## STATE OF STA

## **RULE-MAKING ORDER**

CR-103P (May 2009) (Implements RCW 34.05.360)

Agency: State Building Code Council	Permanent Rule Only			
Effective date of rule:  Permanent Rules  □ 31 days after filing.  □ Other (specify) July 1, 2013 (If less than 31 days after filing, a specific below)	finding under RCW 34.05.380(3) is required and should be stated			
Any other findings required by other provisions of law as precord ☐ Yes ☐ No If Yes, explain:	dition to adoption or effectiveness of rule?			
Purpose:				
Adoption and amendment of the 2012 International Energy Cor Residential portion is adopted under WAC 51-11R in a separat repeal of the 2009 Washington State Energy Code, WAC 51-12	e filing. The filing for WAC 51-11R includes the			
Citation of existing rules affected by this order: Repealed: Amended: Suspended:				
Statutory authority for adoption: RCW 19.27A.020 and 19.27A.0	25			
Other authority: RCW 19.27 and RCW 34.05				
PERMANENT RULE (Including Expedited Rule Making) Adopted under notice filed as WSR 12-16-088 on 07/31/2012 (date).				
Describe any changes other than editing from proposed to adopte See attached	ed version:			
If a preliminary cost-benefit analysis was prepared under RCW 34.05.328, a final cost-benefit analysis is available by contacting:  Name: Tim Nogler Address: PO Box 41449 Fax Olympia WA 98504-1449 Phone (360) 407-9277 Fax				
Date adopted: Nov. 30, 2012	CODE REVISER USE ONLY			
	COSE NEVICEN COL CIVE			
NAME (TYPE OR PRINT) C. Ray Allshouse	OFFICE OF THE CODE REVISER STATE OF WASHINGTON FILED			
SIGNATURE Chay allane	DATE: February 01, 2013 TIME: 11:04 AM			
	1 1110 - 10 01 050			

TITLE

Council Chair

WSR 13-04-056

(COMPLETE REVERSE SIDE)

## Note: If any category is left blank, it will be calculated as zero. No descriptive text.

Count by whole WAC sections only, from the WAC number through the history note.  A section may be counted in more than one category.						
The number of sections adopted in order to comply with:						
Federal statute:	New		Amended	Repealed		
Federal rules or standards:	New		Amended	Repealed		
Recently enacted state statutes:	New		Amended	Repealed		
The number of sections adopted at the	e reques	t of a nong	jovernmental entity:			
	New	<u>288</u>	Amended	Repealed		
The number of sections adopted in the	e agency	's own init	tiative:			
	New		Amended	Repealed		
The number of sections adopted in order to clarify, streamline, or reform agency procedures:						
	New		Amended	Repealed		
The number of sections adopted using	g:					
Negotiated rule making:	New		Amended	Repealed		
Pilot rule making:	New		Amended	Repealed		
Other alternative rule making:	New	<u>288</u>	Amended	Repealed		

## Describe any changes other than editing from proposed to adopted version:

- 1. Section 51-11C-10140, Section C101.4.3: Based on testimony received, the lighting alterations in existing buildings language was clarified and coordinated with the percentage requirements in Section C101.4.3.1
- 2. Section 51-11C-10140, Section C101.4.4: Based on testimony received by the Council, the language regarding change in use or occupancy was clarified. An exception was also added to allow a 10% higher energy use for existing buildings when using either the component performance method or total building performance method to comply with the code. This makes it much easier to comply and rehabilitate existing buildings.
- 3. Section 51-11C-10140, Section C101.4.5: This section was coordinated with requirements for semi-heated spaces. An exception was also added to allow a 10% higher energy use for existing buildings when using either the component performance method or total building performance method to comply with the code.
- 4. Section 51-11C-10150, Section C101.5.2: Based on testimony received, low energy buildings were exempted from all thermal envelope requirements, not just the wall requirements.
- 5. Section 51-11C-10150, Section C101.5.2.1: This section was added to coordinate with the requirements for semi-heated space.
- 6. Section 51-11C-20204, Definition of Daylight Zone: Based on testimony received, the description of under atrium glazing (which was proposed in 2011 and tabled at that time) was included in this definition to assist in the design of multi-story atriums.
- 7. Section 51-11C-20212, Definition of Low Voltage Lighting: Based on testimony received, the definition of low voltage lighting was modified to remove the amperage reference. It was suggested there are products available with ratings above the 25 amp specification.
- 8. Section 51-11C-20219, Definition of Semi-Heated Space: Based on testimony provided, the definition of semi-heated space was modified and simplified to apply a single set of criteria to all climate zones.
- 9. Section 51-11C-30100, Section C301: Sections C301.2 (Warm humid counties) and C301.3 (International climate zones) were removed for clarity since these designations are not used in Washington State.
- 10. Section 51-11C-402131, Equation C402.1: Target UA Based on testimony received, the formula was adjusted to split out vertical glazing and skylights, to correlate with IECC language.
- 11. Section 51-11C-402121, Table C402.1.2: Mass Wall Envelope Requirements The Council, after reviewing all testimony regarding mass wall U-values, voted to move forward with Option 2 and the less stringent requirements for U-values. The associated footnote (d) was modified for better clarity and enforceability.
  - Unheated slabs the perimeter insulation F-value was changed to 0.54. See item 12 for more information.
- 12. Section 51-11C-402220, Table C402.2: Based on comments received, the thermal block requirement for Roof, Metal Building was changed to R-3.5 for consistency with ASHRAE.
- 13. Section 51-11C-402220, Table C402.2: Based on the cost benefit analysis performed, the perimeter insulation required for unheated slabs was reduced from R-20 to R-10. The analysis showed negligible energy savings for the proposed increase in insulation.

- 14. Section 51-11C-402200, Table C402.2: Footnote f The table for continuous insulation values using metal fasteners was modified based on information from an ASHRAE study showing less heat loss than previously estimated. In addition, the definition for continuous insulation was modified to reflect this information.
- 15. Section 51-11C-40225, Section C402.2.5: Corrected the mass floor material weight reference (<del>12</del> 120 pcf) per the International Code Council errata.
- 16. Section 51-11C-40232, Section C402.3.2: Skylight Area "Storage" was removed from the list of occupancy types, and the requirement was limited to single story buildings. The missing equation C4-1 (ICC errata) was also added.
- 17. Section 51-11C-40241, Section C402.4.1.2: Air Barrier Testing Based on testimony received, the council amended this section to require air barrier testing for all commercial buildings.
- 18. Section 51-11C-403231, Tables C403.2.3.1(1) editorial corrections: A-D: Correct table title; A: Corrected EER value for Air conditioners, water cooled ≥760,000 Btu/hr; IEER value for condensing unit, air cooled; removed small duct high velocity (air cooled) category per ASHRAE 90.1 errata B: Add "greater than or equal to" symbols; D: Correct VRF EER in D: 11.2 11.0
- 19. Section 51-11C-403232, Table C403.2.3.1(2): Corrected through the wall, air cooled (cooling mode) SEER values per ASHRAE 90.1 errata; removed single duct high velocity, air cooled category per ASHRAE 90.1 errata,
- 20. Section 51-11C-403233, Table C403.2.3(3): Corrected efficiency requirements for PTHP (heating mode) new construction per the International Code Council errata; fixed references to with/without louvered sides in room air conditioner categories; added ASHRAE 90.1 labeling requirements for replacement units as alternate in footnote b.
- 21. Section 51-11C-40324, Section C403.2.4: Added reference to Sections C403.4.5 through C403.4.10 to the scoping section to include requirements from WSEC.
- 22. Section 51-11C-403244, Section C403.2.4.4: Shut Off Damper Controls Based on testimony received, an exception was added to correlate with the International Mechanical Code.
- 23. Section 51-11C-403248, Sections C403.2.4.8 and C403.2.4.9: Added missing language from 2009 WSEC to the thermostatic control requirements.
- 24. Section 51-11C-403553, Section C403.2.5.3: Garage Ventilation Based on testimony received, the controls were correlated with the International Mechanical Code requirements.
- 25. Section 51-11C-403294, Section C403.2.12: Fan and Pump Systems Clarification that the requirements apply to motor nameplate horsepower.
- 26. Section 51-11C-40331, Section C403.3.1.1: Economizers (Simple systems) Based on testimony received, language from the 2009 WSEC was included for integrated controls in equipment >65,000 Btu/h for clarity and to maintain the stringency from the WSEC.
- 27. Section 51-11C-40341, Section C403.4.1: Economizers In response to testimony received, the 2009 WSEC economizer exception for chilled water systems was retained to provide additional flexibility, especially for existing buildings.
- 28. Section 51-11C-40343, Section C403.4.3.4: Economizers (Complex systems) Based on testimony received, additional language was provided to add clarification of part load requirements for heat pumps.

- 29. Section 51-11C-40345, Section C403.4.5: VAV System requirements Based on testimony received, an item was added to allow maintaining ventilation rates required by other codes or standards.
- 30. Section 51-11C-404021, TableC404.2: Editorial adjustments to various errors in the table for greater than/less than symbols; correct placement of footnote c in instantaneous water heaters, gas
- 31. Section 51-11C-40406, Section C404.6: Pipe Insulation Based on testimony received, a second exception was added for hot water piping outside of the recirculation zone.
- 32. Section 51-11C-40410, Section C404.10: Corrected reference in scoping section; corrected reference to ASHRAE 146
- 33. Section 51-11C-40501, Section C405.1: Dwelling Unit Lighting Based on testimony received, the original IECC requirement for percentage of high efficacy lighting was retained, changing from 50% to 75% of lamps.
- 34. Section 51-11C-405022, Section C405.2.2.3.3: Added this section with "Reserved" to clarify this section of the IECC is not adopted.
- 35. Section 51-11C-405023, Section C405.2.3: Emergency Lighting Controls Based on testimony received, the language in this section was modified to clarify intent.
- 36. Sections 51-11C-40600 through -40605, Section C406: Commercial Additional Energy Efficiency Measures Based on testimony provided and in light of legal questions, this section was not adopted. To coordinate this change with the total building performance method, the percentage cited in Section C401.2 was also modified.
- 37. Section 51-11C-407051, Table C407.5.1: Total Building Performance method the following modifications were made based on testimony received at the public hearings:
  - The standard reference design specifications for heat pumps was modified to include heat pump and package terminal heat pump reference standards.
  - Modify footnote h to ensure air-source heat pumps with auxiliary heat are modeled consistently.
- 38. Section 51-11C-40801, Section C408.1, Commissioning: Added service water heating and energy metering into the scoping sections since there are commissioning requirements for these systems.
- 39. Section 51-11C-40901, C409.1: Metering, General Based on testimony provided the threshold for the size of buildings requiring metering was increased to 50,000 square feet.
- 40. Section 51-11C-40903, C409.3: Metering, end use Based on testimony, an exception was provided to end use metering for electrical energy fed through VFDs.
- 41. Section 51-11C-40904, C409.4: Metering, meters Based on testimony provided, adjustments were made to the accuracy requirements to be more in line with current capabilities; the display requirements were modified to allow on-line displays and third party services.
- 42. Section 51-11C-40905, C409.5.1.1: Metering, existing buildings The requirements for existing buildings were modified to coordinate with the increased size threshold and the language simplified.
- 43. Section 51-11C-50000, Chapter 5: Updated Reference Standards for NFRC from 2007 to 2010 editions; added ANSI/ASME A17.1, IAPMO/UPC and NEMA TP-1
- 44. Section 51-11C-610337: Table A103.3.7.1(1): Based on testimony given at the public hearings, note 5 was added to the CMU tables to provide information on the origin of the values.
- 45. Section 51-11C-610337: Table A103.3.7.1(2) Add missing footnotes to table for Default U-Factors for Concrete and Masonry Walls: made various corrections to errors in U-values Corrected reference for metal clips based on the change described in item 14 Corrected U-values under continuous insulation, no framing

- 46. Section 51-11C-610337: Table A103.3.7.2 Add missing footnotes to table for Peripheral Edges of Intermediate Concrete Floors
- 47. Section 51-11C-61041, Table A104.1: Corrected U-value for Below grade walls, 3.5 foot: 0.0278
- 48. Section 51-11C-61081, Section A108.1, Air infiltration: Corrected section reference to air leakage requirements in the residential code, WAC 51-11R.