SOUTH CAROLINA BUILDING CODES COUNCIL
WEDNESDAY, FEBRUARY 25, 2004
KINGSTREE BUILDING, ROOM 105
COLUMBIA, SOUTH CAROLINA

MEMBERS PRESENT	MEMBERS ABSENT	STAFF PRESENT
Frank Hodge, Chairman	William T. McDowell, Jr.	Gary Wiggins
Gregory P. Parsons	Gene G. Beckman, III	Jennie Meade
Kenneth Padgett		Rick Wilson
Lloyd Schumann		
Ernest F. Dorsey		
James A. Ham, Jr.		
Van M. McAlister		
Jerry T. Witherspoon		
Frank Hill		
Mike Thomas		
Gable D. Stubbs		
Linda Anderson-Lark		

OTHERS PRESENT

Butch Pannell	Siggi Valentin	Ward Braswell
Earl McLeod	Nancy Gunderson	Vaughn Wicker
Paul LaVene	Michael Robinson	Don Ferguson
Clay Graves	Billy Kennett	John W. Wasson, Jr.
Ed Bostain	Georgia Toney	Paula H. Kennett
Bruce Boulineau	Tony Longino	Jimmy Chao
Gerry Poss	Clay Pendarvis	Robert Polk
Sonny DuBose	Ed Carter	Bucky Hollingsworth
Hal Howardor	Jeff Allen	Reginald McBeth
Quint Kirbach	Don Hurst	

NOTE: The Notice and Agenda for the February 25, 2004 meeting of the South Carolina Building Codes Council were posted in accordance with Section 30-4-80 of the 1976 amended Code, relating to the Freedom of Information Act.

1. Call to Order
The February 25, 2004 meeting of the S. C. Building Codes Council was called to order
at 10:30 AM by Chairman Frank Hodge.

2. Approval of Agenda - Chairman Hodge asked if there were any changes to the agenda. Mr. Frank Hill made the motion to approve the agenda as written. The motion was seconded by Mr. Kenneth Padgett and the vote was unanimous.

3. Approval of Minutes

Chairman Hodge asked if there were any corrections to the minutes of the November 20, 2003 meeting. Mr. Michael Thomas made a motion to approve the minutes as presented. The motion was seconded by Mr. Hill and passed unanimously.

4. Approval/Disapproval for Absent Members

Chairman Hodge inquired about the absent members. Mr. Gene Beckman and Mr. William McDowell had previous commitments. Mr. Earnest Dorsey made the motion to
excuse the absences. The motion was seconded by Mr. Padgett and the vote was unanimous.

5. Election of Officers

Chairman Hodge turned the meeting over to Mr. Gary Wiggins. Mr. Wiggins asked for nominations for Chairman. Mr. Padgett made a motion that was seconded by Mr. Dorsey nominating Frank Hodge. There were no other nominations and the vote was called. Mr. Hodge was elected unanimously. Mr. Wiggins returned the meeting to Chairman Hodge who asked for nominations for Vice-Chairman. Mr. Hill made a motion
that was seconded by Mr. Dorsey nominating Mr. Greg Parsons. Chairman Hodge called for the vote as no other nominations were made. The motion passed unanimously

6. Old Business

None

7. New Business

A. Recommendations from the Code Study Committee – Chairman Hodge recognized
Mr. Bruce Boulineau, Chair of the Code Study Committee. Mr. Boulineau presented the
list of proposed modifications to the 2003 Edition of the International Residential Code.
Mr. Hodge reviewed the list of proposed modifications and suggested that they be divided into two groups. The first group contained all proposals for which no additional
discussion was requested. The second group contained 13 proposals for which additional discussion was requested and would be heard. The proposals for which additional discussion was heard were R301.1.1, R301.2.1.1, R301.2.2, R301.2.2, R307.1, R311.5.4, T-R402.2, R403.1.7, R502.11.4, R802.10.1, E3305.1, M1305.1.4
and review of the minimum requirements for Chapter 1. Chairman Hodge asked for a single motion that would approve all proposed modifications for which no additional discussion was requested. A motion to approve was made by Mr. Lloyd Schumann, seconded by Mr. James Ham, and carried unanimously.

A summary of all modifications follows. The items individually voted on by Council will

show the motions and vote.

2003 INTERNATIONAL RESIDENTIAL CODE

Section R202 – The definition of the word "Story" was expanded to include language, to allow single and two family residences to be built in accordance with the International Residential Code when there are three habitable stories above a usable story, which is not habitable but exists for the purpose of raising the house above the flood plain. The definition will now read:
Story - That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above. For the purpose of determining the appropriate code to be used, when the first story is built in the flood plain, a 'Story' must be 'Habitable Space.

Section R301.2(2) – The most recent seismic design map includes a new seismic zone designated as D_0 (D sub zero) that is not included in the 2003 edition of the International Residential Code, but will be included in the 2006 edition. The D_0 zone reduces the area of the existing D_1 zone in South Carolina and provides for less restrictive, and thus less costly construction requirements. The Building Codes Council determined that since the latest map is conclusive and available now, it should be used.

Mr. Parsons made the motion to adopt and agree with the first two items of 2/11/04 4 a and 4 b and adopt language where d sub zero sub category, as shown on the map, the seismic requirements for category c until such time that the map is adjusted. Mr. Dorsey seconded the motion and the vote was unanimous.

Section R301.2.2 – Sections R301 design criteria, R403 footings, R404 foundation walls, R602 wood wall framing, R606 general masonry construction, R611 insulating concrete form wall construction, R703 exterior covering section and R1003 masonry fireplaces were revised to incorporate the design provisions for the new Seismic Design Category D_0 (D sub zero). The D_0 design category is not included in the 2003 edition of the International Residential Code, but will be included in the 2006 edition. This modification establishes the design criteria for the new D_0 seismic zone created by the modification to Section R301.2(2). For map see "APPENDIX 1."

Section R301.2.2 - A moratorium was placed on enforcement of the D_0 (D sub zero) seismic design requirements for those areas in South Carolina designated as D_0, until adoption of the 2006 International Residential Code. The design requirements for the seismic zone C will be in effect for those areas in South Carolina designated as D_0.

Figure R307.2 – The minimum fixture clearance for a water closet had been 12 inches from the center of the bowl to the sidewall or bathtub for many years. The dimension was changed to 15 inches in the 2000 International Residential Code without a convincing

reason for doing so. The minimum clearance, therefore, was changed back to 12 inches. Figure R.307.2 is a graphic. The modification changes the dimension on the graphic from 15 inches to 12 inches.

Section R311.4.3 – Additional language was added to the section and exception to prevent water intrusion at exterior/exit doors. The modified section will now read:
The floor or landing at the interior side of the exit door required by Section R311.4.1 shall not be more than 1.5 inches (38 mm) lower than the top of the threshold. The floor or landing at exterior doors other than the exit door required by Section R311.4.12 shall not be required to comply with this requirement but shall have a rise no greater than that permitted in Section R311.5.3.
Exception: The landing at an exterior/exit doorway shall not be more than 7 ¾ inches (196 mm) below the top of the threshold, provided the door, other than an exterior storm or screen door does not swing over the landing.

Section R311.5.3 - The language concerning stair geometry was modified to include more logical and flexible design criteria for the stair treads (walking surfaces) and risers (distance between treads). The modified section will now read:
R311.5.3.1 Riser height. ~~The maximum riser height shall be 7 3/4 inches (196 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).~~
R311.5.3.2 Tread depth. ~~The minimum tread depth shall be 10 inches (254 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured as above at a point 12 inches (305) mm from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12 inch (305 mm) walk line shall not exceed the smallest by more than 3/8 inch (9.5 mm).~~ When risers are closed, all treads may have a uniform projection not to exceed 1 ½ inches. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch. The greatest tread run within any flight of stairs shall not exceed the smallest by more than 3/8 inch. Stairways shall not be less than 3 feet in clear width, and the headroom, rise and run shall conform to Figure R-213.1. Handrails may project from each side of a stairway a distance of 3 ½ inches into the required width.
The reference to Figure R-213.1 is a graphic in the 1992 Edition of the CABO One and Two Family Dwelling Code depicting the stair design and dimensional requirements.

Section R311.5.6.1 – The minimum height for handrails for stairs and ramps was reduced from 34 inches to 30 inches, to be consistent with prior editions of the code and prior construction practices in South Carolina. The modified section will now read:
Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finished surface of ramp slope, shall be not less than ~~34 inches (864mm)~~ 30 inches and not more than 38 inches (965 mm).

Table R402.2 – Air-entrained concrete is required for exterior surfaces that are exposed to water and have the potential for freezing. The requirement for air-entrained concrete for garage floors was determined to be unnecessary in all areas in South Carolina and thus deleted. The modified section will now read:

MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE

Porches, carport slabs and steps exposed to the weather, and garage floor slabs 2,500 (PSI).

Mr. Parsons made a motion to adopt language from Mr. Bruce Boulineau "garage floor slabs 2500, 3000 in moderate, 3500 in severe and add the footnote e and not the footnote d." The second was made by Mr. Frank Hill and the vote was unanimous.

Section R403.1.4.2 – The requirement for interior footings supporting bearing or bracing walls and cast monolithically with a slab on grade in Seismic Design Categories D_1 and D_2 was reduced from 18 inches below the top of the slab, to 12 inches below the top of the slab. Since the requirement for exterior footings is established at 12 inches, the modification will provide that interior footings will still be placed at a depth where adequate bearing capacity is provided, but will not require them to extend to a point that is deeper than the exterior footings. The modification has also been approved by the International Code Council and will be included in the 2006 Edition of the International Residential Code. The modified section will now read:

In seismic design categories D_1 and D_2, interior footings supporting bearing or bracing walls and cast monolithically with a slab on grade shall extend to a depth of not less than 18 inches (457 mm) <u>12 inches (305 mm)</u> below the top of slab.

Section R403.1.6 – It was determined that in instances where a wood sill plate is 24 inches in length or less, such as short walls that provide offsets to long braced wall panels, the requirement for a minimum of two anchor bolts is excessive. The modification will allow short walls, which do not provide any significant strength in the main force resisting direction, to be attached with fewer bolts, while still maintaining uplift protection. The uplift protection will be provided through the proper attachment of the short offset walls to the main braced wall line per the attachment requirements listed in the code. Two exceptions were added to the section. The exceptions have also been approved by the International Code Council and will be included in the 2006 Edition of the International Residential Code. The modified section will now read:

When braced wall panels are supported directly on continuous foundations, the wall wood sill plate or cold-formed steel bottom track shall be anchored to the foundation in accordance with this section. The wood sole plate at exterior walls on monolithic slabs and wood sill plate shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet (1829 mm) on center. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. In Seismic Design Categories D_1 and D_2, anchor bolts shall also be spaced at 6 feet (1829mm) on center and located within 12 inches (305 mm) from the ends of each plate section at interior braced wall lines when required by Section R602.10.9 to be supported on a continuous foundation. Bolts shall be at least 1/2 inch (12.7 mm) in diameter and shall extend a minimum of 7 inches (178 mm) into masonry or

concrete. Interior bearing wall sole plates on monolithic slab foundations shall be positively anchored with approved fasteners. A nut and washer shall be tightened on each bolt to the plate. Sills and sole plates shall be protected against decay and termites where required by Sections R318 and R319. Cold-formed steel framing systems shall be fastened to the wood sill plates or anchored directly to the foundation as required in Section R505.3.1 or R603.1.1.
Exception: Foundation anchor straps, spaced as required to provide equivalent anchorage to 1/2-inch-diameter
(12.7 mm) anchor bolts.
Exception 2. Walls 24" 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 per Figure R602.10.5 at corners.
Exception 3. Walls 12" total length or shorter connecting offset braced wall panels shall be permitted to be connected to the foundation without anchor bolts. The wall shall be attached to adjacent braced wall panels per Figure R602.10.5 at corners.

Section R403.1.7 – Sections R403.1.7 (Footings on or Adjacent to Slopes); R402.1.7.1 (Building Clearances from Ascending Slopes); R403.1.7.2 (Footing Setback from Descending Slope Surfaces); R403.1.7.3 (Foundation Elevation); R403.1.7.4 (Alternate Setback and Clearances); figure R403.1.7.1 (Foundation Clearance from Slopes) were deleted. The sections referenced establish limitations for sites with varying topography that may be more appropriate in local zoning ordinances.

Mr. Hill made to motion to accept the recommendation of the committee. Mr. Ham seconded the motion which passed.

Table R502.5(1) – An additional table (identified as Table R502.5(1)A) was included with the existing table, which will allow for the use of standard lumber as an alternative to engineered wood for the fabrication of headers over 6 feet in length. For Table see "APPENDIX 2."

Section R502.11.4 – The section was modified to allow the approval of roof truss design drawings by local building officials to occur at the time of the framing inspection, rather than at an undefined time "prior to installation. The truss design drawings will be required to be provided with the shipment of trusses and be available on the construction site for review by an inspector before installation. The modified section will now read:
Truss design drawings, prepared in compliance with Section R502.11.1, shall be provided to the building official at the time of inspection ~~and approved prior to installation~~. Truss design drawings shall be provided with the shipment of trusses delivered to the job site. Truss design drawings shall include at a minimum the information specified below:

Mr. Gable Stubbs made the motion to approve the recommendation. The second was made by Mr. McAlister and the motion passed with Mr. Parsons against.

Section R602.10.5 – An exception was added to the section to provide an alternative bracing method for use adjacent to garage door openings. The modified section will now

read:
When continuous wood structural panel sheathing is provided in accordance with Method 3 of R602.10.3 on all sheathable areas of all exterior walls, and interior braced wall lines, where required, including areas above and below openings, braced wall panel lengths shall be in accordance with Table R602.10.5. Wood structural panel sheathing shall be installed at corners in accordance with Figure R602.10.5. The bracing amounts in Table R602.10.1 for Method 3 shall be permitted to be multiplied by a factor of 0.9 for walls with a maximum opening height that does not exceed 85 percent of the wall height or a factor of 0.8 for walls with a maximum opening height that does not exceed 67 percent of the wall height.
Exception: Vertical wall segments in the first of one or first of two story buildings next to garage openings shall be permitted to have a 6:1 height-to-width ratio (with height being measured from top of header to sill plate) when constructed in accordance with the following provisions. Each panel shall have a length of not less than 16 inches (406 mm) and a height of not more tan 10 feet (3048 mm). Each panel shall be sheathed on one face with a single layer of 3/8-inch minimum-thickness (9.5 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Figure R602.10.5(2). The wood structural panel sheathing shall extend up over the solid sawn or glued-laminated header and shall be nailed in accordance with Figure R602.10.5(2). The header shall extend between the inside faces of the first full-length outer studs of each panel. The clear span of the header between the inner studs of each panel shall be not less than six feet (1829 mm) and not more than 18 feet (5486 mm) in length. A strap with an uplift capacity of not less than 1000 pounds (454 kg) shall fasten the header to the side of the inner studs opposite the sheathing. Two anchor bolts shall be installed in accordance with Section R403.1.6, and flat washers shall be a minimum of 2 inches by 2 inches by 3/1 inch (51 mm by 51 mm by 4.8 mm) thick and shall be used on each bolt. This exception is only permitted in Seismic Design Categories A-C.

Section R802.10.1 - The section was modified to allow the approval of floor truss design drawings by local building officials to occur at the time of the framing inspection, rather than at an undefined time prior to installation. The truss design drawings will be required to be provided with the shipment of trusses and be available on the construction site for review by an inspector before installation. The modified section will now read:
Truss design drawings, prepared in compliance with Section R802.10.1, shall be provided to the building official at the time of inspection ~~and approved prior to installation.~~ Truss design drawings shall be provided with the shipment of trusses delivered to the job site. Truss design drawings shall include at a minimum the information specified below:

Mr. Stubbs made the motion to use "Truss design drawings, prepared in compliance with section R802.11.1, shall be provided to the Building Official at the time of inspection." Mr. Hill seconded the motion and the motion passed with Mr. Parsons against.

Chapter 11 – The State of South Carolina has specific energy standards in statutory form (Re: Title 6, Chapter 9, Building Codes and Title 6, Chapter 10, Building Energy Efficiency Standard Act.). To eliminate any possible conflicts concerning the insulation requirements for single and two family residential buildings between the International Residential Code and state law, Chapter 11 was deleted.

Section G505.1.1 - Language was added to the section to prohibit bypassing a solenoid valve installed in conjunction with gas piping to a gas appliance when it is part of an interlock system. The requirement pertains to manually operated gas appliances containing pilot lights. Bypassing the valves will allow a limited amount of gas flow to continue to the pilot lights during periods of shut down. The volume of gas flow may not be enough to sustain combustion at all open burners but enough to possibly accumulate in a confined space resulting in a hazardous situation. The modified section will now read:
Where commercial cooking appliances are vented by means of the Type I or Type II kitchen exhaust hood system that serves such appliances, the exhaust system shall be fan powered and the appliances shall be interlocked with the exhaust hood system to prevent appliance operation when the exhaust hood system is not operating. Where a solenoid valve is installed in the gas piping as part of an interlock system, gas piping shall not be installed to bypass such valve. Dampers shall not be installed in the exhaust system.

Section G505.1.1 - An exception was added to the section to allow an interlock between cooking appliances and exhaust hood systems as an option when the appliances are of the manually operated type and are factory equipped with standing pilot burner ignition systems. The modified section will now read:
Where commercial cooking appliances are vented by means of the Type I or Type II kitchen exhaust hood system that serves such appliances, the exhaust system shall be fan powered and the appliances shall be interlocked with the exhaust hood system to prevent appliance operation when the exhaust hood system is not operating. Dampers shall not be installed in the exhaust system.
Exception: An interlock between the cooking appliance and the exhaust hood system shall not be required for appliances that are of the manually operated type and are factory equipped with standing pilot burner ignition systems.

Section M1411.4 – The thermal resistivity of the insulation around refrigerant vapor lines was reduced from R 4.0 to R 2.5. The modified section will now read:
M1411.4 Insulation of refrigerant piping. Piping and fittings for refrigerant vapor (suction) lines shall be insulated with insulation have a thermal resistivity of at least R-~~4.0~~ 2.5 hr. ft 2 F/Btu and having external surface permeance not exceeding 0.05 perms [2.87 ng/(s m2 Pa)] when tested in accordance with ASTM E 96.

APPENDIX 1 – SEISMIC MAP

SEISMIC DESIGN CATEGORIES

APPENDIX 2 – ALTERNATE TABLE

8. Public Comments
None.

9. Date of Next Meeting
The next scheduled meeting is May 26, 2004

10. Adjournment
A motion for adjournment was made by Mr. Parsons and seconded by Mr. Padgett. The meeting was adjourned.