WEST VIRGINIA
SECRETARY OF STATE
BETTY IRELAND
ADMINISTRATIVE LAW DIVISION

Form #3

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OFFICE WEST VIRGINIA
SECRETARY OF STATE

NOTICE OF AGENCY APPROVAL OF A PROPOSED RULE
AND
FILING WITH THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

AGENCY: WV STATE FIRE COMMISSION TITLE NUMBER: 87

CITE AUTHORITY: 29-3-5b

AMENDMENT TO AN EXISTING RULE: YES X NO ____

IF YES, SERIES NUMBER OF RULE BEING AMENDED: 4

TITLE OF RULE BEING AMENDED: STATE BUILDING CODE

IF NO, SERIES NUMBER OF RULE BEING PROPOSED: ____

TITLE OF RULE BEING PROPOSED: ____

THE ABOVE PROPOSED LEGISLATIVE RULE HAVING GONE TO A PUBLIC HEARING OR A PUBLIC COMMENT PERIOD IS HEREBY APPROVED BY THE PROMULGATING AGENCY FOR FILING WITH THE SECRETARY OF STATE AND THE LEGISLATIVE RULE-MAKING REVIEW COMMITTEE FOR THEIR REVIEW.

James W Spears
Authorized Signature

WEST VIRGINIA

STATE BUILDING CODE

Title 87, Series 4

Rules
Of the West Virginia
State Fire Commission

Approved by Secretary, Department of Military Affairs and Public Safety

James W Spears

22 July 05
Date

Approved by State Fire Commission

Sterling Lewis Jr.

7-21-05
Date

STATE FIRE COMMISSION
1207 Quarrier Street, 2nd Floor
Charleston, WV 25301

SUMMARY OF PROPOSED RULE

The West Virginia State Fire Commission promulgates the State Building Code in accordance with West Virginia Code, Chapter 29, Article 3, Section 5b which references the International Building Codes.

STATE BUILDING CODE

STATEMENT OF CIRCUMSTANCES

The State Fire Commission promulgates the rules for the State Building Code for adoption and enforcement by the various local jurisdictions. The International Building Codes, as referenced in these rules, provides the latest changes to the nationally recognized model building codes. Adoption of these revised rules will permit construction in West Virginia to be completed under the latest technology and professional standards.

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: State Building Code

Type of Rule: [x] Legislative [ ] Interpretive [ ] Procedural

Agency: State Fire Commission

Address: 1207 Quarrier Street, 2nd Floor

Charleston, WV 25301

Phone Number: (304) 558-2191 Email:

Fiscal Note Summary

Summarize in a clear and concise manner what impact this measure will have on costs and revenues of state government.

This proposed rule will provide the State Fire Commission with updated technology on building safety procedures and requirements. The initial cost for filing the International Building Codes has been waived by the International Code Council, therefore, there is no cost to the State for filing this rule.

Fiscal Note Detail

Show over-all effect in Item 1 and 2 and, in Item 3, give an explanation of Breakdown by fiscal year, including long-range effect.

FISCAL YEAR			
Effect of Proposal	2005 Increase/Decrease (use "-")	2006 Increase/Decrease (use "-")	Fiscal Year (Upon Full Implementation)
1. Estimated Total Cost	0.00	0.00	0.00
Personal Services	0.00	0.00	0.00
Current Expenses	0.00	0.00	0.00
Repairs & Alterations	0.00	0.00	0.00
Assets	0.00	0.00	0.00
Equipment	0.00	0.00	0.00
Other	0.00	0.00	0.00
2. Estimated Total Revenues	0.00	0.00	0.00

Rule Title: State Building Code

3. **Explanation of above estimates (including long-range effect):**
Please include any increase or decrease in fees in your estimated total revenues.

Non-applicable

MEMORANDUM

Please identify any areas of vagueness, technical defects, reasons the proposed rule **would not** have a fiscal impact, and/or any special issues **not** captured elsewhere on this form.

The use of this technology will provide the necessary building safety features for the improved safety in building construction. Requests for updating the code have been made by building officials, architects, business and industry.

Date: 18 May 05

Signature of Agency Head or Authorized Representative

James W. Spears

TITLE 87

LEGISLATIVE RULE

STATE FIRE COMMISSION

SERIES 4

STATE BUILDING CODE

87-4-1 GENERAL

1.1 Scope: This rule establishes the standards considered necessary by the State Fire Commission for the safeguarding of life and property and to ensure ~~the quality~~ compliance with the minimum standards ~~of~~ safe of construction of all structures erected or renovated throughout this state.

1.2 Authority: West Virginia Code 29-3-5b

1.3 Filing Date:

1.4 Effective Date:

1.5 Incorporation of other Documents: This rule does not include a reprinting of all the requirements imposed by statute or by the incorporation of various nationally recognized standards and codes cited in Subsection 4.1 of this rule. For ascertaining these additional standards and requirements, it is necessary to make reference to the other documents.

87-4-2 DEFINITIONS

2.1 "ANSI" means "American National Standards Institute, ~~11 West 42nd St., New York, NY 10036~~ 25 West 43rd St., Fourth Floor, New York, NY 10036.

2.2 "ASTM" means American Society of Testing and Materials.

~~2.3 "BOCA" - refers to the "Building Officials & Code Administrators International", 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795.~~

~~2.4 "Building code" - includes all aspects of safe building construction and mechanical operations and all safety aspects related to building construction and mechanical operations.~~

~~2.5 "CABO" - refers to the "Council of American Building Officials", 5203 Leesburg Pike, Suite 708, Falls Church, Virginia 22041.~~

2.3 ~~2.6~~ "Fire Commission" - means the thirteen (13) appointed members of the West Virginia State Fire Commission.

2.4 ~~2.7~~ "Fire marshal" - means the West Virginia State Fire Marshal and/or his or her designated representatives.

2.5 ~~2.8~~ "Local jurisdiction" - means municipal or county level government.

2.6 ~~2.9~~ "ICC" or "International" means "International Code Council", 5203 Leesburg Pike, Suite ~~708~~ 600, Falls Church, Virginia 22041-34015.

2.7 ~~2.10~~ "NFPA" means "National Fire Protection Association", 1 Batterymarch Park, P. O. Box 9101, Quincy, MA 02269-9101.

2.8 ~~2.11~~ "State Building Code" - means the entire contents of this rule and the referenced national standards and codes.

2.9 "State Fire Code" means the entire contents of Title 87, Legislative Rules, Series 1 and the referenced standards and codes.

87-4-3 CONFLICTS

3.1 Whenever there is a conflict between the State Fire Code and the State Building Code, the State Fire Code takes precedence.

3.2 Whenever there is a conflict between the International Plumbing Code requirements ~~section~~ of the State Building Code and the rules of the West Virginia State Department of Health and Human Resources, the rules of the Department of Health and Human Resources take precedence.

3.3 Whenever there is a conflict between the State Building Code and statutory laws of the State of West Virginia, the laws of the State of West Virginia ~~Code~~ take precedence.

87-4-4 NATIONAL STANDARDS AND CODES

4.1 The standards and requirements as set out and as published by the International Code Council, and American National Standards Institute, and the National Fire Protection Association as listed below, have the same force and effect as if set out verbatim in this rule, ~~Except that any and all references to *ICC Electrical Code* mean NFPA 70, National Electric Code/1999~~

4.1.1 The 2003 edition, International Building Code, Sixth Printing, ~~First Edition~~, ~~2000~~, with the following exceptions:

~~4.1.1.A. Provided; that the section entitled "Fire Prevention" and identified as~~

~~Section 101.4.6 is deleted and not considered to be a part of this rule.~~

~~4.1.1.B. Further provided that the section entitled "Duties and Powers of Building Official" and identified as Section 104.1 General is modified to read as follows:~~

~~"The building official shall enforce the provisions of this code. The building official may render interpretations of this code and adopt policies and procedures in order to clarify the application of its provisions. The interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. The policies and procedures shall not have the effect of waiving requirements specifically provided for in this code."~~

~~4.1.1.C. Further provided that the entire section entitled "Board of Appeals" and identified as Section 112 is deleted and replaced with the following:~~

~~4.1.1.C. 1 Appeals Board: The current State Building Code establishes stringent qualifications for appeals board members. The 1996 BOCA National Building Code, Section 121.2.1 reads "The board of appeals shall consist of five individuals, one from each of the following professions or disciplines, with three forming a quorum at any appeal hearing.~~

~~A registered design professional who is a registered architect, or a builder or superintendent of building construction with at least ten years experience, five of which shall have been in responsible charge of work;~~

~~A registered design professional with structural engineering or architectural experience;~~

~~A registered design professional with mechanical or plumbing engineering experience; or a mechanical or plumbing contractor with at least ten years experience, five of which shall have been in responsible charge of work;~~

~~A registered design professional with electrical engineering experience; or an electrical contractor with at least ten years experience, five of which shall have been in responsible charge of work; and~~

~~A registered design professional with fire protection engineering experience; or a fire protection contractor with at least ten years experience, five of which shall have been in responsible charge of work.~~

4.1.1.A Section 112 Board of Appeals
112.3 Qualifications. The board of appeals shall consist of five members, with up to three alternates, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. They may include, but are not limited to, a WV Registered Professional Architect or Engineer, a WV Licensed General Building, Residential, Electrical, Piping, Plumbing, Mechanical or Fire Protection Contractor, with at least 10 years experience, five of which shall be in responsible charge of work.

~~4.1.1.C.2 Time of Appeal: The Appeals Board shall render a decision within 30 days of receipt of the appeal.~~

4.1.2 The 2003 edition of the International Plumbing Code, Fifth Printing, ~~First Edition, 2000~~

4.1.3 The 2003 edition of the International Mechanical Code, Fourth Printing, ~~First Edition, 2000~~

4.1.4 The 2003 edition of the International Fuel Gas Code, Fifth Printing, ~~First Edition, 2000~~, with the following exception:

Section 404.9 Underground piping systems shall be installed a minimum depth of 12 inches (305 mm) below grade. If the minimum depth cannot be maintained, the piping system shall be installed in conduit or shielded in an approved manner.

4.1.5 The 2003 edition of the International Property Maintenance Code, Second Printing, ~~First Edition, 2000~~. This Code may be rejected at the option of the local jurisdiction

4.1.5A This code may be adopted by the local jurisdiction without requiring adoption of the other national codes and standards listed in this section.

4.1.6 The 2003 edition of the International Energy Conservation Code, Fifth Printing, ~~First Edition, 2000.~~

4.1.7 The 2003 edition of the International Residential Code for One and Two Family Dwellings, Seventh Printing. ~~First Edition, 2000~~, with the following exceptions:

Section ~~G2414.9~~ G2415.9 (404.9) Minimum Burial Depth. Underground piping systems shall be installed a minimum depth of 12 inches (305 mm) below grade. If the minimum depth cannot be maintained, the piping system shall be installed in conduit or shielded in an approved manner.

Section R303.6. 4.1 Light Activation – The control for activation of the required interior stairway lighting shall be accessible at the top and bottom of each stairway without traversing any steps. The illumination of exterior stairways shall be controlled from inside the dwelling unit. Exceptions: 1. Lights that are continuously illuminated or automatically controlled. 2. Interior stairways consisting of less than three steps.

~~Section R 311.4.3 R312~~.1.1 Landings at doors – Where a stairway of two or fewer risers is located on the exterior side of a door, other that the required exit door, a landing is not required for the exterior side of the door.

~~Section R314.2 Stair Geometry – CABO One & Two Family Dwelling Code/1995 dimensions; maximum riser height of eight and one quarter (8 ¼) inches, minimum tread depth on nine (9) inches.~~

Section R311.5.3 Stair Treads and Risers
311.5.3.1 Riser Height – The maximum riser height shall be eight and one-quarter (8 ¼) inches.

311.5.3.2 Tread Depth – The minimum tread depth shall be nine (9) inches.

~~Section R315.1 Handrails – Handrails shall be provided on at least one side of stairways consisting of three or more risers. Handrails shall have a minimum height of 34 inches (864 mm) and a maximum height of 38 inches (96 mm) measured vertically from the nosing of the treads. All required handrails shall be continuous the full length of the stairs from a point directly above the top riser to a point directly above the lowest riser of the stairway. The ends of the handrail shall be returned into a wall or shall terminate in newel posts or safety terminals. A minimum clear space of 1 ½ inches (38 mm) shall be provided between the wall and the handrail.~~

Section R403.1.7.1: Building Clearances From Ascending Scopes is not applicable to this rule.

Section R403.1.7.1: Footings Setbacks From Descending Slope Surfaces is not applicable to this rule.

~~Section R403.3 Frost Protected Shallow Foundations – Frost protected shallow foundations shall not be used for unheated spaces such as porches, utility rooms, garages and carports, and shall not be attached to basements or crawl spaces that are not maintained at a minimum monthly mean temperature of 64 degrees F (18C).~~

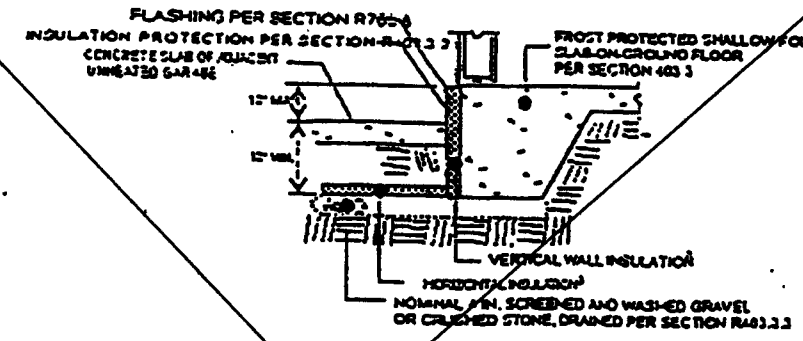
~~NEW SECTIONS: R403.3.1.1 Foundations adjoining frost protected shallow foundations. Foundations that adjoin frost protected shallow foundations shall be protected from frost in accordance with Section R403.1.4.~~

~~R403.3.1.2 Attachment to unheated garage. Vertical wall insulation and horizontal insulation of frost protected shallow foundations that adjoin a garage that does not have a monthly mean temperature maintained at a minimum of 64 degrees F (18 C), shall be in accordance with Figure R403.3(3) and Table R403.3. Vertical wall insulation shall extend between the frost protected shallow foundation and the adjoining slab foundation. Required horizontal insulation shall be continuous under the adjoining slab foundation and through any foundation walls adjoining the frost protected shallow foundation.~~

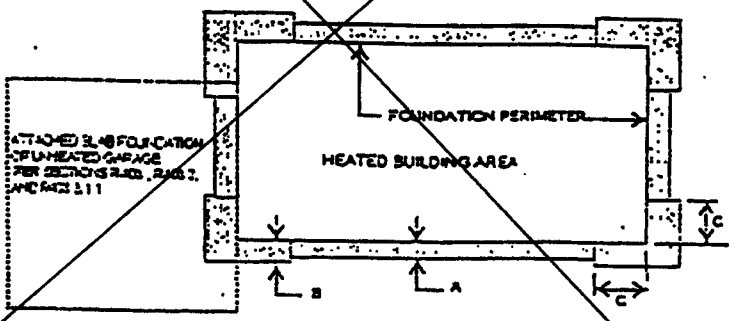
~~R403.3.1.3 Attachment to heated structure. Where a frost protected shallow foundation abuts a structure that has a monthly mean temperature maintained at a minimum of 64 degrees F (18 C), horizontal insulation and vertical wall insulation shall not be required between the frost protected shallow foundation abuts the heated structure, the horizontal insulation and vertical wall insulation shall extend along the adjoining foundation in accordance with Figure R 403.3(4) a distance of not less than Dimension A in Table R403.3.,~~

~~Exception: Where the frost protected shallow foundation abuts the heated structure to form an inside corner, insulation extending along the adjoining foundation is not required.~~

INSULATION DETAIL



HORIZONTAL INSULATION PLAN



For SI: 1 inch = 25.4 mm

a. See Table R403.3 for required dimensions and R-values for vertical and horizontal insulation.

~~FIGURE R403.3(3)~~
~~INSULATION PLACEMENT FOR FROST PROTECTED FOOTINGS ADJACENT TO UNHEATED GARAGE~~

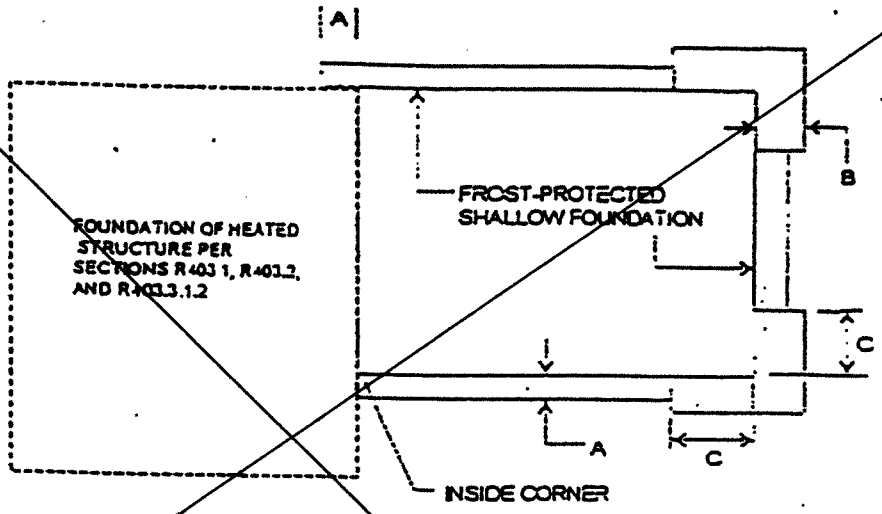


FIGURE R403.3(4)
INSULATION PLACEMENT FOR FROST-PROTECTED FOOTINGS ADJACENT TO HEATED STRUCTURE

~~R5502.3.3 Floor cantilevers. NEW SECTION: Floor cantilever spans shall not exceed the nominal depth of the wood floor joist. Floor cantilevers constructed in accordance with Table R502.3.3 shall be permitted when supporting a light-frame bearing wall and roof only. The ratio of backspan to cantilever span shall be at least 3 to 1.~~

~~Table R502.3.3 NEW TABLE (attached)~~

TABLE R502.3.3
CANTILEVER SPANS FOR FLOOR JOISTS
SUPPORTING LIGHT-FRAME EXTERIOR BEARING WALL AND ROOF ONLY [a, b, c, f, g, h]
(Floor Live Load ≤ 40 psf, Roof Live Load ≤ 20 psf)

Member & Spacing	Maximum Cantilever Span (Uplift Force at Backspan Support in Lbs.) [d, e]											
	Ground Snow Load											
	≤ 20 psf			30 psf			50 psf			70 psf		
	Roof Width			Roof Width			Roof Width			Roof Width		
	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.
2 x 8 @ 12"	20" (177)	15" (227)		18" (209)								
2 x 10 @ 16"	29" (228)	21" (297)	16" (364)	26" (271)	18" (354)		20" (375)					
2 x 10 @ 12"	36" (166)	26" (219)	20" (270)	34" (198)	22" (263)	16" (324)	26" (277)			19" (356)		
2 x 12 @ 16"		32" (287)	25" (356)	36" (263)	29" (345)	21" (428)	29" (367)	20" (484)		23" (471)		
2 x 12 @ 12"		42" (209)	31" (283)		37" (253)	27" (317)	36" (271)	27" (358)	17" (447)	31" (348)	19" (462)	
2 x 12 @ 8"		48" (136)	45" (169)		48" (164)	38" (206)		40" (233)	26" (294)	36" (230)	29" (304)	18" (379)

For SI: 1 in. = 25.4 mm, 1 psf = 0.0479 kN/m²

Notes:

a. *Tabulated values are for clear-span roof supported solely by exterior bearing walls.*
b. *Spans are based on No. 2 Grade lumber of douglas fir-larch, hem-fir, southern pine, and spruce-pine-fir for repetitive (3 or more) members.*
c. Ratio of backspan to cantilever span shall be at least 3:1.
d. Connections capable of resisting the indicated uplift force shall be provided at the backspan support.
e. Uplift force is for a backspan to cantilever span ratio of 3:1. Tabulated uplift values are permitted to be reduced by multiplying by a factor equal to 3 divided by the actual backspan ratio provided (3/backspan ratio).
f. See Section R301.2.2.7.1 for additional limitations on cantilevered floor joists for detached one- and two-family dwellings in Seismic Design Categories D1 and D2 and townhouses in Seismic Design Categories C, D1, and D2.
g. A full-depth rim joist shall be provided at the cantilevered end of the joists.
h. Linear interpolation shall be permitted for building widths and ground snow loads other than shown.

Part IV – Energy Conservation

Chapter 11
Energy Efficiency

Section N1101

N1101.1 Performance Objective
To provide cost-effective, energy-related requirements for design and construction of the building thermal envelope and heating-ventilating-air conditioning (HVAC) systems for one- and two-family dwellings.

N1101.2 Building Thermal Envelope
The minimum required installed R-value or maximum required U-value for all elements in the building thermal envelope (fenestration, roof/ceiling, opaque wall, floor, slab edge, crawl space wall, and basement wall) shall be determined by Table N1101, based on the building type and the climate zone where the building is located. Alternative compliance based on heat loss/gain calculations or systems analysis shall comply with Section N1101.

TABLE N1101
PRESCRIPTIVE BUILDING ENVELOPE REQUIREMENTS

BUILDING LOCATION		MAXIMUM U-VALUE		MINIMUM INSULATION					
ZONE	HDD	FENESTRATION	ROOF/ CEILING	FRAME WALLS3	MASS WALLS	FLOOR OVER OUTDOOR AIR OR UNCONDITIONED SPACE	SLAB EDGE WIDTH/ DEPTH	CRAWL SPACE WALL	BASEMENT WALL
1	0-1,499	ANY	R-19	R-11	R-4	R-11	R-0	R-0	R-0
2	1,500 - 2,999	0.90	R-22	R-13	R-5	R-13	R-0	R-4	R-0
3	3,000-3,999	0.75	R-26	R-13	R-6	R-13	R-4, 2 FT	R-5	R-0
4	4,000–4,999	0.65	R-26	R-13	R-7	R-13	R-4 2 FT	R-8	R-4
5	5,000-6,999	0.55	R-30	R-13	R-8	R-19	R-4, 2 FT	R-8	R-4
6	7,000-8,999	0.45	R-30	R-13	R-8	R-19	R-5, 2 FT.	R-8	R-8
7	9,000-12,999	0.40	R-38	R-19	R-14	R-19	R-8, 4 FT.	R-10	R-8

NOTES:

1. Building envelopes must also meet the air infiltration requirements of Section N1101.
2. Insulation materials shall be installed in accordance with the manufacturers instructions.
3. The sum of the R-values of cavity insulation and sheathing shall be used to determine the installed R-value.
4. For slabs that incorporate heating ducts or pipes in climates above 1,000 HDD, add R-2 to the table values.
5. The required R-value shall extend down to design frost depth in Zones 4 and 5, and down to the basement floor in zones 6 and 7.

N1101.3 Floors

N1101.3.1 Floors Over Outdoor Air or Unconditioned Areas – Floors over outdoor air or unconditioned areas shall meet the minimum R-value for Floor Over Outdoor Air or Unconditioned Space in Table N1101, based on the climate zone where the building is located.

N1101.3.2 Slabs-on-Ground – Slabs-on-ground, or slabs 12 inches or less below finished grade, shall meet the minimum R-value and depth/width dimension for Slab Edge in Table N1101, based on the climate zone where the building is located. The required R-value shall be applied to the exterior or interior of the foundation wall. Exterior insulation shall extend downward from the top of the slab and/or horizontally outward until the distance indicated in Table N1101 is reached. Interior insulation shall extend from the top of the slab downward and/or horizontally inward until the distance indicated in Table N1101 is reached. All horizontal insulation extending outward from the slab shall be covered by at least 10 inches of soil. The top edge of insulation installed between the exterior wall and the interior slab shall be permitted to be cut at a 45° angle to allow the concrete surface to extend to the wall. Slab edge insulation shall not be required in areas of "very heavy" termite infestation probability, in accordance with the Termite infestation Probability Map in ~~Appendix A~~ Figure R-301.2 (6).

N1101.4 WALLS

N1101.4.1 Wall Insulation – Opaque walls and band joists exposed to outside air or to unconditioned space shall meet the minimum R-value for Frame Wall or Mass Wall in Table N1101, based on the wall type and the climate zone where the building is located. For Frame walls, the sum of the R-values of cavity insulation and insulated sheathing shall be used to determine the installed R-value. Walls exposed to unconditioned space shall have an R-value of R-13 when the minimum required R-value for the wall type in Table N1101 exceeds R-13.

N1101.4.2 Wood Frame Walls – Where insulated sheathing is used on wood frame walls in areas not otherwise required to have structural sheathing, the entire opaque wall shall be considered to be covered with the insulated sheathing for purposes of determining compliance with the minimum R-value for Frame Wall in Table N1101.

N1101.4.3 Steel Frame Walls – When steel framing is used, insulated sheathing with an R-value not less than R-2.5 in Zones 3 and 4 (3,000 – 4,999 HDD), R-5 in Zone 5 (5,000 – 6,999 HDD) and R-10 in Zones 6 and 7 (7,000 – 12,999 HDD) shall be installed in addition to the minimum required R-value for Frame Wall in Table N1101.

N1101.4.4 Mass Walls – Masonry or concrete walls having a mass greater than or equal to 30 pounds per cubic foot (pcf), solid wall walls having a mass greater than or equal to 20 pcf, and any other walls having a heat capacity greater than or equal to 6 Btu/ftY 2° shall be considered mass walls. Mass walls with exterior insulation or mass walls with integral insulation (insulation and mass mixed, such as log walls) shall be permitted to meet the Mass Wall criteria in Table N1101 based on the building type and the climate zone where the building is located. The R-value of mass walls with integral insulation shall be based on consideration of all elements of the wall assembly. Other mass walls shall meet the frame wall criteria for the building type and the climate zone where the building is located, based on the sum of the R-values of interior and exterior insulation.

N1101.4.5 Crawl Space Walls – All walls enclosing crawl spaces where the floor above the crawl space is not insulated in accordance with Table N1101 shall meet the minimum R-value for Crawl Space Wall in Table N1101, based on the climate zone where the building is located. The required R-value shall be applied to the inside or outside of the crawl space wall. The insulation shall extend downward from the sill plate to the level of the inside ground surface.

N1101.4.6 Basement Walls – All basement walls enclosing conditioned space shall meet the minimum R-value for Basement Wall in Table N1101, based on the climate zone where the building is located. The required R-value shall be applied on the inside or outside of the basement wall from the sill plate down to the design frost depth in Climate Zones 4 and 5, and to the basement floor in Zones 6 and 7. Buildings having basement walls with a maximum average exposure not greater than 12 inches above the adjacent grade, and having high efficiency equipment meeting the requirements specified in Table N1101.4.6 based on the climate zone where the building is located, are not required to meet the minimum R-value for Basement Wall in Table N1101.

TABLE N1101.4.6
EQUIPMENT TRADE-OFF FOR BASEMENT WALL INSULATION

BUILDING LOCATION		GAS FURNACE WITH CENTRAL AIR CONDITIONING	AIR SOURCE HEAT PUMP
Zone	HDD	Minimum AFUE	Minimum HSPF
1-3	0-3,999	---	---
4-5	4,000 – 6,999	88	7.8
6-7	7,000 – 12,999	90	8.0

N1101.4.5 Masonry Veneer – When insulation is placed on the exterior of a slab edge, crawl space wall, or basement wall supporting masonry veneer, the horizontal surface supporting the veneer shall not be required to be insulated.

N1101.4.6 Protection of Foundation Insulation – Exposed insulating materials applied to the exterior of foundation walls shall be protected to prevent degradation of thermal performance. The protection shall extend at least 6 inches below finished grade. Plastic foam insulation used below grade shall comply with ASTM C578.

N1101.5 FENESTRATION
N1101.5.1 Labeling – The U-value of fenestration products (windows and glazed doors) shall be indicated on a label affixed to these products by the manufacturer or, where such values are not indicated, the U-value shall be determined in accordance with Table N1101.5.1.

TABLE N1101.5.1
ASSUMED U-VALUE FOR WINDOWS AND GLAZED DOORS

FRAME MATERIAL AND PRODUCT TYPE	SINGLE GLAZED	DOUBLE GLAZED
Metal Without Thermal Break	1.13	0.70
Metal with Thermal Break	1.07	0.63
Reinforced Vinyl/Metal-Clad Wood/ Wood/Vinyl Fiberglass	0.90	0.55

N1101.5.2 Windows – For elements within the building thermal envelope, up to 6 square feet of glazed areas is exempt from the maximum required U-value in Table N1101.5.1

N1101.5.3 Skylights – Minimum skylight requirements will be as follows:

Zone 1 (0-1, 499 HDD): Any skylight is permitted.

Zones 2 3 (1,500 – 3,999 HDD): Any double glazed skylight is permitted; and

Zones 4 and above (4,000 HDD and above): Any double glazed skylight with a wood, vinyl or fiberglass frame. Metal clad frames will be permitted.

N1101.5.4 Opaque Doors – Opaque doors shall have a maximum U-value of 0.39 or minimum R-value of 2.5. When the U-value of the door is not provided by the manufacturer, it shall be determined in accordance with Table N1101.5.1. One opaque door per dwelling unit shall be permitted to be exempt from this U-value requirement.

Table N1101.5.4 – Assumed r values for non-glazed doors

DOOR CONSTRUCTION	WITH FOAM CORE	WITHOUT FOAM CORE
Steel Doors (1 ¾ inches thick)	0.35	0.60
Wood Doors (1 ¾ inches thick)	Without Storm Door	With Storm Door
Panel Hollowcore flush Solid core flush	0.54 0.46 0.40	0.36 0.32 0.26

N1101.6 ROOFS AND CEILINGS

Roof/ceiling assemblies, including ceilings below unconditioned attics and cathedral ceilings, shall meet the minimum R-value for Roof/Ceiling in Table N1101, based on the climate zone where the building is located. Insulation can be compressed or reduced at eaves to accommodate roof framing or ventilation.

Exception: R-30 shall be required for cathedral ceilings whenever the required R-value for Roof/Ceiling in Table N1101 exceeds R-30.

N1102 MOISTURE CONTROL

In all framed walls, floors and roof/ceilings comprising elements of the building thermal envelope, an approved vapor retarder having a maximum rating of 1.0 perm shall be installed on the warm-in-winter side of the insulation.

Exception:

1. Where the insulated cavity of space is ventilated to allow moisture to escape.

2. In hot and humid climate areas. ~~as shown in Appendix A~~.

N1103 AIR INFILTRATION

The building envelope shall be designed and constructed to limit air infiltration to the conditioned area of the dwelling. All elements comprising the building thermal envelope, including all exterior joints, seams, or penetrations, shall be caulked, gasketed, taped or covered with moisture vapor permeable sheathing paper or house wrap on the exterior. All windows and doors installed in the building thermal envelope shall be weatherstripped, gasketed, or caulked.

N1104 HVAC SYSTEMS

N1104-1 HVAC AND WATER HEATING APPLIANCES

HVAC and service water heating appliances shall be labeled as complying with minimum efficiency requirements specified by the National Appliance Energy Conservation Act of 1987 and regulations adopted thereunder by the U. S. Department of Energy.

N1104-2 CONTROLS

Each heating, cooling, or combination heating and cooling system shall be provided with at least one adjustable thermostat for the regulation of temperature.

N1104-3 AIR HANDLING DUCT SYSTEM

N1104-3.1 DUCT SEALING – All supply and return ducts located outside the building thermal envelope shall have joints sealed with gaskets, mastics, tapes installed in accordance with the manufacturers instructions, or by other approved methods.

N1104-3.2 DUCT INSULATION – Minimum required duct insulation for all supply and return ducts located in unconditioned space shall be R-5 in all climatic zones.

N1104-4 HEATING AND COOLING PIPING INSULATION
All HVAC system piping carrying fluids with a temperature less than 55°F or greater than 120°F shall have minimum insulation thickness of ½ inch.

N1105 ALTERNATIVE COMPLIANCE

N1105-1 HEAT GAIN/HEAT LOSS CALCULATIONS

Alternative compliance with the requirements of Table N1101 shall be permitted to be determined through a heat gain or heat loss calculation as follows: the required R-value or U-value of an element in the building thermal envelope in Table N1101 may be increased or decreased, provided the total heat gain or loss for the entire building does not exceed the total resulting from conformance to the values specified in Table N1101.

N1105-2 SYSTEMS ANALYSIS
Alternative compliance with the requirements of this chapter shall be permitted to be determined through the use of a systems analysis using a standard design in accordance with Table N1101, and Section N1104. A proposed design complies with this chapter if it has a projected annual energy use for heating, cooling and service water heating not greater than the energy use of the standard design, calculated in accordance with accepted engineering practices. Energy use for both homes shall be calculated based on the same assumptions and building location. The standard design shall have the same floor area, envelope component areas, building orientation, glazing orientation, door areas, and building geometry as the proposed design.

4.1.8 The 2003 ICC/ANSI ~~A1.1~~ A117.1 American National Standards for Accessibility & Usable Buildings & Facilities, First Printing ~~Edition~~, ~~1998~~.

4.1.9 The 2003 International Existing Building Code, Third Printing, with the following exception:

Omit reference to International Fire Code and substitute NFPA Life Safety Code ~~2000~~ 2003 Edition.

4.1.10 The 2005 edition of the National Electric Code, NFPA 70.

87-4-5 The following structures are not subject to inspection by local jurisdictions:

Group U utility structures and storage sheds comprising an area not more than 150 sq. ft. which have no plumbing or electrical connections and are used only for residential storage purposes. (Examples include sheds that are for the residential storage of lawnmowers, tools, bicycles or furniture.) Not included are those utility structures and storage sheds which have plumbing or electrical connections are a non-residential use or for the storage of explosives or other hazardous or explosive materials.

87-4-6. A copy of the codes listed in Subsection 4.1 of this rule have been filed with the Secretary of State. These code books, collectively or separately, may be obtained by contacting the International Code Council ~~Building Officials & Code Administrators International,~~ 4051 West Flossmoor Road, Country Club Hills, Illinois 60477-5795, telephone 708/799-2300; ~~or BOCA Mid-East Regional Office, 1245 South Sunbury Road, Suite 100, Westerville, OH 43081-9308, telephone (614) 890-1064.~~ Telephone 1-888-422-7233 or the ICC Store, telephone 1-800-786-4452.

87-4-7 ADOPTION BY LOCAL JURISDICTION

7.1 Each local jurisdiction adopting the State Building Code shall notify the State Fire Commission in writing. The local jurisdiction shall send a copy of the ordinance or order to the State Fire Marshal, West Virginia State Fire Commission, 1207 Quarrier Street, 2nd floor, Charleston, West Virginia 25301, within thirty (30) days of adoption.

7.2 Each local jurisdiction which adopts the State Building Code is responsible for the enforcement of the building code as provided in West Virginia Code 7-1-3n and 8-12-13.

7.3 Throughout the national codes, adopted in subsection 4.1 of this rule, there are discretionary provisions or amendments which require further action by the adopting local jurisdiction in order to adapt these codes to various local conditions. The appendices are not a part of the code and must also be adopted by the local jurisdiction to be enforceable. It is therefore the intent of this rule to further authorize each local jurisdiction to further complete, by order or ordnance, those respective areas which are indicated to be completed by the adopting "jurisdiction" and any of the appendices the local jurisdiction wishes to adopt.

7.4 Within the penalty sections of each of the national codes, adopted in Section 4.1 of this rule, there is a penalty for imprisonment. The provision of imprisonment for any violation of this rule is optional with each adopting local jurisdiction.

7.5 Each of the national codes, adopted in subsection 4.1 of this rule, provides for a separate appeals board. However, the intent and requirements for an appeal board may be met with the creation by the local jurisdiction of a single appeals board for the entire "State Building Code."

87-4-8 EXISTING BUILDING CODES

8.1 All building codes which have been adopted by local jurisdictions prior to the passage of West Virginia Code 29-3-5b, in 1988, are null and void.

QUESTIONNAIRE

(Please include a copy of this form with each filing of your rule: Notice of Public Hearing or Comment Period; Proposed Rule, and if needed, Emergency and Modified Rule.)

DATE: July 26, 2005

TO: LEGISLATIVE RULE-MAKING REVIEW COMMITTEE

FROM:(*Agency Name, Address & Phone No.*) STATE FIRE COMMISSION
1207 QUARRIER STREET, 2ND FLOOR
CHARLESTON, WV 25301
558-2191

LEGISLATIVE RULE TITLE:
STATE BUILDING CODE

1. Authorizing statute(s) citation 29-3-5b

2. a. Date filed in State Register with Notice of Hearing or Public Comment Period:

May 18, 2005

b. What other notice, including advertising, did you give of the hearing?

Various newspaper notices (See attached)
Email to Architects Association (See attached)

c. Date of Public Hearing(s) ***or*** Public Comment Period ended:

June 21, 2005

d. Attach list of persons who appeared at hearing, comments received, amendments, reasons for amendments.

Attached XX No comments received

e. Date you filed in State Register the agency approved proposed Legislative Rule following public hearing: (be exact)

July 26, 2005

f. **Name, title, address and <u>phone/fax/e-mail numbers</u>** of agency person(s) to receive all *written correspondence* regarding this rule: (Please type)

Sterling Lewis, Jr., State Fire Marshal

g. **<u>IF DIFFERENT</u> FROM ITEM 'f'**, please give **Name, title, address and phone number(s)** of agency person(s) who wrote and/or has responsibility for the contents of this rule: (Please type)

Sterling Lewis, Jr., State Fire Marshal, 1207 Quarrier St. Room 202, Chas. WV 25301 Phone: 558-2191 Ext. 203

Francis A. Guffey, II, State Fire Commissioner, 165 Lake Shore Drive Cross Lanes, WV 25313 Phone 776-4915

3. If the statute under which you promulgated the submitted rules requires certain findings and determinations to be made as a condition precedent to their promulgation:

a. Give the date upon which you filed in the State Register a notice of the time and place of a hearing for the taking of evidence and a general description of the issues to be decided.

N/A

b. Date of hearing or comment period:

_____

c. On what date did you file in the State Register the findings and determinations required together with the reasons therefor?

_____

d. Attach findings and determinations and reasons:

Attached _____

Joe Leake

From: Aric Margolis [aricaai@charter.net]
Sent: Thursday, June 02, 2005 9:34 AM
To: jleake@wvfiremarshal.org
Subject: FW: Public meeting-WV Fire and Building Code updates

This is the notice we received from AIA.

Aric L. Margolis
Associated Architects, Inc.
318 Lee St. W.
Suite 200
Charleston, WV 25302
Tel (304) 345-1811
Fax (304) 345-1813

From: "Roberta Guffey, Hon. AIA" <aiawv@newwave.net>
Date: Tue, 31 May 2005 15:47:03 -0400
To: "#AIA-RJG" <aiawv@newwave.net>
Subject: Public meeting-WV Fire and Building Code updates

-----Original Message-----
From: Fgcode@aol.com [mailto:Fgcode@aol.com]
Sent: Tuesday, May 31, 2005 3:43 PM
To: aiawv@newwave.net
Subject: Public meeting

The State Fire Commission will hold two public meetings on June 21, 2005. The first meeting convenes at 10:00am dealing with the 2005 NFPA Life Safety Code adoption. The second meeting will convene at 1:00pm dealing with the adoption of the latest editions of the IBC family of codes (2004 & 2005). The meeting location is the State Fire Marshal's Office at 1207 Quarrier Street, Second Floor Conference Room.

All interested parties are encouraged to attend. A Court Reporter will be present and comments will be accepted in written format.

Francis A. Guffey, II, FAIA
Chair--Life Safety and Building Code Committees

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

West Virginia Daily News
P. O. Box 471
Lewisburg, WV 24901-0471

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

The Shepherdstown Chronicle
P. O. Box 2088
Shepherdstown, WV 25443

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

Parkersburg Sentinel
P. O. Box 1787
Parkersburg, WV 26101

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

Times-West Virginian
P. O. Box 2530
Fairmont, WV 26555

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

Weirton Daily Times
114 Lee Avenue
Weirton, WV 26062

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

Wheeling News-Register
1500 Main Street
Wheeling, WV 26003

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

Herald Dispatch
P. O. Box 2017
Huntington, WV 25720

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

The Register Herald
P. O. Box P or R
Beckley, WV 25801

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

Clarksburg Telegram
324 Hewes Avenue
Clarksburg, WV 26301-2744

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

The Dominion Post
1251 Earl Core Road
Morgantown, WV 26505-6298

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

The Charleston Gazette
1001 Virginia St. East
Charleston, WV 25301

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

The Inter-Mountain
P. O. Box 1339
Elkins, WV 26241

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

Bluefield Daily Telegraph
P. O. Box 1599
Bluefield, WV 24701

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

Pocahontas Times
810 Second Avenue
Marlinton, WV 24954

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

The Moorefield Examiner
P. O. Box 380
Moorefield, WV 26836

STATE FIRE COMMISSION
State Fire Marshal
1207 Quarrier Street, Second Floor
Charleston, West Virginia 25301

Mineral Daily News-Tribune
P. O. Box 879
Keyser, WV 26726

REGISTRATION OF PUBLIC
AT
PUBLIC HEARING
OF BUILDING CODE

(PLEASE PRINT CLEARLY)

June 21, 2005 **1207 Quarrier Street, Charleston, WV**

NAME	MAILING ADDRESS	REPRESENTING	DO YOU WISH TO SPEAK? Y OR N
Robert L. Cannon	PO Box 2574 Beckley, WV 25802	Beckley - Ral. Co Code Enf. WVCOA	Y
John Payne	1245 Sunbury Rd Westerville O	International Code Council	yes
Francis Guffey	165 Lakeshore Dr, Charleston, WV 25313	Fire Commission	Y
Chris Icardi	915 Richard Pl Morgantown 26505	WV Home Builders Assoc	Y
[illegible]	P.O. Box 6250 Chas 25362	WV Dom Bldrs	
Robert Paulson	300 Kanawha Blvd. E Charleston WV 25301	Spilman Thomas & Battle	No.
Bill Spencer	247 [illegible] St, Clarksburg WV	SFC -	NO

ORIGINAL

BEFORE THE WEST VIRGINIA STATE FIRE COMMISSION

RE: 2005 BUILDING CODE

TRANSCRIPT OF PROCEEDINGS had at the public hearing in the above referenced matter, held on 21st day of June, at 1:00 P.M. at the Office of the State Fire Marshall, 1207 Quarrier Street, Charleston, Kanawha County, West Virginia, pursuant to notice.

BEFORE: FRANCIS A. GUFFEY

PHYLLIS HAYNES EDENS
CERTIFIED COURT REPORTERS
2135 Kay Neva Lane
Charleston, West Virginia 25312
304-984-3531

I N D E X

APPEARANCES:

Francis Guffey	State Fire Commission
Bill Spencer	State Fire Commission
Sterling Lewis, Jr.	State Fire Marshal's Office
Joe Leake	State Fire Marshal's Office
John Payne	International Code Council
Robert Cannon	City of Beckley
Robert Paulson	Spilman & Thomas
Chris Ilardi	WV Homebuilders Association
Beth Thomasson	WV Homebuilders Association

MR. GUFFEY: Good afternoon. I would like to open the State Fire Commission public meeting for the investigation of the Building Code adoption.

Everyone has entered and signed in. Robert Cannon, who wants to speak; John Payne, who wants to speak; Francis Guffey, you can't just me up. Chris Ilardi wants to speak. Beth has a blank here, so I guess that means yes or no?

MS. THOMASSON: That means --

MR. GUFFEY: Robert Paulson, Spilman Thomas, says no.

All right. I will start with Bob Cannon.

MR. CANNON: Mr. Chairman, ladies and gentlemen, I will be relative brief. I've given the Chair a copy and I think everybody has a copy. If you need one, I will leave some extra ones here on what we have proposed from our point of view.

Most of the changes are relatively simple, corrections and a few minor things. We did simplify the Board of Appeals question, which is essentially what it was before, but to clarify the language, to

make sure we have a Board that covers all of the building codes and comes from the areas of expertise that we would like.

The tread and riser section will stay the same, except I took out too much of the information that helps clarify it, and Mr. Payne will address that issue.

The amendments that stood from before, most of those that we struck out -- in fact, all of them -- are already covered in better fashion in 2003 or in simpler fashion than they were in 2000, except for the entire section that deals with Chapter 11, which is all related to energy, and this particular version is much simpler. It's already been in place, and it's a lot less constrictive, and we felt the Homebuilders would want to keep that, so we did, too.

We did opt to ask for your consideration about the International Fire Code, Fourth Edition, and 2005 edition of the National Electric Code to simplify that part of the Building Code.

We made a couple of changes in the end about adoption. There's been some confusion about the appendices, so we clarified that those are not part of the Code, unless they are adopted, and advise local jurisdictions if that's what they want to do, that's really what they have to do.

The rest is pretty simple. I have a meeting to get back to in Beckley, and I will simply let it stand there. John may have a few other corrections and mistakes that I made in that; but, I think it's pretty self-inclusive. Since we're here just for comment, I will leave to depart.

MR. GUFFEY: Thank you very much for attending both meetings, Bob.

MR. CANNON: You're welcome.

MR. GUFFEY: John Payne.

MR. PAYNE: Good afternoon. My name is John Walter Payne, I am the Regional Manager of Government Relations for the International Code Council, and a registered architect in the Sate of West Virginia. And thank you for the opportunity of

being here today.

I have Bob's draft here, which I had shared some of my comments with him, and can only reiterate that his comments, basically corrections to text that were out of date or not properly correlated with the new code, some of which code was already -- with the new Code is now in place, and there is no need for some of those provisions that were struck.

The one thing that Bob did mention, we need to amend the provisions for minimum treads and risers. In his draft, he amended the entire section, which deleted certain texts that was important, and I don't believe in any way controversial, which it talks about -- which I have a copy here, and I will submit to you for your review.

Basically what it's doing -- or what I'm suggesting here, is that only the dimensions are being changed. The rest of the text as provided in the 2003 IRC will remain otherwise as originally published.

The only other comment I guess I have is there is a few errata that occurred on the prescriptive building envelope in that the superscript correlations for the following footnotes were not put into the table, and need to be added so that people understand where the footnotes apply and how they apply. We're not in any way objection to contesting the modifications that Bob has made, respective to the Board of Appeal or the other provisions for inclusion of the National Electric Code into the Building Code.

So with that, I will give this, I guess, to Mr. Leake and that can be filed in. Or should I give this to you Mr. Guffey?

MR. GUFFEY: Okay. Bill Spencer has joined us. He is a State Farm Commissioner from Clarksburg, West Virginia.

I will give this to Mr. Leake.

Those are John's corrections of that. Did I get that correct?

MR. PAYNE: Yes, you did.

MR. GUFFEY: Chris, would you like to make your statement?

MR. ILARDI: We had received Mr. Cannon's changes, although I will -- we will just mention it needed to be updated. We would also go along with, we had agreed with the position of the Code Official Association in Mr. Cannon's report. And we were just basically saying that we are here to support that position.

MR. GUFFEY: Okay. Very good. Thank you.

MR. ILARDI: And a letter to the same.

MR. GUFFEY: Beth, you said you weren't going to speak, but you can if you'd like.

MS. THOMASSON: We have nothing to add to what has been said. We appreciate the opportunity, of course, to be here and express our views and the wonderful way that we always work together as citizens.

MR. GUFFEY: Well, thank you. This is always a coalition type of process. We don't go into this with just one goal in mind; we bring in

all of the users groups and are as user-friendly as we possible can be.

Mr. Fire Marshal, anything?

MR. LEWIS: No, sir.

MR. GUFFEY: Mr. Spencer?

MR. SPENCER: No, I don't think so.

MR. GUFFEY: Mr. Leake?

MR. LEAKE: No.

MR. GUFFEY: I think all of the documents have been given to Mr. Leake to be stamped in. I don't know that we have anything left out.

Any other comments to go to the order?

(no response)

MR. GUFFEY: Hearing none, we're adjourned.

(WHEREUPON, the hearing was concluded at 1:07 p.m.)

REPORTER'S CERTIFICATE

STATE OF WEST VIRGINIA,

I, John T. Berkhouse, a Certified Court reporter and Notary Public, do hereby certify that the foregoing is, to the best of my skill and ability, a true and accurate transcript of all the proceedings as set forth in the caption hereof.

Given under my hand this 21st day of April, 2005.

John T. Berkhouse

Certified Court Reporter

July 25, 2005

Mr. Robert Cannon, President
WV Building Code Officials
P. O. Box 2514
Beckley, WV 25802

RE: 2005 Building Codes

Dear Mr. Cannon:

Thank you for providing comments to the State Fire Commission at the June 21st, 2005 Public Hearing held at the State Fire Marshal's Office. The Fire Commission, in amending the 2005 International Building Code, has considered both your comments, and the comments of others in preparing the Code for filing with the Secretary of State's Office.

I am attaching a copy of the State Building Code, as amended, to illustrate the amendments the State Fire Commission has adopted. Please consider this document as the response to your comments.

The amendments that have been adopted reflect the changes that have occurred in the Building Codes since the publication of the 2000 edition, including the latest updates of supporting Codes and Standards, as well as language specific to the State of West Virginia laws and Legislative Rules that govern the State Fire Commission. The International Residential Code, Chapter 11 amendments, were made to allow housing costs to be more affordable to West Virginia citizens, adopting the provisions listed in the 2000 edition of the Code.

Again, thank you for your comments and your attendance at the Public Hearing.

Sincerely yours,

Francis A. Gurley II, FAIA
Chair, WV Fire Commission Building Codes Committee

D R A F T - proposed changes

TITLE 87
LEGISLATIVE RULE
SERIES 4
STATE BUILDING CODE

87-4-1 GENERAL.

1.1 Scope: This rule established the standards considered necessary by the State Fire Commission for the safeguarding of life and property and to ensure ~~the quality~~ **compliance with the minimum standards of safe** ~~of~~ construction of all structures erected or renovated throughout this state.

1.2 Authority: West Virginia Code 29-3-5b

1.3 Filing Date:

1.4 Effective Date:

1.5 Incorporation of other Documents: This rule does not include a reprinting of all the requirements imposed by statute or by the incorporation of various nationally recognized standards and codes cited in Subsection 4.1 of this rule. For ascertaining these additional standards and requirements, it is necessary to make reference to the other documents.

87-4-2 DEFINITIONS

2.1 "ANSI" means the American National Standards Institute, ~~11 West 42nd St., New York, NY 10036~~ **25 West 43rd St., Fourth Floor, New York, NY 10036**

2.2 "ASTM" means American Society of Testing and Materials

~~2.3 "BOCA" refers to the Building Officials & Code Administrators International, 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795~~

~~2.4 "Building Code" includes all aspects of safe building construction and mechanical operations and all safety aspects related to building construction and mechanical operations.~~

~~2.5 "CABO" refers to the Council of American Building Officials, 5203 Leesburg Pike, Suite 708, Falls Church, VA 22041.~~

Submitted
by
Bob Cannon

~~2.6 2.3 "Fire Commission" means the thirteen appointed members of the West Virginia State Fiore Commission~~

2.7 **2.4**"Fire Marshal" means the West Virginia State Fire Marshal and/or his or her designated representatives

2.8 **2.5** "Local jurisdiction" means municipal or county level government

2.9 **2.6** "ICC or International" means International Code Council, Inc., 5203 Leesburg Pike, Suite ~~708~~ **600** , Falls Church, VA 22041-3401**5**

2.10 **2.7** "NFPA" means the National Fire Protection, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101

2.11 **2.8** "State Building Code" means the entire contents of this rule and the referenced national **standards and** code.

2.9 "State Fire Code" means the entire contents of Title 87, Legislative Rule, Series 1 and the referenced standards and codes

87-4-3 CONFLICTS

3.1 Whenever there is a conflict between the State Fire Code and the State Building Code, the State Fire Code takes precedence.

3.2 Whenever there is a conflict between the International Plumbing Code **requirements** ~~section~~ of the State Building Code and the rules of the West Virginia State Department of Health and Human Resources, the rules of the Department of Health and Human Resources take precedence.

3.3 Whenever there is a conflict between the State Building Code and statutory laws of the State of West Virginia, the **laws of the State of West Virginia** ~~Code~~ take precedence.

87-7-4 NATIONAL STANDARDS AND CODES

4.1 The standards and requirements as set out and as published by the International Code Council, and American **National** Standards Institute, **and the National Fire Protection Association** , as listed below, have the same force and effect as it set out verbatim in this rule. ~~, Except that any and all references to the ICC Electrical Code mean NFPA 70, National Electric Code/1999~~ **2005**

4.1.1. The **2003 edition,** International Building 2003 **edition of the** International Building Code, **sixth printing** ~~first edition, 2000~~, with the following exceptions:

~~4.1.1.A Provided; that the section entitled "Fire Prevention" and identified as Section 101.4.6 is deleted and not considered as a part of this rule.~~

~~4.1.1.B Further provided that the section entitled "Duties and Powers of Building Official" and identified as Section 104.1 General is modified to read as follows:~~

~~"The building official shall enforce the provisions of this code. The building official may render interpretations of this code and adopt policies and procedures in order to clarify the application of its provisions. The interpretations, polices and procedures shall be in compliance with the intent and purpose of this code. The policies and procedures shall not have the effect of waiving requirements specifically provided for in this code."~~

~~4.1.1.C.1 Appeals Board: The current State Building Code establishes stringent qualifications for appeals board members. The 1996 BOCA National Building Code, Section 121.2.1 reads" The board of appeal shall consist of five individuals, one from each of the following professions or disciplines, with three forming a quorum at any appeal hearing;~~

~~A registered design professional who is a registered architect, or a builder or superintendent of building construction with at least ten years experience, five of which shall have been in responsible charge of work;~~

~~A registered design professional with structural engineering or architectural experience;~~

~~A registered design professional with mechanical or plumbing engineering experience; or a mechanical or plumbing contractor with at last ten years experience, five of which shall have been in responsible charge of work; and~~

~~A registered design professional with fire protection engineering experience; or a fire protection contractor with at least ten years experience, five of which shall have been in responsible charge of work.~~

4.1.1.A **Section 112 Board of Appeals**

112.3 Qualifications. The board of appeals shall consist of five members, with up to three alternates, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. They may include, but are not limited to, a WV Registered Professional Architect or Engineer, a WV Licensed General Building, Residential, Electrical, Piping, Plumbing, Mechanical or Fire Protection Contractor, with at least 10 years experience, five of which shall be in responsible charge of work.

~~4.1.1.C.2 Time of Appeal: The appeals board shall render a decision within 30 days of receipt of the appeal.~~

4.1.2 The **2003 edition of the** International Plumbing Code, **Fifth Printing,** ~~First edition, 2000~~

4.1.3 The **2003 edition of the** International Mechanical Code, **Fourth Printing** ~~First edition, 2000~~

4.1.4 The **2003 edition of the** International Fuel Gas Code, **Fifth Printing** ~~First edition, 2000~~, with the following exception:

Section 404.9 Underground piping systems shall be installed a minimum depth of 12 inches (305 mm) below grade. If the minimum depth cannot be maintained, the piping system shall be installed in conduit or shielded in an approved manner.

4.1.5 The **2003 edition of the** International Property Maintenance Code, **Second Printing** ~~First edition, 2000~~. This Code may be rejected at the option of the local jurisdiction.

4.1.6 The **2003 edition of the** International Energy Conservation Code, **Fifth Printing**, ~~first edition, 2000~~.

4.1.7 The **2003 edition of the** International Residential Code **for One and Two Family Dwellings, Seventh Printing**, ~~first edition, 2000~~, with the following exceptions:

Section **G2415.9 (404.9) Minimum Burial Depth.** Underground piping Systems shall be installed a minimum depth of 12 inches (305 mm)below Grade. If the minimum depth cannot be maintained, the piping system installed in conduit or shielded in an approved manner.

Section **R303.6.1** Light Activation – The control for activation of the

required interior stairway lighting shall be accessible at the top and bottom of each stairway without traversing any steps. The illumination of exterior stairways shall be controlled from inside the dwelling unit. Exceptions: 1. Lights that are continuously illuminated or automatically controlled. 2 Interior stairways consisting of less than three steps.

Section **R311.4.3** Landings at doors – Where a stairway of two or fewer risers is located on the exterior side of a door, other than the required exit door, a landing is not required for the exterior side of the door.

~~Section R314.2 Stair Geometry – CABO One & Two Family Dwelling Code/1995 dimensions; maximum riser height of eight and one quarter (8 ¼) inches, minimum tread depth on nine (9) inches.~~

Section R311.5.3 StairTreads and Risers
311.5.3.1 Riser height – The maximum riser height shall be eight and one-quarter (8 ¼) inches.

311.5.3.2 Tread depth – The minimum tread depth shall be nine (9) inches.

~~Section R311.5.6 Handrails – Handrails shall be provided n at least one side of stairways consisting of three or more risers. Handrails shall have a minimum height of 34 inches (864 mm) and a maximum height of 38 inches (960 mm) measured vertically from the nosing of the treads. All Required handrails shall be continuous the full length of the stairs from a point directly above the top riser to a point directly above the lowest riser of the stairway. The ends of the handrail shall be returned into a wall or shall terminate in newel posts or safety terminals. A minimum clear space of 1 ½ inches (38 mm) shall be provided between the wall and the handrail.~~

Section R403.1.7.1 Building From Ascending Scopes Slopes - is not applicable to this rule.

Section R403.1.7.2 Footing Setbacks From Descending Slope Surfaces – is not applicable to this rule.

~~Section R403.1.7.3 Frost Protected Shallow Foundations – Frost protected Shallow foundations shall not be used for unheated spaces such as porches, utility rooms, garages and carports, and shall not be attached to~~

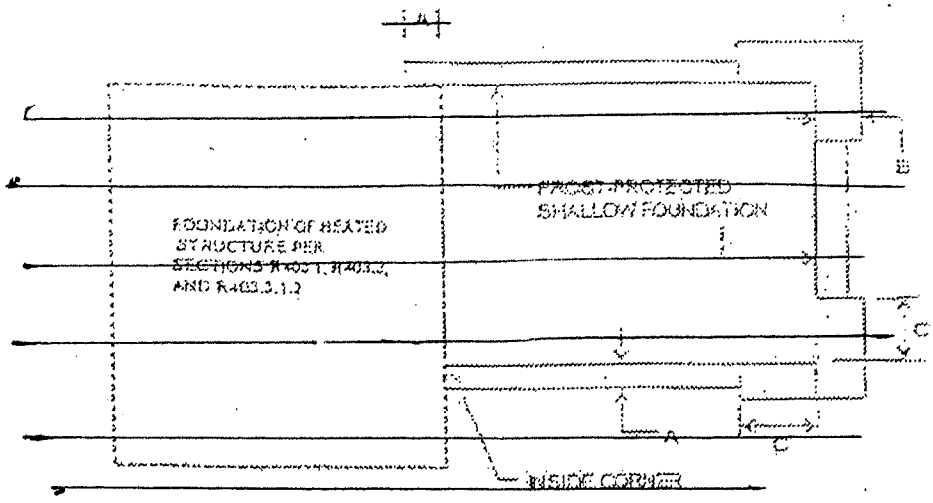
basements or crawl spaces that are not maintained at a minimum monthly mean temperature of 64 degrees F (18 C).

Section R403.3.1 Foundations Adjoining Frost Protected Shallow Foundations – Foundations that adjoin frost protected shallow foundations shall be protected from frost in accordance with Section R403.1.4.

Section R403.3.1.1. Attachment To Unheated Garage – Vertical wall insulation and horizontal insulation of frost protected shallow foundation that adjoin a garage that does not have a monthly mean temperature maintained at a minimum of 64 degrees F (18 C), shall be in accordance with Figure R403.3 (3) and table R403.3. Vertical wall insulation shall extend between the frost protected shallow foundation and the adjoining slab foundation. Required horizontal insulation shall be continuous under The adjoining slab foundation and through and foundation walls adjoining the frost protected shallow foundation.

Section R403.3.1.2 Attachment To Heated Structure. Where a frost protected shallow foundation abuts a structure that has a monthly mean temperature maintained at a minimum of 64 degrees F (18 C), horizontal insulation and vertical wall insulation shall not be required between the frost protected shallow foundation abuts the heated structure, the horizontal insulation and vertical wall insulation shall extend along the adjoining foundation in accordance with Figure R403.3 (4) a distance of not less than Dimension A in Table R403.3,

> Exception: Where the frost protected shallow foundation abuts the heated structure to form an inside corner, insulation extending along the adjoining foundation is not required.



~~FIGURE R403.3(4)~~
~~INSULATION PLACEMENT FOR FROST-PROTECTED FOOTINGS ADJACENT TO HEATED STRUCTURE~~

Section **502.3.3** ~~Floor Cantilevers. Floor cantilever spans shall not exceed the nominal depth of the wood floor joist. Floor cantilevers constructed in accordance with Table R502.3.3 shall be permitted when supporting a light-frame bearing wall and roof only. The ratio of backspan to cantilever span shall be at least 3 to 1.~~

~~Table R502.3~~

DELETE ENTIRE PAGE

TABLE 502.3

CANTILEVER SPANS FOR FLOOR JOISTS SUPPORTING LIGHT-FRAME EXTERIOR BEARING WALL AND ROOF ONLY [a, b, c, e, g, h]

(Floor Live Load ≤ 40 psf, Roof Live Load ≤ 20 psf)

Member & Spacing	Maximum Cantilever Span (Uplift Force at Backspan Support in Lbs.) [d, e]											
	Ground Snow Load											
	≤ 20 psf			30 psf			50 psf			70 psf		
	Roof Width			Roof Width			Roof Width			Roof Width		
	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.
2 x 8 @ 12"	20" (177)	15" (227)		15" (209)								
2 x 10 @ 16"	28" (226)	21" (287)	16" (364)	26" (271)	19" (354)		20" (375)					
2 x 10 @ 12"	36" (166)	28" (210)	20" (270)	34" (198)	22" (263)	16" (324)	26" (277)			19" (356)		
2 x 12 @ 16"		32" (267)	25" (356)	36" (263)	28" (345)	21" (428)	29" (367)	20" (484)		23" (471)		
2 x 12 @ 12"		42" (209)	31" (283)		37" (253)	27" (317)	38" (271)	27" (368)	17" (447)	31" (348)	19" (462)	
2 x 12 @ 8"		48" (136)	45" (169)		48" (164)	38" (205)		40" (233)	20" (284)	36" (230)	26" (304)	18" (379)

For SI: 1 in. = 25.4 mm, 1 psf = 0.0479 kN/m²

Notes:

a. Tabulated values are for clear-span roof supported solely by exterior bearing walls.
b. Spans are based on No. 2 Grade lumber of douglas fir-larch, hem-fir, southern pine, and spruce-pine-fir for repetitive (3 or more) members.
c. Ratio of backspan to cantilever span shall be at least 3:1.
d. Connections capable of resisting the indicated uplift force shall be provided at the backspan support.
e. Uplift force is for a backspan to cantilever span ratio of 3:1. Tabulated uplift values are permitted to be reduced by multiplying by a factor equal to 3 divided by the actual backspan ratio provided (3/backspan ratio).
f. See Section R301.2.2.7.1 for additional limitations on cantilevered floor joists for detached one- and two-family dwellings in Seismic Design Categories D1 and D2 and townhouses in Seismic Design Categories C, D1, and D2.
g. A full-depth rim joist shall be provided at the cantilevered end of the joists.
h. Linear interpolation shall be permitted for building widths and ground snow loads other than shown.

Section N1101

N1101.1 Performance Objective
To provide cost-effective, energy-related requirements for design and construction of the building thermal envelope and heating-ventilating-air conditioning (HVAC) systems for one- and two-family dwellings.

N1101.2 Building Thermal Envelope
The minimum required installed R-value or maximum required U-value for all elements in the building thermal envelope (fenestration, roof/ceiling, opaque wall, floor, slab edge, crawl space wall, and basement wall) shall be determined by Table N1101, based on the building type and the climate zone where the building is located. Alternative compliance based on heat loss/gain calculations or systems analysis shall comply with Section N1101.

TABLE N1101
PRESCRIPTIVE BUILDING ENVELOPE REQUIREMENTS

BUILDING LOCATION		MAXIMUM U-VALUE		MINIMUM INSULATION					
ZONE	HDD	FENESTRATION	ROOF/ CEILING	FRAME WALLS3	MASS WALLS	FLOOR OVER OUTDOOR AIR OR UNCONDITIONED SPACE	SLAB EDGE WIDTH/DEPTH	CRAWL SPACE WALL	BASEMENTWALL
1	0-1,499	ANY	R-19	R-11	R-4	R-11	R-0	R-0	R-0
2	1,500 - 2,999	0.90	R-22	R-13	R-5	R-13	R-0	R-4	R-0
3	3,000- 3,999	0.75	R-26	R-13	R-6	R-13	R-4, 2 FT	R-5	R-0
4	4,000– 4,999	0.65	R-26	R-13	R-7	R-13	R-4 2 FT	R-8	R-4
5	5,000- 6,999	0.55	R-30	R-13	R-8	R-19	R-4, 2 FT	R-8	R-4
6	7,000- 8,999	0.45	R-30	R-13	R-8	R-19	R-5, 2 FT.	R-8	R-8
7	9,000- 12,999	0.40	R-38	R-19	R-14	R-19	R-8, 4 FT.	R-10	R-8

NOTES:

1. Building envelopes must also meet the air infiltration requirements of Section N1101.
2. Insulation materials shall be installed in accordance with the manufacturers instructions.
3. The sum of the R-values of cavity insulation and sheathing shall be used to determine the installed R-value.
4. For slabs that incorporate heating ducts or pipes in climates above 1,000 HDD, add R-2 to the table values.
5. The required R-value shall extend down to design frost depth in Zones 4 and 5, and down to the basement floor in zones 6 and 7.

N1101.3 Floors

N1101.3.1 Floors Over Outdoor Air or Unconditioned Areas – Floors over outdoor air or unconditioned areas shall meet the minimum R-value for Floor Over Outdoor Air or Unconditioned Space in Table N1101, based on the climate zone where the building is located.

N1101.3.2 Slabs-on-Ground – Slabs-on-ground, or slabs 12 inches or less below finished grade, shall meet the minimum R-value and depth/width dimension for Slab Edge in Table N1101, based on the climate zone where the building is located. The required R-value shall be applied to the exterior or interior of the foundation wall. Exterior insulation shall extend downward from the top of the slab and/or horizontally outward until the distance indicated in Table N1101 is reached. Interior insulation shall extend from the top of the slab downward and/or horizontally inward until the distance indicated in Table N1101 is reached. All horizontal insulation extending outward from the slab shall be covered by at least 10 inches of soil. The top edge of insulation installed between the exterior wall and the interior slab shall be permitted to be cut at a 45° angle to allow the concrete surface to extend to the wall. Slab edge insulation shall not be required in areas of "very heavy" termite infestation probability, in accordance with the Termite infestation Probability Map in ~~Appendix A.~~ FIGURE R301.2 (6)

N1101.4 WALLS

N1101.4.1 Wall Insulation – Opaque walls and band joists exposed to outside air or to unconditioned space shall meet the minimum R-value for Frame Wall or Mass Wall in Table N1101, based on the wall type and the climate zone where the building is located. For Frame walls, the sum of the R-values of cavity insulation and insulated sheathing shall be used to determine the installed R-value. Walls exposed to unconditioned space shall have an R-value of R-13 when the minimum required R-value for the wall type in Table N1101 exceeds R-13.

N1101.4.2 Wood Frame Walls – Where insulated sheathing is used on wood frame walls in areas not otherwise required to have structural sheathing, the entire opaque wall shall be considered to be covered with the insulated sheathing for purposes of determining compliance with the minimum R-value for Frame Wall in Table N1101.

N1101.4.3 Steel Frame Walls – When steel framing is used, insulated sheathing with an R-value not less than R-2.5 in Zones 3 and 4 (3,000 – 4,999 HDD), R-5 in Zone 5 (5,000 – 6,999 HDD) and R-10 in Zones 6 and 7 (7,000 – 12,999 HDD) shall be installed in addition to the minimum required R-value for Frame Wall in Table N1101.

N1101.4.4 Mass Walls – Masonry or concrete walls having a mass greater than or equal to 30 pounds per cubic foot (pcf), solid wall walls having a mass greater than or equal to 20 pcf, and any other walls having a heat capacity greater than or equal to 6 Btu/ftY 2° shall be considered mass walls. Mass walls with exterior insulation or mass walls with integral insulation (insulation and mass mixed, such as log walls) shall be permitted to meet the Mass Wall criteria in Table N1101 based on the building type and the climate zone where the building is located. The R-value of mass walls with integral insulation shall be based on consideration of all elements of the wall assembly. Other mass walls shall meet the frame wall criteria for the building type and the climate zone where the building is located, based on the sum of the R-values of interior and exterior insulation.

N1101.4.5 Crawl Space Walls – All walls enclosing crawl spaces where the floor above the crawl space is not insulated in accordance with Table N1101 shall meet the minimum R-value for Crawl Space Wall in Table N1101, based on the climate zone where the building is located. The required R-value shall be applied to the inside or outside of the crawl space wall. The insulation shall extend downward from the sill plate to the level of the inside ground surface.

N1101.4.6 Basement Walls – All basement walls enclosing conditioned space shall meet the minimum R-value for Basement Wall in Table N1101, based on the climate zone where the building is located. The required R-value shall be applied on the inside or outside of the basement wall from the sill plate down to the design frost depth in Climate Zones 4 and 5, and to the basement floor in Zones 6 and 7. Buildings having basement walls with a maximum average exposure not greater than 12 inches above the adjacent grade, and having high efficiency equipment meeting the requirements specified in Table N1101.4.6 based on the climate zone where the building is located, are not required to meet the minimum R-value for Basement Wall in Table N1101.

TABLE N1101.4.6
EQUIPMENT TRADE-OFF FOR BASEMENT WALL INSULATION

BUILDING LOCATION		GAS FURNACE WITH CENTRAL AIR CONDITIONING	AIR SOURCE HEAT PUMP
Zone	HDD	Minimum AFUE	Minimum HSPF
1-3	0-3,999	---	---
4-5	4,000 – 6,999	88	7.8
6-7	7,000 – 12,999	90	8.0

N1101.4.5 Masonry Veneer – When insulation is placed on the exterior of a slab edge, crawl space wall, or basement wall supporting masonry veneer, the horizontal surface supporting the veneer shall not be required to be insulated.

N1101.4.6 Protection of Foundation Insulation – Exposed insulating materials applied to the exterior of foundation walls shall be protected to prevent degradation of thermal performance. The protection shall extend at least 6 inches below finished grade. Plastic foam insulation used below grade shall comply with ASTM C578.

N1101.5 FENESTRATION

N1101.5.1 Labeling – The U-value of fenestration products (windows and glazed doors) shall be indicated on a label affixed to these products by the manufacturer or, where such values are not indicated, the U-value shall be determined in accordance with Table N1101.5.1.

TABLE N1101.5.1
ASSUMED U-VALUE FOR WINDOWS AND GLAZED DOORS

FRAME MATERIAL AND PRODUCT TYPE	SINGLE GLAZED	DOUBLE GLAZED
Metal Without Thermal Break	1.13	0.70
Metal with Thermal Break	1.07	0.63
Reinforced Vinyl/Metal-Clad Wood/ Wood/Vinyl Fiberglass	0.90	0.55

N1101.5.2 Windows – For elements within the building thermal envelope, up to 6 square feet of glazed areas is exempt from the maximum required U-value in Table N1101.5.1

N1101.5.3 Skylights – Minimum skylight requirements will be as follows:

Zone 1 (0-1, 499 HDD): Any skylight is permitted.

Zones 2 3 (1,500 – 3,999 HDD): Any double glazed skylight is permitted; and

Zones 4 and above (4,000 HDD and above): Any double glazed skylight with a wood, vinyl or fiberglass frame. Metal clad frames will be permitted.

N1101.5.4 Opaque Doors – Opaque doors shall have a maximum U-value of 0.39 or minimum R-value of 2.5. When the U-value of the door is not provided by the manufacturer, it shall be determined in accordance with Table N1101.5.1. One opaque door per dwelling unit shall be permitted to be exempt from this U-value requirement.

TABLE N1101.5.4 - Assumed r values for non-glazed doors

DOOR CONSTRUCTION	WITH FOAM CORE	WITHOUT FOAM CORE
Steel Doors (1 ¾ inches thick)	0.35	0.60
Wood Doors (1 ¾ inches thick)	Without Storm Door	With Storm Door
Panel Hollowcore flush Solid core flush	0.54 0.46 0.40	0.36 0.32 0.26

N1101.6 ROOFS AND CEILINGS

Roof/ceiling assemblies, including ceilings below unconditioned attics and cathedral ceilings, shall meet the minimum R-value for Roof/Ceiling in Table N1101, based on the climate zone where the building is located. Insulation can be compressed or reduced at eaves to accommodate roof framing or ventilation.

Exception: R-30 shall be required for cathedral ceilings whenever the required R-value for Roof/Ceiling in Table N1101 exceeds R-30.

N1102 MOISTURE CONTROL

In all framed walls, floors and roof/ceilings comprising elements of the building thermal envelope, an approved vapor retarder having a maximum rating of 1.0 perm shall be installed on the warm-in-winter side of the insulation.

Exception:

1. Where the insulated cavity of space is ventilated to allow moisture to escape.

2. In hot and humid climate areas ~~as shown in Appendix A.~~

Section N1103 AIR INFILTRATION

The building envelope shall be designed and constructed to limit air infiltration to the conditioned area of the dwelling. All elements comprising the building thermal envelope, including all exterior joints, seams, or penetrations, shall be caulked, gasketed, taped or covered with moisture vapor permeable sheathing paper or house wrap on the exterior. All windows and doors installed in the building thermal envelope shall be weatherstripped, gasketed, or caulked.

Section N1104 HVAC SYSTEMS

N1104-1 HVAC AND WATER HEATING APPLIANCES

HVAC and service water heating appliances shall be labeled as complying with minimum efficiency requirements specified by the National Appliance Energy Conservation Act of 1987 and regulations adopted thereunder by the U. S. Department of Energy.

N1104-2 CONTROLS

Each heating, cooling, or combination heating and cooling system shall be provided with at least one adjustable thermostat for the regulation of temperature.

N1104-3 AIR HANDLING DUCT SYSTEM

N1104-3.1 DUCT SEALING – All supply and return ducts located outside the building thermal envelope shall have joints sealed with gaskets, mastics, tapes installed in accordance with the manufacturers instructions, or by other approved methods.

N1104-3.2 DUCT INSULATION – Minimum required duct insulation for all supply and return ducts located in unconditioned space shall be R-5 in all climatic zones.

N1104-4 HEATING AND COOLING PIPING INSULATION
All HVAC system piping carrying fluids with a temperature less than 55°F or greater than 120°F shall have minimum insulation thickness of ½ inch.

Section N1105 ALTERNATIVE COMPLIANCE

N1105.1 HEAT GAIN/HEAT LOSS CALCULATIONS

Alternative compliance with the requirements of Table N1101 shall be permitted to be determined through a heat gain or heat loss calculation as follows: the required R-value or U-value of an element in the building thermal envelope in Table N1101 may be increased or decreased, provided the total heat gain or loss for the entire building does not exceed the total resulting from conformance to the values specified in Table N1101.

N1105.2 SYSTEMS ANALYSIS

Alternative compliance with the requirements of this chapter shall be permitted to be determined through the use of a systems analysis using a standard design in accordance with Table N1101, and Section N1104. A proposed design complies with this chapter if it has a projected annual energy use for heating, cooling and service water heating not greater than the energy use of the standard design, calculated in accordance with accepted engineering practices. Energy use for both homes shall be calculated based on the same assumptions and building location. The standard design shall have the same floor area, envelope component areas, building orientation, glazing orientation, door areas, and building geometry as the proposed design.

4.1.8 The **2003 Edition of the** ICC/ANSI A117.1 **American National Standard** For Accessible and Usable Buildings and Facilities, **First printing**

4.1.9 The **2003 edition of the** International Existing Building Code, **Third printing**, ~~with the following exception~~:

Keep ~~Omit reference to International Fire Code and substitute NFPA Life Safety Code **2003 Edition.**~~

4.1.10 **The 2003 edition of the International Fire Code, Fourth Printing.** Take out

4.1.11 The 2005 edition of the National Electric Code, NFPA 70, Printing.

87-4-5 The following structures are not subject to inspection by local jurisdictions:

Group U utility structures and storage sheds comprising an area not more that 150 sq. ft. which have no plumbing or electrical connections and are used only for residential storage purposes. (Examples include sheds that are for residential storage of lawnmowers, tools, bicycles or furniture). Not included are those utility structures and storage sheds which have plumbing or electrical connections are a non-residential use or for the storage of explosives or other hazardous or explosive materials.

87-4-5 A copy of the national standards and codes listed in Subsection 4.1 of this rule have been filed with the Secretary of State. These books, collectively or separately, may be obtained by contacting the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60477-5795, telephone 1-888-422-7233 or the ICC Store, telephone 1-800-786-4452.

87-4-6 Adoption by Local Jurisdiction

7.1 Each local jurisdiction adopting the State Building Code shall notify the State Fire Commission in writing. The local jurisdiction shall send a copy of the ordinance or order to the State Fire Marshal, West Virginia State Fire Commission, 1207 Quarrier St., 2nd Floor, Charleston, WV 25301, within 30 days of adoption **by the local jurisdiction.**

7.2 Each local jurisdiction which adopts the State Building Code is responsible for the enforcement of the building code as provided for in WV Code 7-1-3n and 8-12-13.

7.3 Throughout the national codes, adopted in subsection 4.1 of this rule are discretionary provisions **or amendments** that require further action by the adopting local jurisdiction in order to adapt these codes to various local conditions. **The appendices are not a part of the code and must also be adopted by the local jurisdiction to be enforceable.** It is therefore the intent of this rule to further authorize each local jurisdiction to further complete, by order or ordinance, those respective areas which are indicated to be completed by the adopting jurisdiction **and any of the appendices the local jurisdiction wishes to adopt.**

7.4 Within the penalty sections of ~~each~~ **some** of the national codes adopted in subsection 4.1 of this rule, there is a penalty for imprisonment. The provision of imprisonment for any violation of this rule is optional with each adopting local jurisdiction.

Some.

7.5 ~~Most~~ of the national codes adopted in subsection 4.1. of this rule, provide for a separate **board of appeals.** However, the intent and requirements for a board of appeals may be met with the creation by the local jurisdiction of a single **board of appeals** for the entire State Building Code.

87-4-7 Existing Building Codes

8.1 All building codes which have been **previously** adopted by local jurisdictions prior to the passage of WV Code 29-3-5b, in 1988, Are null and void.

July 25, 2005

Mr. John Payne, AIA
International Code Council
1245 S. Sunbury Road, Suite 100
Westerfield, OH 43081-9444

RE: 2005 Building Codes

Dear Mr. Payne:

Thank you for providing comments to the State Fire Commission at the June 21st, 2005 Public Hearing held at the State Fire Marshal's Office. The Fire Commission, in amending the 2005 International Building Code, has considered both your comments, and the comments of others in preparing the Code for filing with the Secretary of State's Office.

I am attaching a copy of the State Building Code, as amended, to illustrate the amendments the State Fire Commission has adopted. Please consider this document as the response to your comments.

The amendments that have been adopted reflect the changes that have occurred in the Building Codes since the publication of the 2000 edition, including the latest updates of supporting Codes and Standards, as well as language specific to the State of West Virginia laws and Legislative Rules that govern the State Fire Commission. The International Residential Code, Chapter 11 amendments, were made to allow housing costs to be more affordable to West Virginia citizens, adopting the provisions listed in the 2000 edition of the Code.

Again, thank you for your comments and your attendance at the Public Hearing.

Sincerely yours,

Francis A. Guffey, II, FAIA
Chair, WV Fire Commission Building Codes Committee

Joan W. Penny
1245 Sunbury Road
Westerville Ohio 43081

Hearing 6/21/05 1PM

D R A F T - proposed changes

TITLE 87
LEGISLATIVE RULE
SERIES 4
STATE BUILDING CODE

87-4-1 GENERAL.

1.1 Scope: This rule established the standards considered necessary by the State Fire Commission for the safeguarding of life and property and to ensure ~~the quality~~ **compliance with the minimum standards of safe** ~~of~~ construction of all structures erected or renovated throughout this state.

1.2 Authority: West Virginia Code 29-3-5b

1.3 Filing Date:

1.4 Effective Date:

1.5 Incorporation of other Documents: This rule does not include a reprinting of all the requirements imposed by statute or by the incorporation of various nationally recognized standards and codes cited in Subsection 4.1 of this rule. For ascertaining these additional standards and requirements, it is necessary to make reference to the other documents.

87-4-2 DEFINITIONS

2.1 "ANSI" means the American National Standards Institute, ~~11 West 42nd St., New York, NY 10036~~ **25 West 43rd St., Fourth Floor, New York, NY 10036**

2.2 "ASTM" means American Society of Testing and Materials

~~2.3 "BOCA" refers to the Building Officials & Code Administrators International, 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795~~

~~2.4 "Building Code" includes all aspects of safe building construction and mechanical operations and all safety aspects related to building construction and mechanical operations~~

~~2.5 "CABO" refers to the Council of American Building Officials, 5203 Leesburg Pike, Suite 708, Falls Church, VA 22041~~

keep

~~2.6 2.3 "Fire Commission" means the thirteen appointed members of the West Virginia State Fiore Commission~~

2.7 **2.4**"Fire Marshal" means the West Virginia State Fire Marshal and/or his or her designated representatives

2.8 **2.5** "Local jurisdiction" means municipal or county level government

2.9 **2.6** "ICC or International" means International Code Council, Inc., 5203 Leesburg Pike, Suite ~~708~~ **600** , Falls Church, VA 22041-3401**5**

2.10 **2.7** "NFPA" means the National Fire Protection, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101

2.11 **2.8** "State Building Code" means the entire contents of this rule and the referenced national **standards and** code

2.9 "State Fire Code" means the entire contents of Title 87, Legislative Rule, Series 1 and the referenced standards and codes

87-4-3 CONFLICTS

3.1 Whenever there is a conflict between the State Fire Code and the State Building Code, the State Fire Code takes precedence.

3.2 Whenever there is a conflict between the International Plumbing Code **requirements** ~~section~~ of the State Building Code and the rules of the West Virginia State Department of Health and Human Resources, the rules of the Department of Health and Human Resources take precedence.

3.3 Whenever there is a conflict between the State Building Code and statutory laws of the State of West Virginia, the **laws of the State of West Virginia** ~~Code~~ take precedence.

87-7-4 NATIONAL STANDARDS AND CODES

4.1 The standards and requirements as set out and as published by the International Code Council, and American **National** Standards Institute, **and the National Fire Protection Association** , as listed below, have the same force and effect as it set out verbatim in this rule, ~~, Except that any and all references to the ICC Electrical Code mean NFPA 70, National Electric Code/1999~~ **2005**

keep

4.1.1. The **2003 edition,** International Building 2003 **edition of the** International Building Code, **sixth printing** ~~first edition, 2000~~, with the following exceptions:

~~4.1.1.A Provided; that the section entitled "Fire Prevention" and identified as Section 101.4.6 is deleted and not considered as a part of this rule.~~

~~4.1.1.B Further provided that the section entitled "Duties and Powers of Building Official" and identified as Section 104.1 General is modified to read as follows:~~

~~"The building official shall enforce the provisions of this code. The building official may render interpretations of this code and adopt policies and procedures in order to clarify the application of its provisions. The interpretations, polices and procedures shall be in compliance with the intent and purpose of this code. The policies and procedures shall not have the effect of waiving requirements specifically provided for in this code."~~

~~4.1.1.C.1 Appeals Board: The current State Building Code establishes stringent qualifications for appeals board members. The 1996 BOCA National Building Code, Section 121.2.1 reads" The board of appeal shall consist of five individuals, one from each of the following professions or disciplines, with three forming a quorum at any appeal hearing;~~

~~A registered design professional who is a registered architect, or a builder or superintendent of building construction with at least ten years experience, five of which shall have been in responsible charge of work;~~

~~A registered design professional with structural engineering or architectural experience;~~

~~A registered design professional with mechanical or plumbing engineering experience; or a mechanical or plumbing contractor with at last ten years experience, five of which shall have been in responsible charge of work; and~~

~~A registered design professional with fire protection engineering experience; or a fire protection contractor with at least ten years experience, five of which shall have been in responsible charge of work.~~

4.1.1.A **Section 112 Board of Appeals**

112.3 Qualifications. The board of appeals shall consist of five members, with up to three alternates, who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. They may include, but are not limited to, a WV Registered Professional Architect or Engineer, a WV Licensed General Building, Residential, Electrical, Piping, Plumbing, Mechanical or Fire Protection Contractor, with at least 10 years experience, five of which shall be in responsible charge of work.

~~4.1.1.C.2 Time of Appeal: The appeals board shall render a decision within 30 days of receipt of the appeal.~~

4.1.2 The **2003 edition of the** International Plumbing Code, **Fifth Printing,** ~~First edition, 2000~~

4.1.3 The **2003 edition of the** International Mechanical Code, **Fourth Printing** ~~First edition, 2000~~

4.1.4 The **2003 edition of the** International Fuel Gas Code, **Fifth Printing** ~~First edition, 2000~~, with the following exception:

Section 404.9 Underground piping systems shall be installed a minimum depth of 12 inches (305 mm) below grade. If the minimum depth cannot be maintained, the piping system shall be installed in conduit or shielded in an approved manner.

4.1.5 The **2003 edition of the** International Property Maintenance Code, **Second Printing** ~~First edition, 2000~~. This Code may be rejected at the option of the local jurisdiction.

4.1.6 The **2003 edition of the** International Energy Conservation Code, **Fifth Printing**, ~~first edition, 2000~~.

4.1.7 The **2003 edition of the** International Residential Code f**or One and Two Family Dwellings, Seventh Printing**, ~~first edition, 2000~~, with the following exceptions:

Section **G2415.9 (404.9) Minimum Burial Depth.** Underground piping Systems shall be installed a minimum depth of 12 inches (305 mm)below Grade. If the minimum depth cannot be maintained, the piping system installed in conduit or shielded in an approved manner.

Section **R303.6.1** Light Activation – The control for activation of the

Public Hearing Sn 87-3-5b 6/21/05

R311.5.3.1 Riser height. The maximum riser height shall be eight and one quarter (8¼) inches. The risers 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 3/8 inch (9.5mm)

end

R311.5.3.2 Tread depth. The minimum tread depth shall be nine (9) inches. 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 in any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5mm) Winder treads shall have a minimum tread depth of nine (9) inches measured as above at a point 12 inches (305mm) from the side ~~of~~ where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12 inch (305mm) walk line shall not exceed the smallest by more than 3/8 inch (9.5mm)

end

required interior stairway lighting shall be accessible at the top and bottom of each stairway without traversing any steps. The illumination of exterior stairways shall be controlled from inside the dwelling unit. Exceptions: 1. Lights that are continuously illuminated or automatically controlled. 2 Interior stairways consisting of less than three steps.

Section **R311.4.3** Landings at doors – Where a stairway of two or fewer risers is located on the exterior side of a door, other than the required exit door, a landing is not required for the exterior side of the door.

~~Section R314.2 Stair Geometry – CABO One & Two Family Dwelling Code/1995 dimensions; maximum riser height of eight and one quarter (8 ¼) inches, minimum tread depth on nine (9) inches.~~ [redacted]

careful intent is to modify dimensions other provisions shall apply

Section R311.5.3 StairTreads and Risers

311.5.3.1 Riser height – The maximum riser height shall be eight and one-quarter (8 ¼) inches.

311.5.3.2 Tread depth – The minimum tread depth shall be nine (9) inches.

[redacted] Keep

~~Section R311.5.6 Handrails – Handrails shall be provided n at least one side of stairways consisting of three or more risers. Handrails shall have a minimum height of 34 inches (864 mm) and a maximum height of 38 inches (960 mm) measured vertically from the nosing of the treads. All Required handrails shall be continuous the full length of the stairs from a point directly above the top riser to a point directly above the lowest riser of the stairway. The ends of the handrail shall be returned into a wall or shall terminate in newel posts or safety terminals. A minimum clear space of 1-½ inches (38 mm) shall be provided between the wall and the handrail.~~

See attached modification

Section R403.1.7.1 Building From Ascending Scopes Slopes - is not applicable to this rule.

Section R403.1.7.2 Footing Setbacks From Descending Slope Surfaces – is not applicable to this rule.

Keep

~~Section R403.1.7.3 Frost Protected Shallow Foundations – Frost protected Shallow foundations shall not be used for unheated spaces such as porches, utility rooms, garages and carports, and shall not be attached to~~

Keep

basements or crawl spaces that are not maintained at a minimum monthly mean temperature of 64 degrees F (18 C).

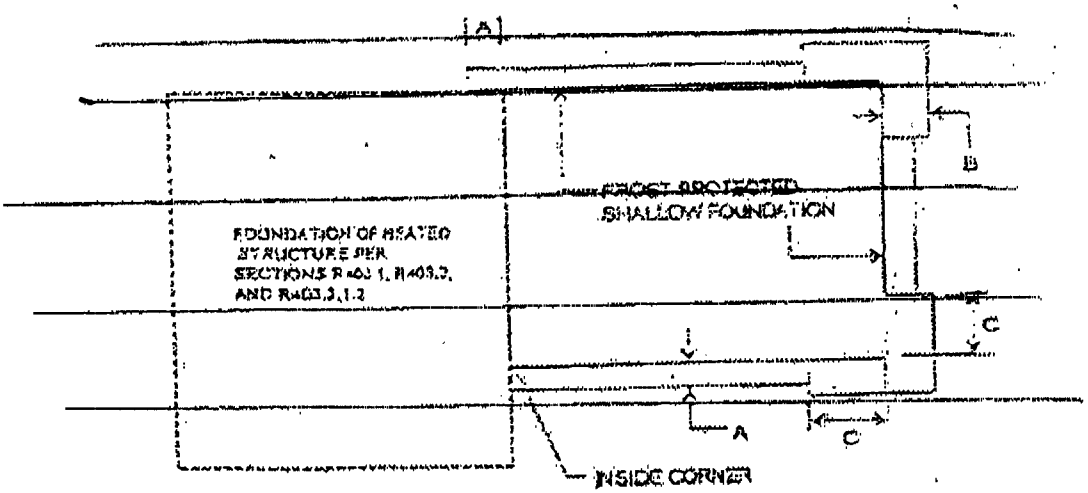
Section R403.3.1 Foundations Adjoining Frost Protected Shallow Foundations – Foundations that adjoin frost protected shallow foundations shall be protected from frost in accordance with Section R403.1.4.

Section R403.3.1.1 Attachment To Unheated Garage – Vertical wall insulation and horizontal insulation of frost protected shallow foundation that adjoin a garage that does not have a monthly mean temperature maintained at a minimum of 64 degrees F (18 C), shall be in accordance with Figure R403.3 (3) and table R403.3. Vertical wall insulation shall extend between the frost protected shallow foundation and the adjoining slab foundation. Required horizontal insulation shall be continuous under The adjoining slab foundation and through and foundation walls adjoining the frost protected shallow foundation.

Keep

Section R403.3.1.2 Attachment To Heated Structure. Where a frost-protected shallow foundation abuts a structure that has a monthly mean temperature maintained at a minimum of 64 degrees F (18 C), horizontal insulation and vertical wall insulation shall not be required between the frost protected shallow foundation abuts the heated structure, the horizontal insulation and vertical wall insulation shall extend along the adjoining foundation in accordance with Figure R403.3 (4) a distance of not less than Dimension A in Table R403.3,

> Exception: Where the frost protected shallow foundation abuts the heated structure to form an inside corner, insulation extending along the adjoining foundation is not required.



~~FIGURE R403.3(4)~~
~~INSULATION PLACEMENT FOR FROST PROTECTED FOOTINGS ADJACENT TO HEATED STRUCTURE~~

~~Keep~~

~~Section **502.3.3** Floor Cantilevers. Floor cantilever spans shall not exceed the nominal depth of the wood floor joist. Floor cantilevers constructed in accordance with Table R502.3.3 shall be permitted when supporting a light-frame bearing wall and roof only. The ratio of backspan to cantilever span shall be at least 3 to 1.~~

~~Table R502.3~~

DELETE ENTIRE PAGE

TABLE 502.3

CANTILEVER SPANS FOR FLOOR JOISTS SUPPORTING LIGHT-FRAME EXTERIOR BEARING WALL AND ROOF ONLY[a, b, c, e, f, g, h]

(Floor Live Load ≤ 40 psf, Roof Live Load ≤ 20 psf)

Member & Spacing	Maximum Cantilever Span (Uplift Force at Backspan Support in Lbs.)[d, e]											
	Ground Snow Load											
	≤ 20 psf			30 psf			50 psf			70 psf		
	Roof Width			Roof Width			Roof Width			Roof Width		
	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.	24 ft.	32 ft.	40 ft.
2 x 8 @ 12"	20" (177)	15" (227)		15" (209)								
2 x 10 @ 16"	26" (226)	21" (287)	15" (364)	25" (271)	18" (354)		20" (375)					
2 x 10 @ 12"	35" (166)	28" (219)	20" (270)	34" (198)	22" (263)	16" (324)	26" (277)			19" (356)		
2 x 12 @ 16"		32" (287)	25" (356)	36" (203)	28" (345)	21" (428)	29" (307)	20" (484)		23" (471)		
2 x 12 @ 12"		42" (209)	31" (283)		37" (253)	27" (317)	36" (271)	27" (358)	17" (447)	31" (348)	19" (482)	
2 x 12 @ 8"		48" (136)	45" (169)		48" (164)	38" (206)		40" (233)	26" (294)	36" (230)	25" (304)	15" (379)

For SI: 1 in. = 25.4 mm, 1 psf = 0.0479 kN/m²

Notes:

a. *Tabulated values are for clear-span roof supported solely by exterior bearing walls.*
b. *Spans are based on No. 2 Grade lumber of douglas fir-larch, hem-fir, southern pine, and spruce-pine-fir for repetitive (3 or more) members.*
c. Ratio of backspan to cantilever span shall be at least 3:1.
d. Connections capable of resisting the indicated uplift force shall be provided at the backspan support.
e. Uplift force is for a backspan to cantilever span ratio of 3:1. Tabulated uplift values are permitted to be reduced by multiplying by a factor equal to 3 divided by the actual backspan ratio provided (3/backspan ratio).
f. See Section R301.2.2.7.1 for additional limitations on cantilevered floor joists for detached one- and two-family dwellings in Seismic Design Categories D1 and D2 and townhouses in Seismic Design Categories C, D1, and D2.
g. A full-depth rim joist shall be provided at the cantilevered end of the joists.
h. Linear interpolation shall be permitted for building widths and ground snow loads other than shown.

Section N1101

keep

N1101.1 Performance Objective

To provide cost-effective, energy-related requirements for design and construction of the building thermal envelope and heating-ventilating-air conditioning (HVAC) systems for one- and two-family dwellings.

N1101.2 Building Thermal Envelope

The minimum required installed R-value or maximum required U-value for all elements in the building thermal envelope (fenestration, roof/ceiling, opaque wall, floor, slab edge, crawl space wall, and basement wall) shall be determined by Table N1101, based on the building type and the climate zone where the building is located. Alternative compliance based on heat loss/gain calculations or systems analysis shall comply with Section N1101.

TABLE N1101
PRESCRIPTIVE BUILDING ENVELOPE REQUIREMENTS [1]

BUILDING LOCATION		MAXIMUM U-VALUE		MINIMUM INSULATION [2]					
ZONE	HDD	FENESTRATION	ROOF/ CEILING	FRAME WALLS [3]	MASS WALLS	FLOOR OVER OUTDOOR AIR OR UNCONDITIONED SPACE [4]	SLAB EDGE WIDTH/DEPTH	CRAWL SPACE WALL	BASEMENTWALL [5]
1	0-1,499	ANY	R-19	R-11	R-4	R-11	R-0	R-0	R-0
2	1,500 - 2,999	0.90	R-22	R-13	R-5	R-13	R-0	R-4	R-0
3	3,000-3,999	0.75	R-26	R-13	R-6	R-13	R-4, 2 FT	R-5	R-0
4	4,000-4,999	0.65	R-26	R-13	R-7	R-13	R-4 2 FT	R-8	R-4
5	5,000-6,999	0.55	R-30	R-13	R-8	R-19	R-4, 2 FT	R-8	R-4
6	7,000-8,999	0.45	R-30	R-13	R-8	R-19	R-5, 2 FT.	R-8	R-8
7	9,000-12,999	0.40	R-38	R-19	R-14	R-19	R-8, 4 FT.	R-10	R-8

add superscript for footnotes

see next page for footnotes

NOTES:

1. Building envelopes must also meet the air infiltration requirements of Section N1101.
2. Insulation materials shall be installed in accordance with the manufacturers instructions.
3. The sum of the R-values of cavity insulation and sheathing shall be used to determine the installed R-value.
4. For slabs that incorporate heating ducts or pipes in climates above 1,000 HDD, add R-2 to the table values.
5. The required R-value shall extend down to design frost depth in Zones 4 and 5, and down to the basement floor in zones 6 and 7.

N1101.3 Floors

N1101.3.1 Floors Over Outdoor Air or Unconditioned Areas – Floors over outdoor air or unconditioned areas shall meet the minimum R-value for Floor Over Outdoor Air or Unconditioned Space in Table N1101, based on the climate zone where the building is located.

N1101.3.2 Slabs-on-Ground – Slabs-on-ground, or slabs 12 inches or less below finished grade, shall meet the minimum R-value and depth/width dimension for Slab Edge in Table N1101, based on the climate zone where the building is located. The required R-value shall be applied to the exterior or interior of the foundation wall. Exterior insulation shall extend downward from the top of the slab and/or horizontally outward until the distance indicated in Table N1101 is reached. Interior insulation shall extend from the top of the slab downward and/or horizontally inward until the distance indicated in Table N1101 is reached. All horizontal insulation extending outward from the slab shall be covered by at least 10 inches of soil. The top edge of insulation installed between the exterior wall and the interior slab shall be permitted to be cut at a 45° angle to allow the concrete surface to extend to the wall. Slab edge insulation shall not be required in areas of "very heavy" termite infestation probability, in accordance with the Termite Infestation Probability Map in ~~Appendix A.~~ FIGURE R301.2 (6)

N1101.4 WALLS

N1101.4.1 Wall Insulation – Opaque walls and band joists exposed to outside air or to unconditioned space shall meet the minimum R-value for Frame Wall or Mass Wall in Table N1101, based on the wall type and the climate zone where the building is located. For Frame walls, the sum of the R-values of cavity insulation and insulated sheathing shall be used to determine the installed R-value. Walls exposed to unconditioned space shall have an R-value of R-13 when the minimum required R-value for the wall type in Table N1101 exceeds R-13.

N1101.4.2 Wood Frame Walls – Where insulated sheathing is used on wood frame walls in areas not otherwise required to have structural sheathing, the entire opaque wall shall be considered to be covered with the insulated sheathing for purposes of determining compliance with the minimum R-value for Frame Wall in Table N1101.

N1101.4.3 Steel Frame Walls – When steel framing is used, insulated sheathing with an R-value not less than R-2.5 in Zones 3 and 4 (3,000 – 4,999 HDD), R-5 in Zone 5 (5,000 – 6,999 HDD) and R-10 in Zones 6 and 7 (7,000 – 12,999 HDD) shall be installed in addition to the minimum required R-value for Frame Wall in Table N1101.

N1101.4.4 Mass Walls – Masonry or concrete walls having a mass greater than or equal to 30 pounds per cubic foot (pcf), solid wall walls having a mass greater than or equal to 20 pcf, and any other walls having a heat capacity greater than or equal to 6 Btu/ftY 2° shall be considered mass walls. Mass walls with exterior insulation or mass walls with integral insulation (insulation and mass mixed, such as log walls) shall be permitted to meet the Mass Wall criteria in Table N1101 based on the building type and the climate zone where the building is located. The R-value of mass walls with integral insulation shall be based on consideration of all elements of the wall assembly. Other mass walls shall meet the frame wall criteria for the building type and the climate zone where the building is located, based on the sum of the R-values of interior and exterior insulation.

N1101.4.5 Crawl Space Walls – All walls enclosing crawl spaces where the floor above the crawl space is not insulated in accordance with Table N1101 shall meet the minimum R-value for Crawl Space Wall in Table N1101, based on the climate zone where the building is located. The required R-value shall be applied to the inside or outside of the crawl space wall. The insulation shall extend downward from the sill plate to the level of the inside ground surface.

N1101.4.6 Basement Walls – All basement walls enclosing conditioned space shall meet the minimum R-value for Basement Wall in Table N1101, based on the climate zone where the building is located. The required R-value shall be applied on the inside or outside of the basement wall from the sill plate down to the design frost depth in Climate Zones 4 and 5, and to the basement floor in Zones 6 and 7. Buildings having basement walls with a maximum average exposure not greater than 12 inches above the adjacent grade, and having high efficiency equipment meeting the requirements specified in Table N1101.4.6 based on the climate zone where the building is located, are not required to meet the minimum R-value for Basement Wall in Table N1101.

TABLE N1101.4.6
EQUIPMENT TRADE-OFF FOR BASEMENT WALL INSULATION

BUILDING LOCATION		GAS FURNACE WITH CENTRAL AIR CONDITIONING	AIR SOURCE HEAT PUMP
Zone	HDD	Minimum AFUE	Minimum HSPF
1-3	0-3,999	—	—
4-5	4,000 – 6,999	88	7.8
6-7	7,000 – 12,999	90	8.0

N1101.4.5 Masonry Veneer – When insulation is placed on the exterior of a slab edge, crawl space wall, or basement wall supporting masonry veneer, the horizontal surface supporting the veneer shall not be required to be insulated.

N1101.4.6 Protection of Foundation Insulation – Exposed insulating materials applied to the exterior of foundation walls shall be protected to prevent degradation of thermal performance. The protection shall extend at least 6 inches below finished grade. Plastic foam insulation used below grade shall comply with ASTM C578.

N1101.5 FENESTRATION
N1101.5.1 Labeling – The U-value of fenestration products (windows and glazed doors) shall be indicated on a label affixed to these products by the manufacturer or, where such values are not indicated, the U-value shall be determined in accordance with Table N1101.5.1.

TABLE N1101.5.1
ASSUMED U-VALUE FOR WINDOWS AND GLAZED DOORS

FRAME MATERIAL AND PRODUCT TYPE	SINGLE GLAZED	DOUBLE GLAZED
Metal Without Thermal Break	1.13	0.70
Metal with Thermal Break	1.07	0.63
Reinforced Vinyl/Metal-Clad Wood/ Wood/Vinyl Fiberglass	0.90	0.55

N1101.5.2 Windows – For elements within the building thermal envelope, up to 6 square feet of glazed areas is exempt from the maximum required U-value in Table N1101.5.1

N1101.5.3 Skylights – Minimum skylight requirements will be as follows:

Zone 1 (0-1, 499 HDD): Any skylight is permitted.

Zones 2 3 (1,500 – 3,999 HDD): Any double glazed skylight is permitted; and

Zones 4 and above (4,000 HDD and above): Any double glazed skylight with a wood, vinyl or fiberglass frame. Metal clad frames will be permitted.

N1101.5.4 Opaque Doors – Opaque doors shall have a maximum U-value of 0.39 or minimum R-value of 2.5. When the U-value of the door is not provided by the manufacturer, it shall be determined in accordance with Table N1101.5.1. One opaque door per dwelling unit shall be permitted to be exempt from this U-value requirement.

added title

OR

TABLE N1101.5.4 – Assumed R values for non-glazed doors

DOOR CONSTRUCTION	~~WITH FOAM CORE~~	~~WITHOUT FOAM CORE~~
Steel Doors (1 ¾ inches thick)	0.35	0.60
Wood Doors (1 ¾ inches thick)	Without Storm Door	With Storm Door
Panel Hollowcore flush Solid core flush	0.54 0.46 0.40	0.36 0.32 0.26

N1101.6 ROOFS AND CEILINGS

Roof/ceiling assemblies, including ceilings below unconditioned attics and cathedral ceilings, shall meet the minimum R-value for Roof/Ceiling in Table N1101, based on the climate zone where the building is located. Insulation can be compressed or reduced at eaves to accommodate roof framing or ventilation.

Exception: R-30 shall be required for cathedral ceilings whenever the required R-value for Roof/Ceiling in Table N1101 exceeds R-30.

N1102 MOISTURE CONTROL

In all framed walls, floors and roof/ceilings comprising elements of the building thermal envelope, an approved vapor retarder having a maximum rating of 1.0 perm shall be installed on the warm-in-winter side of the insulation.

Exception:

1. Where the insulated cavity of space is ventilated to allow moisture to escape.

2. In hot and humid climate areas~~, as shown in Appendix A~~.

Section N1103 AIR INFILTRATION

The building envelope shall be designed and constructed to limit air infiltration to the conditioned area of the dwelling. All elements comprising the building thermal envelope, including all exterior joints, seams, or penetrations, shall be caulked, gasketed, taped or covered with moisture vapor permeable sheathing paper or house wrap on the exterior. All windows and doors installed in the building thermal envelope shall be weatherstripped, gasketed, or caulked.

Section N1104 HVAC SYSTEMS

N1104.1 HVAC AND WATER HEATING APPLIANCES

HVAC and service water heating appliances shall be labeled as complying with minimum efficiency requirements specified by the National Appliance Energy Conservation Act of 1987 and regulations adopted thereunder by the U. S. Department of Energy.

N1104.2 CONTROLS

Each heating, cooling, or combination heating and cooling system shall be provided with at least one adjustable thermostat for the regulation of temperature.

N1104.3 AIR HANDLING DUCT SYSTEM

N1104.3.1 DUCT SEALING – All supply and return ducts located outside the building thermal envelope shall have joints sealed with gaskets, mastics, tapes installed in accordance with the manufacturers instructions, or by other approved methods.

N1104.3.2 DUCT INSULATION – Minimum required duct insulation for all supply and return ducts located in unconditioned space shall be R-5 in all climatic zones.

N1104.4 HEATING AND COOLING PIPING INSULATION
All HVAC system piping carrying fluids with a temperature less than 55°F or greater than 120°F shall have minimum insulation thickness of ½ inch.

Section N1105 ALTERNATIVE COMPLIANCE

N1105.1 HEAT GAIN/HEAT LOSS CALCULATIONS

Alternative compliance with the requirements of Table N1101 shall be permitted to be determined through a heat gain or heat loss calculation as follows: the required R-value or U-value of an element in the building thermal envelope in Table N1101 may be increased or decreased, provided the total heat gain or loss for the entire building does not exceed the total resulting from conformance to the values specified in Table N1101.

N1105.2 SYSTEMS ANALYSIS

Alternative compliance with the requirements of this chapter shall be permitted to be determined through the use of a systems analysis using a standard design in accordance with Table N1101, and Section N1104. A proposed design complies with this chapter if it has a projected annual energy use for heating, cooling and service water heating not greater than the energy use of the standard design, calculated in accordance with accepted engineering practices. Energy use for both homes shall be calculated based on the same assumptions and building location. The standard design shall have the same floor area, envelope component areas, building orientation, glazing orientation, door areas, and building geometry as the proposed design.

4.1.8 The **2003 Edition of the** ICC/ANSI A117.1 **American National Standard** For Accessible and Usable Buildings and Facilities, **First printing**

4.1.9 The **2003 edition of the** International Existing Building Code, **Third printing**, ~~**with the following exception**~~:

4.1.10 ~~**Omit reference to International Fire Code and substitute NFPA Life Safety Code 2003 Edition.**~~

The 2003 edition of the International Fire Code, Fourth Printing.

4.1.11 The 2005 edition of the National Electric Code, NFPA 70, Printing.

87-4-5 The following structures are not subject to inspection by local jurisdictions:

Group U utility structures and storage sheds comprising an area not more that 150 sq. ft. which have no plumbing or electrical connections and are used only for residential storage purposes. (Examples include sheds that are for residential storage of lawnmowers, tools, bicycles or furniture). Not included are those utility structures and storage sheds which have plumbing or electrical connections are a non-residential use or for the storage of explosives or other hazardous or explosive materials.

87-4-5 A copy of the national standards and codes listed in Subsection 4.1 of this rule have been filed with the Secretary of State. These books, collectively or separately, may be obtained by contacting the International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60477-5795, telephone 1-888-422-7233 or the ICC Store, telephone 1-800-786-4452.

87-4-6 Adoption by Local Jurisdiction

7.1 Each local jurisdiction adopting the State Building Code shall notify the State Fire Commission in writing. The local jurisdiction shall send a copy of the ordinance or order to the State Fire Marshal, West Virginia State Fire Commission, 1207 Quarrier St., 2nd Floor, Charleston, WV 25301, within 30 days of adoption **by the local jurisdiction.** OUT

7.2 Each local jurisdiction which adopts the State Building Code is responsible for the enforcement of the building code as provided for in WV Code 7-1-3n and 8-12-13.

7.3 Throughout the national codes, adopted in subsection 4.1 of this rule are discretionary provisions **or amendments** that require further action by the adopting local jurisdiction in order to adapt these codes to various local conditions. **The appendices are not a part of the code and must also be adopted by the local jurisdiction to be enforceable.** It is therefore the intent of this rule to further authorize each local jurisdiction to further complete, by order or ordinance, those respective areas which are indicated to be completed by the adopting jurisdiction **and any of the appendices the local jurisdiction wishes to adopt.**

7.4 Within the penalty sections of ~~each~~ **some** of the national codes adopted in subsection 4.1 of this rule, there is a penalty for imprisonment. The provision of imprisonment for any violation of this rule is optional with each adopting local jurisdiction.

7.5 ~~Most~~ Some of the national codes adopted in subsection 4.1. of this rule, provide for a separate **board of appeals.** However, the intent and requirements for a board of appeals may be met with the creation by the local jurisdiction of a single **board of appeals** for the entire State Building Code.

87-4-7 Existing Building Codes

8.1 All building codes which have been **previously** adopted by local jurisdictions prior to the passage of WV Code 29-3-5b, in 1988, Are null and void.

State of West Virginia
Department of Military Affairs and Public Safety
Joe Manchin III, Governor

Sterling Lewis, Jr.
State Fire Marshal

Phone: (304) 558-2191
Fax: (304) 558-2537

STATE FIRE MARSHAL'S OFFICE
1207 Quarrier St, 2nd Floor
Charleston, WV 25301

July 20, 2005

Terry Schulte
Harrison County Planning Commission
Courthouse
301 West Main Street
Clarksburg, West Virginia 26301

Ms. Schulte

A regular meeting of the State Fire Commission was held on June 24, 2005. At this meeting proposed revisions to the current State Building Code were discussed. Your comment relative to the International Property Maintenance Code was approved and will be added to the agency approved filing of the State Building Code.

Thank you for your comments. If this commission can be of assistance, please do not hesitate to contact us.

Charles L. Eversole

Charles L. Eversole, Chairman
State Fire Commission

HARRISON COUNTY PLANNING COMMISSION
COURTHOUSE
301 WEST MAIN STREET
CLARKSBURG, WEST VIRGINIA 26301

PHONE (304) 624-8690
FAX (304) 626-1070

RECEIVED
JUN 21 2005
STATE FIRE MARSHAL
ADMINISTRATION

FACSIMILE TRANSMITTAL SHEET

TO: Bill Spencer
FROM: Terry Schulte
COMPANY:
DATE: 6-21-05
FAX NUMBER: 304 558-2537
TOTAL NO. OF PAGES INCLUDING COVER: 3
PHONE NUMBER:
RE: Adoption & Property Maintenance Code: Proposed Change to Legislative Rule

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

Bill -
Attached is an explanation and the proposed legislative rule change.
My office number is (304) 624-8693.
My home number (after 5:00 PM) is (304) 622-1570. Thanks!

TITLE 87
LEGISLATIVE RULE
SRATE FIRE COMMOSSION
SERIES 4
STATE BUILDING CODE

87-4-4 NATIONAL CODES AND STANDARDS

4.1.5 The International Property Maintenance Code, First Edition, 2000. This code may be rejected at the option of the local jurisdiction. Add: This code may be adopted by the local jurisdiction without requiring adoption of the other national codes and standards listed in this section.

West Virginia municipalities and counties that have adopted the "State Building Code" have at their disposal a legally enforceable document titled the "International Property Maintenance Code". This is one of the International Code Council's family of model codes, which has proven an effective tool for dealing with such issues as deteriorated structures, junk motor vehicles, and a variety of health and safety issues. Comprising only nineteen pages, the Property Maintenance Code applies to all structures and premises, and establishes a minimum standard for maintenance as well as procedures for administration (notices and orders, appeals, penalties for non-compliance, court review).

Fifty-one West Virginia counties have not adopted the State Building Code. To do so would require creating a new department, staffed with qualified individuals versed in the basic construction code disciplines (building, plumbing, mechanical, electrical). Those who own property in rural areas typically do not support mandatory building laws, but most responsible people agree on the need for an effective means of addressing property maintenance problems. Citizens of our counties should not have their property values and quality of life diminished by dilapidated structures and junkyards nearby.

Short of adopting the entire State Building Code, the only tool currently available to counties stems from Chapter Seven, Article One, Section 3kk of the West Virginia Code, which empowers counties to enact public nuisance ordinances. Enforcement of such an ordinance may prove a cumbersome undertaking due to the lack of a clear standard and the requirement for direct participation by the county commission in every case.

The West Virginia State Building Code is Title 87, Series 4, a legislative rule promulgated by the WV State Fire Commission pursuant to Chapter 29, Article 3, Section 5b of the West Virginia Code. This rule authorizes any county or municipality to adopt only the specified model codes with such modifications as have been made by the Fire Commission. Section 4.1.5 of the Fire Commission Rule states that the International Property Maintenance Code may be rejected at the option of the local jurisdiction. An amendment to this section may allow counties to adopt the property maintenance code alone, without being required to regulate and inspect all aspects of construction.

Following adoption of the Property Maintenance Code, a violation would be cited by a designated compliance officer. Failure to comply with a notice of violation would result in referral to a magistrate court, where pre-determined fines and penalties may be imposed.

July 25, 2005

Mr. Chris A. Ilardi
Home Builders Association of West Virginia
700 Virginia Street, West
Charleston, WV 25302

RE: 2005 Building Codes

Dear Mr. Ilardi:

Thank you for providing comments to the State Fire Commission at the June 21st, 2005 Public Hearing held at the State Fire Marshal's Office. The Fire Commission, in amending the 2005 International Building Code, has considered both your comments, and the comments of others in preparing the Code for filing with the Secretary of State's Office.

I am attaching a copy of the State Building Code, as amended, to illustrate the amendments the State Fire Commission has adopted. Please consider this document as the response to your comments.

The amendments that have been adopted reflect the changes that have occurred in the Building Codes since the publication of the 2000 edition, including the latest updates of supporting Codes and Standards, as well as language specific to the State of West Virginia laws and Legislative Rules that govern the State Fire Commission. The International Residential Code, Chapter 11 amendments, were made to allow housing costs to be more affordable to West Virginia citizens, adopting the provisions listed in the 2000 edition of the Code.

Again, thank you for your comments and your attendance at the Public Hearing.

Sincerely yours,

Francis A. Guffey, II, FAIA
Chair, WV Fire Commission Building Codes Committee

HOME BUILDERS ASSOCIATION OF WEST VIRGINIA

A MEMBER OF THE NATIONAL ASSOCIATION OF HOME BUILDERS

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June 21, 2005

Mr. Frances Guffey, Chairman
Codes Committee
State Fire Commission
1207 Quarrier Street, 2nd Floor
Charleston. WV 25301

Dear Mr. Guffey,

Re: WV Building Code

We appreciate the opportunity to participate in discussions today concerning the adoption of a new residential code for West Virginia.

Throughout this process, we have had meetings and conversations with Mr. Bob Cannon (WV Code Officials Association) and he has given us the list of amendments that he suggests be incorporated in the proposed new rules and regulations. Many of these suggestions are clarifications which, in our opinion, strengthen the language.

Other suggestions would be the deletion of some of the proposed language .. which is already addressed in the 2003 International Residential Code (IRC) and we concur with Mr. Cannon that the IRC language addresses the concerns which we had when the 2000 IRC edition was adopted. We further concur that we should adopt the Chapter 11 Energy Code amendments from the 2000 IRC. These are much less restrictive than the 2003 and, we believe, serve the citizens of West Virginia very well and in a cost effective manner.

Sincerely,

Chris A. Ilardi, Chairman
Government Affairs Committee

A Building Force.

July 25, 2005

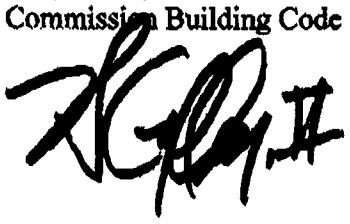
To Whom It May Concern:

The West Virginia State Fire Commission held a Public Hearing on June 21, 2005, commencing at 1:00 pm for the purpose of gathering written and oral comments concerning the adoption of the 2003 International Building Codes.

Attached are the written comments, the transcript of the meeting, the names of the attendees, and the amendments adopted by the State Fire Commission.

The reason for the amendments are the changes made in the International Building Code as well as supporting Codes and Standards that have occurred since the adoption of the 2000 edition of these same Codes.

Respectfully submitted, Francis A. Guffey, II, FAIA, Chair, West Virgina State Fire Commission Building Code Committee.



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