELECTRICAL/FUEL PIPING/FIRE PLACE/OTHER**

Permit Holders Name: \_\_\_\_\_ Application Date: \_\_\_\_\_

Project Address: \_\_\_\_\_ Subdivision: \_\_\_\_\_

Property Owner: \_\_\_\_\_ Mobile phone #: \_\_\_\_\_

Email Address: \_\_\_\_\_

Is this property located within a flood plain?  N/A  No  Yes *If yes, additional paperwork may be required*

Description of work: \_\_\_\_\_  
\_\_\_\_\_

**PLUMBING CONTRACTOR**

Plumbing Contractor: \_\_\_\_\_ License #: \_\_\_\_\_

Project Supervisor: \_\_\_\_\_ Mobile #: \_\_\_\_\_

Email Address: \_\_\_\_\_

**MECHANICAL CONTRACTOR**

Mechanical Contractor: \_\_\_\_\_ License #: \_\_\_\_\_

Project Supervisor: \_\_\_\_\_ Mobile #: \_\_\_\_\_

Email Address: \_\_\_\_\_

**ELECTRICAL CONTRACTOR**

Electrical Contractor: \_\_\_\_\_ License #: \_\_\_\_\_

Project Supervisor: \_\_\_\_\_ Mobile #: \_\_\_\_\_

Email Address: \_\_\_\_\_

**FUEL PIPING CONTRACTOR**

Fuel Piping Contractor: \_\_\_\_\_ License #: \_\_\_\_\_

Project Supervisor: \_\_\_\_\_ Mobile #: \_\_\_\_\_

Email Address: \_\_\_\_\_

Are you installing a gas appliance(s)?  Yes  No *If yes, list appliance(s) below in description*

Description: \_\_\_\_\_

**CONTRACTOR – OTHER**

Refrigeration    Exhaust Hoods    Ventilation    Other: \_\_\_\_\_

Contractor Name: \_\_\_\_\_ License #: \_\_\_\_\_  
Project Supervisor: \_\_\_\_\_ Mobile #: \_\_\_\_\_  
Email Address: \_\_\_\_\_

**CONTRACTOR – OTHER**

Refrigeration    Exhaust Hoods    Ventilation    Other: \_\_\_\_\_

Contractor Name: \_\_\_\_\_ License #: \_\_\_\_\_  
Project Supervisor: \_\_\_\_\_ Mobile #: \_\_\_\_\_  
Email Address: \_\_\_\_\_

Total Cost of Project: \$ \_\_\_\_\_

Permit Fee: \$ \_\_\_\_\_

I hereby certify that I have the authority to make the necessary application, that all information in this application is correct and all work will comply with the State Building Code and all other applicable State and local laws and ordinances. The Inspection & Permits Department shall be notified of any changes in the approved plans and specifications for the project herein prior to implementation. I understand that I must assure the trade for which I am requesting an inspection is indeed ready for the inspection at the time of the request.

Signature of Permit Holder: \_\_\_\_\_ Date: \_\_\_\_\_  
Received by: \_\_\_\_\_ Date: \_\_\_\_\_  
Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Amount Paid: \_\_\_\_\_ Paid via:   Cash   Check   Credit Card

Terry Cromer representing the NC Association of Electrical Contractors spoke in favor of this item.

Robert Privott representing the NC Home Builders Association spoke in favor of this item.

**Item C – 4 Request by Stuart Laney representing Laney Electrical Construction, Inc. to amend the 2017 Electrical Code, Section 406.4(D)(4) as follows:**

**~~406.4(D)(4) Arc Fault Circuit Interrupters.~~**

~~Where a receptacle outlet is located in any areas specified in 210.12(A) or (B), a replacement receptacle at this outlet shall be one of the following:~~

- ~~(1) A listed outlet branch circuit type arc fault circuit interrupter receptacle~~
- ~~(2) A receptacle protected by a listed outlet branch circuit type arc fault circuit interrupter type receptacle~~

- ~~(3) A receptacle protected by a listed combination type arc fault circuit interrupter type circuit breaker~~  
~~Exception No. 1: Arc fault circuit interrupter protection shall not be required where all of the following apply:~~  
~~(1) The replacement complies with 406.4(D)(2)(b).~~  
~~(2) It is impracticable to provide an equipment a ground conductor as provided by 250.130(C).~~  
~~(3) A listed combination type arc fault circuit interrupter circuit breaker is not commercially available.~~  
~~(4) GFCI/AFCI dual function receptacles are not commercially available.~~

~~Exception No. 2: Section 210.12(B), Exception shall not apply to replacement of receptacles.~~

Stuart Laney spoke in favor of this item.

Kevin Arnold with NEMA and EATON spoke against this item.

Terry Cromer with NC Association of Electrical Contractors spoke in favor of this item.

Don Iverson with Schneider Electric spoke against this item.

Joe Starling with NCDOT spoke to clarify some details in this item.

**Item C – 5 Request by Colin Triming representing the North Carolina Fire Code Revision Committee to amend the 2018 NC State Building Code, NC Fire Code 505.1.1 as follows:**

**505.1.1 Suite/Room identification.** Where numerical addresses are posted to identify suites or rooms within buildings, the first digit of the suite or room number shall match the floor number signage.

Colin Triming spoke in favor of this item.

**Item C – 6 Request by Terry Cromer representing the North Carolina Association of Electrical Contractors to amend the 2017 NC Electrical Code, Section 210.8(B) as follows:**

**B Other Than Dwelling Units.** All single-phase receptacles rated 150 volts to ground or less, 50 amperes or less and three phase receptacles rated 150 volts to ground or less, 100 amperes or less installed in the following locations shall have ground-fault circuit-interrupter protection for personnel.

Terry Cromer spoke in favor of this item.

Kevin Arnold with Eaton spoke against this item.

Joe Starling with NC DOI spoke to clarify some details in this item.

**Item C – 7 Request by Jeff Tiller, PE representing Appalachian State University and Robert Privott representing the North Carolina Home Builders Association to amend the 2018 NC Energy Code, Section R406 Energy Rating Compliance Alternative as follows:**

**R406.1 Scope.**

This section establishes criteria for compliance using an Energy Rating Index (ERI) analysis.

**R406.2 Mandatory requirements.**

Compliance with this section requires that the provisions identified in Sections R401 through R404 labeled as “mandatory” be met. The building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in Table R406.2.1 or Table R406.2.2, Table 402.1.1 or 402.1.3 of the 2012 North Carolina Energy Conservation Code. Minimum standards associated with compliance shall be the ANSI RESNET ICC Standard 301-2014: “Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using an Energy Rating Index.” A North Carolina *registered design professional* or certified *HERS rater* is required to perform the analysis if required by North Carolina Licensure laws.

**Exception:** Supply and return ducts in unconditioned space and outdoors shall be insulated to a minimum R-8. Supply ducts inside semi-conditioned space shall be insulated to a minimum R-4; return ducts inside conditioned and semi-conditioned space are not required to be insulated. Ducts located inside conditioned space are not required to be insulated other than as may be necessary for preventing the formation of condensation on the exterior of cooling ducts.

**TABLE R406.2.1  
MINIMUM INSULATION AND FENESTRATION REQUIREMENTS FOR ENERGY RATING INDEX COMPLIANCE<sup>a</sup>**

CLIMATE ZONE	FENESTRATION VALUES			R-VALUES FOR								
	FENESTRATION U-FACTOR <sup>b,i</sup>	SKYLIGHT <sup>b</sup> U-FACTOR	GLAZED FENESTRATION SHGC <sup>b,k</sup>	CEILING <sup>m</sup>	UNVENTED <sup>p</sup> ENCLOSED RAFTER ASSEMBLIES AIR-IMPERMEABLE	UNVENTED <sup>p</sup> ENCLOSED RAFTER ASSEMBLIES AIR-PERMEABLE/IMPERMEABLE	WOOD FRAME WALL	MASS WALL <sup>l</sup>	FLOOR	BASEMENT <sup>c,o</sup> WALL	SLAB <sup>q</sup>	CRAWL SPACE <sup>c</sup> WALL
3	0.35	0.65	0.3	30	20	20+5 <sup>q</sup>	13	5/10	19	10/13 <sup>r</sup>	0	5/13
4	0.35	0.6	0.3	38 or 30ci <sup>l</sup>	20	20+15 <sup>q</sup>	15, 13+2.5 <sup>h</sup>	5/10	19	10/13	10	10/13
5	0.35	0.6	NR	38 or 30ci <sup>l</sup>	25	15+20 <sup>q</sup>	19 <sup>n</sup> , 13+5 <sup>h</sup> , or 15+3 <sup>h</sup>	13/17	30 <sup>e</sup>	10/13	10	10/13

For SI: 1 foot = 304.8 mm.

a. R-values are minimums. U-factors and SHGC are maximums.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

c. "10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall or crawl space wall.

d. For monolithic slabs, insulation shall be applied from the inspection gap downward to the bottom of the footing or a maximum of 18 inches below grade whichever is less. For floating slabs, insulation shall extend to the bottom of the foundation wall or 24 inches, whichever is less. (See Appendix R2) R-5 shall be added to the required slab edge R-values for heated slabs.

e. Deleted.

f. Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table R301.1.

g. Or insulation sufficient to fill the framing cavity, R-19 minimum.

h. The first value is cavity insulation, the second value is continuous insulation so "13+5" means R-13 cavity insulation plus R-5 continuous insulation. If structural sheathing covers 25 percent or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.

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

j. In addition to the exemption in R402.3.3, a maximum of two glazed fenestration product assemblies having a U-factor no greater than 0.55 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty.

k. In addition to the exemption in R402.3.3, a maximum of two glazed fenestration product assemblies having a SHGC no greater than 0.70 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty.

l. R-30 shall be deemed to satisfy the ceiling insulation requirement wherever the full height of uncompressed R-30 insulation extends over the wall top plate at the eaves. Otherwise, R-38 insulation is required where adequate clearance exists or insulation must extend either to the insulation baffle or within 1" of the attic roof deck.

m. Table value required except for roof edge where the space is limited by the pitch of the roof; there the insulation must fill the space up to the air baffle.

n. R-19 fiberglass batts compressed and installed in a nominal 2 x 6 framing cavity is deemed to comply. Fiberglass batts rated R-19 or higher compressed and installed in a 2x4 wall are not deemed to comply.

o. Basement wall meeting the minimum mass wall specific heat content requirement may use the mass wall R-value as the minimum requirement.

p. The air-impermeable insulation shall meet the requirements of the definition in Section R202. Air-impermeable insulation shall be installed in direct contact with the underside of the structural roof sheathing. For one- and two-family dwellings and townhouses, the insulation installation shall meet the requirements of R806.5 of the North Carolina Residential Code. For Residential Buildings other than one- and two-family dwellings and townhouses, the insulation installation shall meet the installation requirements of 1203.3 of the North Carolina Building Code.

q. The value for air-permeable insulation is shown first and that for air-impermeable insulation second. Thus, R-20 + R-5 indicates that the minimum value for air-permeable insulation is R-20, and the minimum value for air-impermeable insulation is R-5. Air-impermeable insulation shall be installed in direct contact with the underside of the structural roof sheathing. The air-permeable insulation shall be installed directly under the air-impermeable insulation.

**TABLE R406.2.2**  
**EQUIVALENT U-FACTORS FOR TABLE R406.2.1**

CLIMATE ZONE	FENESTRATION <sup>a</sup>	SKYLIGHT	CEILING	UNVENTED <sup>a</sup> ENCLOSED RAFTER ASSEMBLIES AIR-IMPERMEABLE	UNVENTED <sup>a</sup> ENCLOSED RAFTER ASSEMBLIES AIR-PERMEABLE/IMPERMEABLE	FRAME WALL	MASS WALL <sup>b</sup>	FLOOR	BASEMENT <sup>d</sup> WALL	CRAWL SPACE <sup>c</sup> WALL
3	0.35	0.65	0.0350	0.05	0.04 <sup>f</sup>	0.082	0.141	0.047	0.059	0.136
4	0.35	0.60	0.0300	0.05	0.029 <sup>f</sup>	0.077	0.141	0.047	0.059	0.065
5	0.35	0.60	0.0300	0.04	0.029 <sup>f</sup>	0.061	0.082	0.033	0.059	0.065

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

b. When more than half the insulation is on the interior, the mass wall U-factors shall be a maximum of 0.07 in Climate Zone 3, 0.07 in Climate Zone 4 and 0.054 in Climate Zone 5.

c. Basement wall U-factor of 0.360 in warm-humid locations as defined by Figure R301.1 and Table R301.1.

d. A maximum of two glazed fenestration product assemblies having a U-factor no greater than 0.55 and a SHGC no greater than 0.70 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty. When

applying this note and using the RESCheck "UA Trade-off" compliance method to allow continued use of the software, the applicable fenestration products shall be modeled as meeting the U-factor of 0.35 and the SHGC of 0.30, as applicable, but the fenestration products' actual U-factor and actual SHGC shall be noted in the comments section of the software for documentation of application of this note to the applicable products. Compliance for these substitute products shall be verified compared to the allowed substituted maximum U-value requirement and maximum SHGC requirement, as applicable.

e. The air-impermeable insulation shall meet the requirements of the definition in Section R202. Air-impermeable insulation shall be installed in direct contact with the underside of the structural roof sheathing. For one- and two-family dwellings and townhouses, the insulation installation shall meet the requirements of R806.5 of the North Carolina Residential Code.

f. For air-permeable/ impermeable applications, Table R406.2.1 shall be followed for minimum insulation values.

Robert Privott spoke in favor of this item.

Ben Edwards, speaking on his own behalf, did not speak for or against; thinks this item is incomplete.

Randy Nicklas spoke in favor of this item.

**Item C – 8 Request by Jeff Tiller, PE representing Appalachian State University and Robert Privott representing the North Carolina Home Builders Association to amend the 2018 NC Residential Code, Section N1106 Energy Rating Compliance Alternative as follows:**

**N1106.1 Scope.**

This section establishes criteria for compliance using an Energy Rating Index (ERI) analysis.

**N1106.2 Mandatory requirements.**

Compliance with this section requires that the provisions identified in Sections N1101 through N1104 labeled as "mandatory" be met. The building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in Table N1106.2.1 or Table N1106.2.2. Table 402.2.2 or 402.1.3 of the 2012 North Carolina Energy Conservation Code. Minimum standards associated with compliance shall be the ANSI RESNET ICC standard 301-2014: "Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using an Energy Rating Index." A North Carolina *registered design professional* or certified *HERS rater* is required to perform the analysis if required by North Carolina Licensure laws.

**Exception:** Supply and return ducts in unconditioned space and outdoors shall be insulated to a minimum R-8. Supply ducts inside semi-conditioned space shall be insulated to a minimum R-4; return ducts inside conditioned and semi-conditioned space are not required to be insulated. Ducts located inside conditioned space are not required to be insulated other than as may be necessary for preventing the formation of condensation on the exterior of cooling ducts.

**SECTION N1106  
ENERGY RATING INDEX COMPLIANCE ALTERNATIVE**

**N1106.1 Scope.**

This section establishes criteria for compliance using an Energy Rating Index (ERI) analysis.

**N1106.2 Mandatory requirements.**

Compliance with this section requires that the provisions identified in Sections N1101 through N1104 labeled as "mandatory" be met. The building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in [Table N1106.2.1](#) or [Table N1106.2.2](#), Table 402.1.1 or 402.1.3 of the 2012 North Carolina Energy Conservation Code. Minimum standards associated with compliance shall be the ANSI RESNET ICC Standard 301-2014: "Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings using an Energy Rating Index." A North Carolina registered design professional or certified HERS rater is required to perform the analysis if required by North Carolina Licensure laws.

**Exception:** Supply and return ducts in unconditioned space and outdoors shall be insulated to a minimum R-8. Supply ducts inside semi-conditioned space shall be insulated to a minimum R-4; return ducts inside conditioned and semi-conditioned space are not required to be insulated. Ducts located inside conditioned space are not required to be insulated other than as may be necessary for preventing the formation of condensation on the exterior of cooling ducts.

**TABLE N1106.2.1  
MINIMUM INSULATION AND FENESTRATION REQUIREMENTS FOR ENERGY RATING INDEX COMPLIANCE<sup>a</sup>**

CLIMATE ZONE	FENESTRATION VALUES			R-VALUES FOR								
	FENESTRATION U-FACTOR <sup>b,i</sup>	SKYLIGHT <sup>b</sup> U-FACTOR	GLAZED FENESTRATION SHGC <sup>b,k</sup>	CEILING <sup>m</sup>	UNVENTED <sup>p</sup> ENCLOSED RAFTER ASSEMBLIES AIR-IMPERMEABLE	UNVENTED <sup>p</sup> ENCLOSED RAFTER ASSEMBLIES AIR-PERMEABLE/IMPERMEABLE	WOOD FRAME WALL	MASS WALL <sup>l</sup>	FLOOR	BASEMENT <sup>n,o</sup> WALL	SLAB <sup>q</sup>	CRAWL SPACE <sup>c</sup> WALL
3	0.35	0.65	0.3	30	20	20+5 <sup>q</sup>	13	5/10	19	10/13 <sup>f</sup>	0	5/13
4	0.35	0.6	0.3	38 or 30ci <sup>l</sup>	20	20+15 <sup>q</sup>	15, 13+2.5 <sup>h</sup>	5/10	19	10/13	10	10/13
5	0.35	0.6	NR	38 or 30ci <sup>l</sup>	25	15+20 <sup>q</sup>	19 <sup>h</sup> , 13+5 <sup>h</sup> , or 15+3 <sup>h</sup>	13/17	30 <sup>h</sup>	10/13	10	10/13

For SI: 1 foot = 304.8 mm.

a. R-values are minimums. U-factors and SHGC are maximums.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

c. "10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall or crawl space wall.

d. For monolithic slabs, insulation shall be applied from the inspection gap downward to the bottom of the footing or a maximum of 18 inches below grade whichever is less. For floating slabs, insulation shall extend to the bottom of the foundation wall or 24 inches, whichever is less. (See Appendix O) R-5 shall be added to the required slab edge R-values for heated slabs.

e. Deleted.



- f. Basement wall insulation is not required in warm-humid locations as defined by Figure N1101.7 and Table N1101.7.
- g. Or insulation sufficient to fill the framing cavity, R-19 minimum.
- h. The first value is cavity insulation, the second value is continuous insulation so "13+5" means R-13 cavity insulation plus R-5 continuous insulation. If structural sheathing covers 25 percent or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
- i. The second R-value applies when more than half the insulation is on the interior of the mass wall.
- j. In addition to the exemption in N1102.3.3, a maximum of two glazed fenestration product assemblies having a U-factor no greater than 0.55 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty.
- k. In addition to the exemption in N1102.3.3, a maximum of two glazed fenestration product assemblies having a SHGC no greater than 0.070 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty.
- l. R-30 shall be deemed to satisfy the ceiling insulation requirement wherever the full height of uncompressed R-30 insulation extends over the wall top plate at the eaves. Otherwise, R-38 insulation is required where adequate clearance exists or insulation must extend either to the insulation baffle or within 1" of the attic roof deck.
- m. Table value required except for roof edge where the space is limited by the pitch of the roof, there the insulation must fill the space up to the air baffle.
- n. R -19 fiberglass batts compressed and installed in a nominal 2 x 6 framing cavity is deemed to comply. Fiberglass batts rated R-19 or higher compressed and installed in a 2x4 wall ~~is~~ are not deemed to comply.
- o. Basement wall meeting the minimum mass wall specific heat content requirement may use the mass wall R-value as the minimum requirement.
- p. The air-impermeable insulation shall meet the requirements of the definition in Section R202. Air-impermeable insulation shall be installed in direct contact with the underside of the structural roof sheathing. The insulation installation shall meet the requirements of R806.5.
- q. The value for air-permeable insulation is shown first and that for air-impermeable insulation second. Thus, R-20 + R-5 indicates that the minimum value for air-permeable insulation is R-20, and the minimum value for air-impermeable insulation is R-5. Air-impermeable insulation shall be installed in direct contact with the underside of the structural roof sheathing. The air permeable insulation shall be installed directly under the air-impermeable insulation.

**TABLE N1106.2.2  
EQUIVALENT U-FACTORS FOR TABLE N1106.2.1\***

CLIMATE ZONE	FENESTRATION <sup>d</sup>	SKYLIGHT	CEILING	UNVENTED <sup>e</sup> ENCLOSED RAFTER ASSEMBLIES AIR-IMPERMEABLE	UNVENTED <sup>e</sup> ENCLOSED RAFTER ASSEMBLIES AIR-PERMEABLE/IMPERMEABLE	FRAME WALL	MASS WALL <sup>b</sup>	FLOOR	BASEMENT <sup>d</sup> WALL	CRAWL SPACE <sup>c</sup> WALL
3	0.35	0.65	0.0350	0.05	0.04 <sup>f</sup>	0.082	0.141	0.047	0.059	0.136
4	0.35	0.60	0.0300	0.05	0.029 <sup>f</sup>	0.077	0.141	0.047	0.059	0.065
5	0.35	0.60	0.0300	0.04	0.029 <sup>f</sup>	0.061	0.082	0.033	0.059	0.065

- a. Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source.
- b. When more than half the insulation is on the interior, the mass wall U-factors shall be a maximum of 0.07 in Climate Zone 3, 0.07 in Climate Zone 4 and 0.054 in Climate Zone 5.
- c. Basement wall U-factor of 0.360 in warm-humid locations as defined by Figure N1101.7 and Table N1101.7.
- d. A maximum of two glazed fenestration product assemblies having a U-factor no greater than 0.55 and a SHGC no greater than 0.70 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty. When applying this note and using the RESCheck "UA Trade-off" compliance method to allow continued use of the software, the applicable fenestration products shall be modeled as meeting the U-factor of 0.35 and the SHGC of 0.30, as applicable, but the fenestration products' actual U-factor and actual SHGC shall be noted in the comments section of the software for documentation of

application of this note to the applicable products. Compliance for these substitute products shall be verified compared to the allowed substituted maximum U-value requirement and maximum SHGC requirement, as applicable.

e. The air-impermeable insulation shall meet the requirements of the definition in Section R202. Air-impermeable insulation shall be installed in direct contact with the underside of the structural roof sheathing. The insulation shall meet the requirements of R806.5.

f. For air-permeable/ impermeable applications, Table N1106.2.1 shall be followed for minimum insulation values.

Robert Privott spoke in favor of this item.

Ben Edwards, speaking on his own behalf, thinks the item is incomplete.

Randy Nicklas spoke in favor of this item.

Dan Dittman with DOI offered to clarify details of this item if they were needed.

**Item C – 9 Request by Jeff Tiller, PE representing Appalachian State University and Robert Privott representing the North Carolina Home Builders Association to amend the 2018 Residential Code, Section 2 Definitions and the 2018 Energy Code, Section 2 Definitions as follows:**

AIR-IMPERMEABLE INSULATION. An insulation having an air permeance equal to or less than 0.02 L/s-m<sup>2</sup> at 75 Pa pressure differential tested according to ASTM E 217 or E 283.

**Item C – 10 Request by Robert Privott representing the North Carolina Home Builders Association to amend the 2018 Residential Code, Section R506.2.1 as follows:**

**R506.2.1 Fill.** Fill material shall be free of vegetation and foreign material. The fill shall be compacted to ensure uniform support of the slab, and except where *approved*, the fill depths shall not exceed 24 inches (610 mm) for clean sand or gravel and 8 inches (203 mm) for earth.

Exception: #57 stone, ABC stone or crusher run may be used as fill without compaction for a maximum depth of four (4) feet.

**(Note: alternate wording for the exception)**

Exception: #57 or #67 stone may be used as fill without compaction test for a maximum depth of 4 feet.

This item was withdrawn by Robert Privott and Item B – 9 was introduced in its place with the alternate wording.

**Item C – 11 Request by Keith Rogers representing the North Carolina Building Code Council Mechanical Standing Committee to amend the 2018 NC Plumbing Code, Section 305.4 as follows:**

**305.4 Freezing.** Water pipes installed in a wall exposed to the exterior shall be located on the heated side of the wall insulation. Water, soil, and condensate waste pipes shall not be installed outside of a building, in unconditioned attics, unconditioned utility rooms, or in any other place subjected to freezing temperatures unless adequate provision is made to protect such pipes from freezing by a minimum of R6.5 insulation determined at 75°F (24°C) in accordance with ASTM C177 or heat or both. Exterior water supply system piping shall be installed ~~not less than 6 inches (152 mm)~~ below the frost line and not less than 12 inches (305 mm) below grade.

**Note:** These provisions are minimum requirements, which have been found suitable for normal weather conditions. Abnormally low temperatures for extended periods may require additional provisions to prevent freezing.

**305.4.1 Frost Protection.** No traps of soil or waste pipe shall be installed or permitted outside of a building or concealed in outside walls or in any place where they may be subjected to freezing temperatures, unless *approved* provisions are made to protect them from freezing.

**305.4.2 Sewer depth.** *Building Sewers* that connect to private sewage disposal systems shall be installed not less than 3 inches (76.2 mm) below finished grade at the point of septic tank connection. *Building sewers* shall be installed not less than 3 inches (76.2 mm) below grade.

Keith Rogers spoke in favor of this item.

**Item C – 12 Request by Ralph Euchner representing the North Carolina Building Code Council to amend the 2018 NC Plumbing Code, Section 306.2.4 Tracer Wire as follows:**

**306.2.4 Tracer wire.** For plastic sewer piping, an insulated copper tracer wire or other approved conductor shall be installed adjacent to and over the full length of the piping. Access shall be provided to the tracer wire or the tracer wire shall terminate at the cleanout between the building drain and building sewer. The tracer wire size shall be not less than 14 AWG and the insulation type shall be listed for direct burial.

Ralph Euchner spoke in favor of this item.

**Item C – 13 Request by Jesse Wade White, Jr., PE representing the North Carolina Building Code Council Electrical Ad Hoc Committee to amend the 2017 NC Electrical Code, Section 695.3 as follows:**

**Amendment 695.3**

Amend NEC 2017, page 575:

**695.3 Power Source(s) for Electric Motor-Driven Fire Pumps.**

Electric motor-driven fire pumps shall have a reliable source of power.

~~Informational Note: See Sections 9.3.2 and A.9.3.2 from NFPA 20-2019, Standard for the Installation of Stationary Pumps for Fire Protection, for guidance on the determination of power source reliability.~~

Replace with:

**695.3 Power Source(s) for Electric Motor-Driven Fire Pumps.**

Electric motor-driven fire pumps shall have a reliable source of power.

J. Wade White spoke in favor of this item.

David Bell with State Construction spoke against this item.

Joe Starling with NCDOT spoke to offer some clarification of some details to this item.

Terry Cromer with NC Association of Electrical Contractors spoke in favor of this item.

Pat Rose from Greensboro spoke in favor of this item.

**Item C – 14 Request by Jesse Wade White, Jr., PE representing the NC Building Code Council Electrical Ad Hoc Committee to amend the 2017 NC Electrical Code, Section 695.2 as follows:**

**Amendment 695.2**

Amend NEC 2017, page 575:

**695.2 Definitions.**

**Fault-Tolerant External Control Circuits.** Those control circuits either entering or leaving the fire pump controller enclosure, which if broken, disconnected, or shorted will not prevent the controller from starting the fire pump from all other internal or external means and may cause the controller to start the pump under these conditions.

**On-Site Power Production Facility.** The normal supply of electric power for the site that is expected to be constantly producing power.

**On-Site Standby Generator:** A facility producing electric power on site as the alternate supply of electric power. It differs from an on-site power production facility, in that it is not constantly producing power.

Replace with:

## **695.2 Definitions.**

**Fault-Tolerant External Control Circuits.** Those control circuits either entering or leaving the fire pump controller enclosure, which if broken, disconnected, or shorted will not prevent the controller from starting the fire pump from all other internal or external means and may cause the controller from starting the fire pump from all other internal or external means and may cause the controller to start the pump under these conditions.

**On-Site Power Production Facility.** The normal supply electric power for the site that is expected to be constantly producing power.

**On-Site Standby Generator.** A facility producing electric power on site as the alternate supply of electric power. It differs from an on-site power production facility, in that it is not constantly producing power.

**Reliable Source of Power.** A source of power that possesses all of the following characteristics:

(1) The electric utility supplying the power has not conducted any intentional shut downs longer than 10 continuous hours in the year prior to the plan submittal and is verified in writing by that electric utility.

(2) The source of power is not supplied by overhead conductors within 60 feet of the building(s) equipped with fire pump(s).

(3) Only the disconnect switches and overcurrent protection devices permitted in Article 695 and NFPA 20-2013 section 9.3.2 are installed in the normal source of power to the fire pump controller.

J. Wade White spoke in favor of this item.

David Bell, speaking on his own behalf, spoke to some of the language in this item.

**Item C – 15 Request by David Smith representing the North Carolina Building Code Council Residential Committee to amend the 2018 NC Residential Code, Section R703.7.2.1 Support by steel angle as follows:**

**R703.2.1 Support by steel angle.** A minimum 6 inches by 4 inches by 5/16 inch (152 mm by 102 mm by 8 mm) steel angle, with the long leg

placed vertically, shall be anchored to double 2 inches by 4 inches (51 mm by 102 mm) wood studs at a maximum on-center spacing of 16 inches (406 mm) or shall be anchored to solid double 2x blocking firmly attached between single 2-inch by 4-inch (51 mm by 102 mm) wood studs at a maximum on center spacing of 16 inches (406 mm). Anchorage of the steel angle at every double stud spacing shall be a minimum of two 7/16 inch (11 mm) diameter by 4 inch (102 mm) lag screws at every double stud or shall be a minimum of two 7/16-inch diameter (11.1 mm) by 4 inches (102 mm) lag screws into solid double blocking with each pair of lag screws spaced at horizontal intervals not to exceed 16 inches (406 mm). The steel angle shall have a minimum clearance to underlying construction of 1/16 inch (2 mm). A minimum of two-thirds the width of the masonry veneer thickness shall bear on the steel angle. Flashing and weep holes shall be located in the masonry veneer wythe in accordance with Figure R703.7.2.1. The maximum height of masonry veneer above the steel angle support shall be 12 feet, 8 inches (3861 mm). The air space separating the masonry veneer from the wood backing shall be in accordance with Sections R703.7.4 and R703.7.4.2. The method of support for the masonry veneer on steel angle shall be constructed in accordance with Figure R703.7.2.1. The maximum slope of the roof construction without stops shall be 7:12. Roof construction with slopes greater than 7:12 but not more than 12:12 shall have stops of a minimum 3 inch 3 inch 1/4 inch (76 mm 76 mm 6 mm) steel plate welded to the angle at 24 inches (610 mm) on center along the angle or as *approved* by the *building official*.

David Smith spoke in favor of this item.

**Item C – 16 Request by David Smith representing the North Carolina Building Code Council Residential Committee to amend the 2018 NC Residential Code, Section R403.1.6 as follows:**

Exceptions:

1. Walls 24 inches (610 mm) total length or shorter connecting offset braced wall panels shall be anchored to the foundation with a minimum of one anchor bolt located in the center third of the plate section and shall be attached to adjacent braced wall panels at corners as shown in Table R602.3(1) and Figure R602.10.3(5).
2. Connection of walls 12 inches (305 mm) total length or shorter connecting offset braced wall panels to the foundation without anchor bolts shall be permitted. The wall shall be attached to adjacent braced wall panels at corners as shown in Table R602.3(1) and Figure R602.10.3(5).

David Smith spoke in favor of this item.

**Item C – 17 Request by Ralph Euchner representing the North Carolina Building Code Council to amend the 2018 NC Residential Code, Section P2604.1.4 Tracer Wire as follows:**

**P2604.1.4 Tracer wire.** For plastic sewer *pipng*, an insulated copper tracer wire or other *approved* conductor shall be installed adjacent to and over the full length of the *pipng*. Access shall be provided to the tracer wire or the tracer wire shall terminate at the cleanout between the building drain and building sewer. The tracer wire shall be not less than 14 AWG and the insulation type shall be listed for direct burial.

Ralph Euchner spoke in favor of this item.

**Item C – 18 Request by Keith Rogers representing the North Carolina Building Code Council Mechanical Standing Committee to amend the 2018 NC Residential Code, Section P2603.5 as follows:**

**P2603.5 Freezing.** Water pipes installed in a wall exposed to the exterior shall be located on the heated side of the wall insulation. In other cases, water, soil and condensate waste pipes shall not be installed outside of a building, in unconditioned attics, unconditioned utility rooms or in any other place subjected to freezing temperatures unless adequate provision is made to protect such pipes from freezing by a minimum of R-6.5 insulation determined at 75°F (24°C) in accordance with ASTM C177 or heat or both. Exterior water supply system piping shall be installed ~~not less than 6 inches (152 mm)~~ below the frost line and not less than 12 inches (305 mm) below grade.

**Note:** These provisions are minimum requirements, which have been found suitable for normal weather conditions. Abnormally low temperatures for extended periods may require additional provisions to prevent freezing.

**P2603.5.1 Sewer depth.** *Building sewers* that connect to private sewage disposal systems shall be installed not less than 3 inches (76.2 mm) below finished grade at the point of septic tank connection. *Building sewers* shall be not less than 3 inches (76.2 mm) below grade.

Keith Rogers spoke in favor of this item.

**Item C – 19 Request by Barry Siegal representing BSC Holdings, Inc. to amend the 2018 NC Building Code, Section 903.2.8 and Table 602 and NC Fire Code, Section 903.2.8 Group R as follows:**

**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*.

**Exceptions:**

1. An *automatic sprinkler system* is not required in new adult and child day care facilities located in existing Group R-3 and R-4 occupancies.
2. *temporary overflow shelters*.
3. An *automatic sprinkler system* is not required in camping units located within a campground where all of the following conditions exist.
  - 3.1. The camping unit is limited to one story in height,
  - 3.2. The camping unit is less than 400 square feet (37 m<sup>2</sup>) in area.
  - 3.3. The camping unit does not have a kitchen
4. An automatic sprinkler system is not required in an *Open Air Camp Cabin* that complies with the following:
  - 4.1. The open air camp cabin shall have at least two remote unimpeded exits. Lighted exit signs shall not be required.
  - 4.2. The open air camp cabin shall not be required to have plumbing or electrical systems, but if the cabin has these systems, then the provisions of the Code otherwise applicable to those systems shall apply.
  - 4.3. Smoke detectors and portable fire extinguishers shall be installed as required by other sections of this Code.
5. An *automatic sprinkler system* is not required in the following Group R-3 buildings not more than three stories above grade plane in height with a separate *means of egress*:
  - a) Detached one- and two-family  *dwellings*.
  - b) Attached one- and two-family dwellings separated with fire walls complying with Section 706 and containing no other occupancy classification.



**TABLE 602 FIRE – RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS  
BASED ON FIRE SEPARATION DISTANCE <sup>a,d,g</sup>**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H <sup>e</sup>	OCCUPANCY GROUP F-1, M, S- 1 <sup>f</sup>	OCCUPANCY GROUP A, B, E, F-2, I, R <sup>h,i</sup> , S-2, U
$X < 5^b$	All	3	2	1
$5 \leq X < 10$	IA	3	2	1
	Others	2	1	1
$10 \leq X < 30$	IA, IB	2	1	1 <sup>c</sup>
	IIB, VB	1	0	0
	Others	1	1	1 <sup>c</sup>
$X \geq 30$	All	0	0	0

1

2 For SI: 1 foot = 304.8 mm.

- 3 a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table  
4 601.
- 5 b. See Section 706.1.1 for party walls.
- 6 c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- 7 d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of  
8 the exterior wall and the story in which the wall is located.
- 9 e. For special requirements for Group H occupancies, see Section 415.6.
- 10 f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- 11 g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the  
12 required fire-resistance rating for the exterior walls is 0 hours.
- 13 h. For Group R-3 detached one- and two-family dwellings of any construction type and not more than  
14 three stories above grade plane in height with a separate means of egress a fire separation distance of 5  
15 feet or less shall be 1-hour fire-resistant rated and shall be 0-hour fire-resistant rated for distances  
16 greater than 5 feet.
- 17 i. For Group R-3 attached one- and two-family dwellings of any construction type separated with fire  
18 walls complying with Section 706, containing no other occupancy classification, and not more than  
19 three stories above grade plane in height with a separate means of egress a fire separation distance of 5  
20 feet or less shall be 1-hour fire-resistant rated and shall be 0-hour fire-resistant rated for distances  
21 greater than 5 feet.

Robert Privott spoke in favor of this item.

## Part D – Final Adoption

There were no items for final adoption.

## **Part E – Reports**

### **❖ Ad-Hoc Committee Reports**

Residential Committee has held meetings with the Qualification Board working on Truss Drawing Submittal and ERI Checksheets.

The 2020 NEC Committee will need to meet and act in a timely manner regarding the next code.

### **❖ Standing Committee Reports**

No reports.

### **❖ Staff Reports**

Cliff Isaac addressed the Council recognizing staff changes:

Barry Gupton will be moving to the Manufactured Building Division which also means he is leaving the position of Secretary to the Building Code Council. To date, this position has not been filled.

Tara Barthelmess named the new Chief Accessibility Codes Consultant upon the retirement of Laurel Wright.

### **❖ Chairman’s Report**

Chairman Davis acknowledged Barry Gupton leaving his position as Secretary to the Building Code Council and thanked him for his many years of service to the Council.

Chairman Davis will establish an Ad-Hoc Committee for Item B-7 regarding tents and membrane structures; as well as form a new Residential Ad-Hoc Committee.

He explained the Council is waiting for the Governor’s office to announce the new Council Appointments. He also told the members that all are in compliance regarding their Ethics requirements.

### **❖ Public Comments**

There were no public comments.

## **Part F – Appeals**

There are currently no appeals scheduled.

**Adjourned.**