

Analysis of Changes for the 7th Edition (2020) Florida Codes

Changes to the Florida Building Code, Energy Conservation

This *Analysis of Changes for the 7th Edition (2020) of the Florida Codes* is intended to provide a comprehensive comparison of the provisions in the *6th Edition (2017) Florida Building Code, Energy Conservation (FBCEC)* and the *7th Edition (2020) Florida Building Code, Energy Conservation*. The *2015 International Energy Conservation Code (IECC)* was the base code for the *6th Edition (2017) FBCEC*. The *6th Edition (2017) FBCEC* is the base code for the *7th Edition (2020) FBCEC*, with changes coming from both the 2018 IECC and other Florida Building Commission approved modification proposals. This *Analysis* will serve as a useful tool to facilitate the transition to the new code.

The *Analysis* is arranged so that comparable provisions in the two codes can be easily located. The left two columns contain section numbers and a brief overview of the corresponding requirements from the *6th Edition (2017) FBCEC*. The next two columns contain section numbers and a brief overview of the corresponding requirements in the *7th Edition (2020) FBCEC*. The far right column contains a brief analysis or comment on the differences between the provisions.

This *Analysis* is not intended to replace or interpret the provisions contained in either the *6th Edition (2017)* or the *7th Edition (2020) FBCEC*. This information simply points out the differences. The *Analysis* is not designed to be used without the aid of the representative code books, as all the details pertaining to a specific section may or may not be provided. However, this *Analysis* will provide an easy means for identifying differences in the two codes, as well as enabling the user to locate issue specific provisions in the *7th Edition (2020) FBCEC* by means of a numbered section cross reference.

Notable changes deemed to be the most significant or to have the greatest impact have been highlighted in **yellow**.

6 th Edition (2017) FBCEC		7 th Edition (2020) FBCEC		Analysis
Section	Requirement	Section	Requirement	
CHAPTER 2 [CE] DEFINITIONS				
C202	Definitions deleted: Fan efficiency grade (FRG) General purpose electric motor (subtype I) General purpose electric motor (subtype II) Low-voltage lighting Readily accessible Screw lamp holders	-	-	Definitions deleted.
-	-	C202	New definitions added: Access (To) Captive key override Cavity insulation Fan, embedded Fan array Fan energy index (FEI) Fan nameplate electrical input power Fan system electrical input power IEC design H motor IEC design N motor Isolation Devices Luminaire-level lighting controls NEMA design A motor NEMA design B motor NEMA design C motor Networked guestroom control system Ready access (To) Visible transmittance (annual) [VT _{annual}]	New definitions.

C202	Building thermal envelope	C202	Building thermal envelope	Editorial changes to clarify definition of <i>Building Thermal Envelope</i> .
C202	Computer room	C202	Computer room	Modified <i>Computer Room</i> definition. Changed design electronic data equipment power density requirement from exceeding 20 Watts per square foot to less than 20 Watts per square foot of conditioned floor area or connected design electronic data equipment load of less than 10kW.
C202	Entrance door	C202	Entrance door	Editorial changes to clarify <i>Entrance Door</i> definition and replaced <i>fenestration</i> by <i>vertical fenestration</i> .
C202	Fan system design conditions	C202	Fan system design conditions	Modified the definition of <i>Fan System Design Condition</i> to exclude air economizer operation condition.
C202	Fenestration	C202	Fenestration	Editorial changes to clarify the definition of <i>Fenestration</i> .
C202	Nameplate horsepower	C202	Nameplate horsepower	Replaced <i>nominal motor horsepower</i> with <i>nominal motor output power</i> to clarify the definition of <i>Nameplate Horsepower</i> .
C202	Roof assembly	C202	Roof assembly	Editorial changes to <i>Roof Assembly</i> to clarify the definition. Now roof assembly may include <i>thermal</i> and <i>ignition barrier</i> material layers as well.
CHAPTER 3 [CE] GENERAL REQUIREMENTS				
C303.1.3	Fenestration product rating	C303.1.3	Fenestration product rating	Clarified which standard is applicable for rating <i>u-factor</i> of fenestration products.
Table C303.1.3(2)	Default Door <i>U</i> -Factors	Table C303.1.3(2)	Default Opaque Door <i>U</i> -Factors	Changed Table C303.1.3(2) caption.
Table C303.1.3(3)	Default Glazed Fenestration SHGC And VT	Table C303.1.3(3)	Default Window, Glass Door and Skylight SHGC And VT	Changed Table C303.1.3(3) caption.
C304.2.1	Single materials	C304.2.1	Single materials	Replaced building material R-values and thermal conductivities determination testing standard <i>ASTM 236</i> with <i>ASTM 1363</i> .
CHAPTER 4 [CE] COMMERCIAL ENERGY EFFICIENCY				
C401.2	Application	C401.2	Application	Updated commercial buildings compliance method requirements: <ul style="list-style-type: none"> Revised ANSI/ASHRAE/IESNA 90.1-2016 standard application to exempt sections 8.4.2 <i>Automatic receptacle control</i> and 8.4.3 <i>Energy</i>

				<p><i>monitoring requirements</i> in addition to section 9.4.1.1(g)</p> <ul style="list-style-type: none"> Revised code compliance to include updated section C408 <i>Maintenance Information and System Commissioning</i> as well.
-	-	C401.2.1	Commissioning	Added new sub-section C401.2.1. Commissioning. Added <i>commissioning</i> requirement for commercial buildings and tenants to comply with an updated section C408 <i>Maintenance Information and System Commissioning</i> .
C401.2.1	Application to replacement fenestration products	C401.2.2	Application to replacement fenestration products	Section re-numbered.
C402.1	General (Prescriptive)	C402.1	General (Prescriptive)	Updated walk-in coolers, walk-in freezers, refrigerated warehouse coolers and refrigerated warehouse freezers requirements to comply with revised section C403.2.14 instead of section C403.2.15 or C403.2.16.
Table C402.1.4	Opaque Thermal Envelope Assembly Maximum Requirements, U-Factor Method	Table C402.1.4	Opaque Thermal Envelope Assembly Maximum Requirements, U-Factor Method	Updated the maximum <i>U-Factor</i> values of opaque doors. Opaque doors are now split into <i>Swinging doors</i> and <i>Garage doors</i> with glazing less than 14% categories and <i>U-factor</i> values are provided for each category by climate zones. U-Factor less than or equal to 0.44 can be used for <i>Garage doors</i> with glazing area greater than 14% and less than 25% of the total door area.
C402.4.1.2	Increased skylight area with daylight responsive controls	C402.4.1.2	Increased skylight area with daylight responsive controls	The maximum allowed skylight area must not exceed 6.0%, which is increased from 5.0%, of the gross roof area or that required for compliance with section C402.4.2, Item 1, whichever is greater.
C402.4.2	Minimum skylight fenestration area	C402.4.2	Minimum skylight fenestration area	<p>Editorial changes for clarification.</p> <p>Also, the revised skylights Visual Transmittance (VT) requirement can be met either with minimum VT or minimum VT_{annual} values as follows:</p> <ul style="list-style-type: none"> A minimum skylight area to toplit daylight zone not less than 3 percent where all skylights have a VT of at least 0.40, or <i>alternatively its VT_{annual} must be not less than 0.26</i> as determined in accordance with section C303.1.3 A minimum skylight effective aperture determined in accordance with Equation 4-4 of can now comply with:

				<ul style="list-style-type: none"> • <i>Not less than 1 percent, using a skylight's VT rating; or,</i> • <i>Not less than 0.66 percent using a Tubular Daylighting Device's VTannual rating</i> • Also, Well Factor (WF) in Equation 4-4 for tubular Daylighting Devices is 1.0 with VTannual ratings alternative. <p>Modified exceptions item(5) that spaces where the total area minus the area of <i>sidelight daylight zones</i> instead of <i>daylight zones</i> is less than 2,500 square feet (232 m²), and where the lighting is controlled according to section C405.2.3.</p>
C402.4.2.1	Lighting controls in daylight zones under skylights	C402.4.2.1	Lighting controls in toplit zones	Edited the sub-section title and the code description by replacing <i>daylight zones under skylights</i> with <i>toplit zones</i> .
C402.4.2.2	Haze factor	C402.4.2.2	Haze factor	Modified the exception to include <i>tubular daylighting devices</i> as follows: <i>Skylights and/or tubular daylighting devices designed and installed to exclude direct sunlight entering the occupied space by using fixed or automated baffles, the geometry of skylight and light well, or the use of optical diffuser components.</i>
-	-	C402.4.4	Daylight zones	Added new section C402.4.4 Daylight zones. Daylight zones referenced in sections C402.4.1.1 through C402.4.3.2 must comply with sections C405.2.3.2 and C405.2.3.3, as applicable. Daylight zones must include <i>toplit zones</i> and <i>sidelit zones</i> .
C402.4.4	Doors	C402.4.5	Doors	Sub-section re-numbered.
Table C402.5.2	Maximum Air Leakage Rate For Fenestration Assemblies	Table C402.5.2	Maximum Air Leakage Rate For Fenestration Assemblies	Added <i>Power-operated sliding doors, power-operated folding doors, and Commercial glazed swinging entrance doors</i> as new fenestration assembly categories with maximum air leakage rate of 1.0 (cfm/ft ²).
C402.5.6	Loading dock weatherseals	C402.5.6	Loading dock weatherseals	Added clarification regarding cargo doors and loading dock opening sealing requirements to restrict infiltration by providing direct contact along the top and sides of vehicles parked in the doorway.

C403.1	General	C403.1	General	Updated walk-in coolers, walk-in freezers, refrigerated warehouse coolers and refrigerated warehouse freezers requirements to comply with section C403.2.14 instead of section C403.2.15 or C403.2.16.
C403.2	Provisions applicable to all mechanical systems (Mandatory)	C403.2	Provisions applicable to all mechanical systems (Mandatory)	Mechanical systems and equipment serving the building heating, cooling or ventilating needs compliance requirement covers sections C403.2.1 through C403.2.14.
Table C403.2.3(1)	Minimum Efficiency Requirements: Electrically Operated Unitary Air Conditioners and Condensing Units	Table C403.2.3(1)	Minimum Efficiency Requirements: Electrically Operated Unitary Air Conditioners and Condensing Units	<p>Minimum cooling efficiency of split system air-cooled air conditioners with cooling capacity less than 65 kBtu/h for all heating section type increased to 14.0 SEER from 13.0.</p> <p>Minimum cooling efficiency of split system air-cooled small-duct high-velocity air conditioners with cooling capacity less than 65 kBtu/h for all heating section type increased to 12.0 SEER from 11.0.</p> <p>Minimum cooling efficiency of air-cooled air conditioners with cooling capacity greater or equal to 65 kBtu/h and less than 135 kBtu/h for heating section type <i>Electric Resistance or None</i> increased to 12.9 IEER from 12.8, and for heating section type <i>All other</i> increased to 12.7 IEER from 12.6.</p>
Table C403.2.3(2)	Minimum Efficiency Requirements: Electrically Operated Unitary and Applied Heat Pumps	Table C403.2.3(2)	Minimum Efficiency Requirements: Electrically Operated Unitary and Applied Heat Pumps	<p>Minimum cooling efficiency of split system air-cooled single-duct high-velocity unitary and applied heat pumps with cooling capacity less than 65 kBtu/h increased to 12.0 SEER from 11.0.</p> <p>Minimum heating efficiency of split system air-cooled small-duct high-velocity unitary and applied heat pumps with cooling capacity less than 65 kBtu/h increased to 7.2 HSPF from 6.80.</p>
Table C403.2.3(3)	Minimum Efficiency Requirements: Electrically Operated Packaged Terminal Air Conditioners (PTAC), Packaged Terminal Heat Pumps (PTHP), Single-Package Vertical Air Conditioners (SPVAC), Single-Package Vertical Heat Pumps (SPVHP),	Table C403.2.3(3)	Minimum Efficiency Requirements: Electrically Operated Packaged Terminal Air Conditioners (PTAC), Packaged Terminal Heat Pumps (PTHP), Single-Package Vertical Air Conditioners (SPVAC), Single-Package Vertical Heat Pumps (SPVHP),	<p>Minimum heating efficiency of PTHP for new construction and all capacities changed to $COP = 3.7 - (0.052 \times Cap/1000)$ from $COP = 3.2 - (0.026 \times Cap/1000)$.</p> <p>Minimum cooling efficiency of SPVAC for cooling capacity less than 65 kBtu/h increased to 11.0 EER from 9.0, for cooling capacity greater or equal to 65 kBtu/h and less than 135 kBtu/h increased to 10.0</p>

	<p>Room Air Conditioner and Room Air-Conditioner Heat Pumps</p>		<p>Room Air Conditioner and Room Air-Conditioner Heat Pumps</p>	<p><i>EER</i> from 8.9, and for cooling capacity greater than 240 kBtu/h increased to 10.0 <i>EER</i> from 8.6.</p> <p>Minimum cooling efficiency of <i>SPVHP</i> for cooling capacity less than 65 kBtu/h increased to 11.0 <i>EER</i> from 9.0, for cooling capacity greater or equal to 65 kBtu/h and less than 135 kBtu/h increased to 10.0 <i>EER</i> from 8.9, and for cooling capacity greater than 240 kBtu/h increased to 10.0 <i>EER</i> from 8.6.</p> <p>Minimum heating efficiency of <i>SPVHP</i> for cooling capacity less than 65 kBtu/h increases to 3.30 <i>COP</i> from 3.0, and for cooling capacity greater than 240 kBtu/h increased to 3.0 <i>COP</i> from 2.9.</p> <p>New "CEER" rating replaces "SEER" and "EER" for room air conditioners and heat pumps with and without louvered sides. Minimum cooling efficiency of <i>room air conditioners, with louvered sides</i> for cooling capacity less than 6.0 kBtu/h increased to 11.0 CEER from 9.7 SEER, for cooling capacity greater or equal to 6.0 kBtu/h and less than 8.0 kBtu/h increased to 11.0 CEER from 9.7 EER, for cooling capacity greater or equal to 8.0 kBtu/h and less than 14.0 kBtu/h increased to 10.9 CEER from 9.8 EER, for cooling capacity greater or equal to 14.0 kBtu/h and less than 20.0 kBtu/h increased to 10.7 CEER from 9.7 SEER, for cooling capacity greater or equal to 20.0 kBtu/h and less than 25.0 kBtu/h increased to 9.4 CEER from 8.5 EER, and for cooling capacity greater than 25.0 kBtu/h increased to 9.0 CEER from 8.5 EER.</p> <p>Minimum cooling efficiency of <i>room air conditioners, without louvered sides</i> for cooling capacity less than 6.0 kBtu/h increased to 10.0 CEER from 9.0 EER, for cooling capacity greater or equal to 6.0 kBtu/h and less than 8.0 kBtu/h increased to 10.0 CEER from 9.0 EER, for cooling capacity greater or equal to 8.0 kBtu/h and less than 11.0 kBtu/h increased to 9.6 CEER from 8.5 EER, for cooling capacity greater or equal to 11.0 kBtu/h and less than 14.0 kBtu/h increased to 9.5 CEER from 8.5 EER, for cooling capacity greater or equal to 14.0 kBtu/h and less</p>
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<p>Table C403.2.3(5)</p>	<p>Minimum Efficiency Requirements: Gas- and Oil- Fired Boilers</p>	<p>Table C403.2.3(5)</p>	<p>Minimum Efficiency Requirements: Gas- and Oil- Fired Boilers</p>	<p>Minimum efficiency of gas-fired hot water boiler for capacity less than 300 kBtu/h increased to 84% AFUE from 80%. This boiler must be equipped with a constant burning ignition pilot and an automatic means for adjusting the temperature of the water.</p> <p>Minimum efficiency of oil-fired hot water boiler for capacity less than 300 kBtu/h increased to 86% AFUE from 80%. This boiler must be equipped with an automatic means for adjusting the temperature of the water.</p> <p>Minimum efficiency of gas-fired steam boiler for capacity less than 300 kBtu/h increased to 82% AFUE from 75%.</p> <p>Minimum efficiency of gas-fired natural draft steam boiler for capacity greater or equal to 300 kBtu/h will increase to 79% AFUE from 77% effective March 2, 2022.</p>

				Minimum efficiency of oil-fired steam boiler for capacity less than 300 kBtu/h increased to 85% AFUE from 80%.
Table C403.2.3(8)	Minimum Efficiency Requirements: Heat Rejection Equipment	Table C403.2.3(8)	Minimum Efficiency Requirements: Heat Rejection Equipment	Minimum efficiency of closed-circuit cooling tower with propeller or axial fan increased to 16.1 gpm/hp from 14.0.
Table C403.2.3(9)	Minimum efficiency of Air Conditioners and Condensing Units Serving Computer Rooms	Table C403.2.3(9)	Minimum efficiency of Air Conditioners and Condensing Units Serving Computer Rooms	<p>Minimum efficiency of <i>Air Conditioners and Condensing Units Serving Computer Rooms</i> increased for all capacity ranges for <i>air-cooled, water-cooled, water-cooled with fluid economizer, glycol-cooled</i> and <i>glycol-cooled with fluid economizer</i> equipment type. The updated minimum efficiency is now classified based on four airflow directions for every capacity range by equipment type.</p> <p>For <i>air-cooled</i> units and capacity less than 65 kBtu/h the COP increased to 2.30 for <i>Downflow</i>, 2.10 for <i>Upflow-ducted</i>, 2.09 for <i>Upflow-nonducted</i>, and 2.45 for <i>Horizontal-flow</i>.</p> <p>For <i>air-cooled</i> units and capacity greater or equal to 65 kBtu/h and less than 240 kBtu/h the COP increased to 2.20 for <i>Downflow</i>, 2.05 for <i>Upflow-ducted</i>, 1.99 for <i>Upflow-nonducted</i>, and 2.35 for <i>Horizontal-flow</i>.</p> <p>For <i>air-cooled</i> units and capacity greater than 240 kBtu/h the COP increased to 2.00 for <i>Downflow</i>, 1.85 for <i>Upflow-ducted</i>, 1.79 for <i>Upflow-nonducted</i>, and 2.15 for <i>Horizontal-flow</i>.</p> <p>For <i>water-cooled</i> units and capacity less than 65 kBtu/h the COP increased to 2.50 for <i>Downflow</i>, 2.30 for <i>Upflow-ducted</i>, 2.25 for <i>Upflow-nonducted</i>, and 2.70 for <i>Horizontal-flow</i>.</p> <p>For <i>water-cooled</i> units and capacity greater or equal to 65 kBtu/h and less than 240 kBtu/h the COP increased to 2.40 for <i>Downflow</i>, 2.20 for <i>Upflow-ducted</i>, 2.15 for <i>Upflow-nonducted</i>, and 2.60 for <i>Horizontal-flow</i>.</p>

				<p>For <i>water-cooled</i> units and capacity greater than 240 kBtu/h the COP increased to 2.25 for <i>Downflow</i>, 2.10 for <i>Upflow-ducted</i>, 2.05 for <i>Upflow-nonducted</i>, and 2.45 for <i>Horizontal-flow</i>.</p> <p>For <i>water-cooled with fluid economizer</i> units and capacity less than 65 kBtu/h the COP increased to 2.45 for <i>Downflow</i>, 2.25 for <i>Upflow-ducted</i>, 2.20 for <i>Upflow-nonducted</i>, and 2.60 for <i>Horizontal-flow</i>.</p> <p>For <i>water-cooled with fluid economizer</i> units and capacity greater or equal to 65 kBtu/h and less than 240 kBtu/h the COP increased to 2.35 for <i>Downflow</i>, 2.15 for <i>Upflow-ducted</i>, 2.10 for <i>Upflow-nonducted</i>, and 2.55 for <i>Horizontal-flow</i>.</p> <p>For <i>water-cooled with fluid economizer</i> units and capacity greater than 240 kBtu/h the COP increased to 2.20 for <i>Downflow</i>, 2.05 for <i>Upflow-ducted</i>, 2.00 for <i>Upflow-nonducted</i>, and 2.40 for <i>Horizontal-flow</i>.</p> <p>For <i>glycol-cooled</i> units and capacity less than 65 kBtu/h the COP increased to 2.30 for <i>Downflow</i>, 2.10 for <i>Upflow-ducted</i>, 2.00 for <i>Upflow-nonducted</i>, and 2.40 for <i>Horizontal-flow</i>.</p> <p>For <i>glycol-cooled</i> units and capacity greater or equal to 65 kBtu/h and less than 240 kBtu/h the COP increased to 2.05 for <i>Downflow</i>, 1.85 for <i>Upflow-ducted</i>, 1.85 for <i>Upflow-nonducted</i>, and 2.15 for <i>Horizontal-flow</i>.</p> <p>For <i>glycol-cooled</i> units and capacity greater than 240 kBtu/h the COP increased to 1.95 for <i>Downflow</i>, 1.80 for <i>Upflow-ducted</i>, 1.75 for <i>Upflow-nonducted</i>, and 2.10 for <i>Horizontal-flow</i>.</p> <p>For <i>glycol-cooled with fluid economizer</i> units and capacity less than 65 kBtu/h the COP increased to 2.25 for <i>Downflow</i>, 2.10 for <i>Upflow-ducted</i>, 2.00 for <i>Upflow-nonducted</i>, and 2.35 for <i>Horizontal-flow</i>.</p> <p>For <i>water-cooled with fluid economizer</i> units and capacity greater or equal to 65 kBtu/h and less than 240 kBtu/h the COP increased to 1.95 for <i>Downflow</i>,</p>
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				<p>1.80 for <i>Upflow-ducted</i>, 1.75 for <i>Upflow-nonducted</i>, and 2.10 for <i>Horizontal-flow</i>.</p> <p>For <i>water-cooled with fluid economizer</i> units and capacity greater than 240 kBtu/h the COP increased to 1.90 for <i>Downflow</i>, 1.80 for <i>Upflow-ducted</i>, 1.70 for <i>Upflow-nonducted</i>, and 2.10 for <i>Horizontal-flow</i>.</p>
Table C403.2.3(11)	Minimum Efficiency Requirements: Variable Refrigerant Flow Multi-Split Air Conditioners and Heat Pumps	Table C403.2.3(11)	Minimum Efficiency Requirements: Variable Refrigerant Flow Multi-Split Air Conditioners and Heat Pumps	<p>The minimum efficiency of <i>air-cooled Variable Refrigerant Flow (VRF) Multi-split Heat Pumps</i> for <i>All other</i> heating type and cooling capacity greater or equal to 240 kBtu/h and less than 760 kBtu/h reduced to 9.3 <i>EER</i> from 9.8 and assigned a new 3.2 <i>COP efficiency for heating mode</i>.</p> <p>The minimum heating efficiency of <i>water-source Variable Refrigerant Flow (VRF) Multi-split Air Conditioners</i> for capacity less than 135 kBtu/h increased to 4.3 <i>COP</i> from 4.2 and for capacity greater or equal to 135 kBtu/h and less than 760 kBtu/h increased to 4.0 <i>COP</i> from 3.9.</p>
C403.2.4	HVAC system controls	C403.2.4	HVAC system controls	This section is revised to comply with a new section C403.2.12.5 <i>Set points for direct digital control</i> and deleted reference to section C403.4.1 as part of specifications for HVAC heating and cooling system thermostatic controls requirements.
C403.2.4.2.3	Automatic start capabilities	C403.2.4.2.3	Automatic and optimum start capabilities (Mandatory)	Modified the sub-section title and added <i>mandatory</i> designation. Revised individual heating and cooling systems with setback controls and direct digital control to have <i>optimum start</i> controls capability. The optimum start control algorithm must be a function of the difference between space temperature and occupied set point, the outdoor temperature, the amount of time prior to scheduled occupancy and may incorporate floor temperature for radiant slab floors.
;	;	C403.2.4.8	Automatic control of HVAC systems serving guest rooms	Added new section <i>C403.2.4.8 Automatic control of HVAC systems serving guest rooms</i> . Group R-1 (Boarding houses, hotels or motels) buildings containing over 50 guest rooms, each guest room must be provided with Card key controls that meet the two new sub-sections C403.2.4.8.1 and C403.2.4.8.2.

-	-	C403.2.4.8.1	Temperature setpoint controls	Added new sub-section C403.2.4.8.1 Temperature setpoint controls. This section requires each HVAC system to automatically raise the cooling setpoint and lower the heating setpoint by not less than 4°F (2°C) from the occupant setpoint within 30 minutes after the occupants have left the guest room. Also the controls must be capable of automatically raise the cooling setpoint to not lower than 80°F (27°C) and lower the heating set point to not higher than 60°F (16°C) when the guest room is unrented or has been continuously unoccupied for over 16 hours or a networked guest room control system indicates that the guest room is unrented and the guest room is unoccupied for more than 30 minutes.
-	-	C403.2.4.8.2	Ventilation controls	Added new sub-section C403.2.4.8.2 Ventilation controls. This section requires each HVAC system to automatically turn off the ventilation and exhaust fans within 30 minutes of the occupants leaving the guest room or add isolation devices that are capable of automatically shutting off the supply of outdoor air to and exhaust air from each guest room.
C403.2.11	Mechanical systems commissioning and completion requirements	C403.2.11	Reserved	Deleted and replaced with a place holder. The requirements are covered in revised section C408.2.
C403.2.12	Air system design and control	C403.2.12	Air system design and control	Each HVAC system with a fan must comply with the extended provisions that include revised sub-sections C403.2.12.1 through C403.2.12.5.
C403.2.12.1	Allowable fan motor horsepower	C403.2.12.1	Allowable fan motor horsepower	Relaxed requirement of this section to be applicable only when each HVAC system total fan system motor nameplate horsepower exceeds 5 hp (3.7 kW) at fan system design conditions.
C403.2.12.2	Motor nameplate horsepower	C403.2.12.2	Fan motor selection	<p>Changed the sub-section title to <i>Fan motor selection</i>, made editorial changes and added new exceptions.</p> <p>Deleted item (3): Systems complying with section C403.2.12.1 fan system motor nameplate hp (Option 1) is not applicable in the revised code.</p> <p>Added four new exceptions:</p> <ul style="list-style-type: none"> Fans that has electronic speed control devices to vary the fan airflow as a function of load

				<ul style="list-style-type: none"> • Fans with fan nameplate electrical input power of less than 0.89 kW • Systems complying with section C403.2.12.1 fan system motor nameplate hp (Option 1) • Fans with motor nameplate horsepower less than 1 hp (746 W).
C403.2.12.3	Fan efficiency	C403.2.12.3	Fan efficiency	<p>Changed fan performance evaluation method to <i>Fan Energy Index (FEI)</i> in place of <i>Fan Efficiency Grade (FEG)</i> and the <i>FEI</i> must not be less than 1.00 at the design point of operation when tested in accordance with AMCA 208 Annex C.</p> <p>Added a new requirement that each fan and fan array used for a variable-air-volume system must have <i>FEI</i> of not less than 0.95 at the design point of operation tested in accordance with AMCA 208 Annex C.</p> <p>Added four new exceptions:</p> <ul style="list-style-type: none"> • Ceiling fans, i.e., nonportable devices suspended from a ceiling or overhead structure for circulating air via the rotation of fan blades • Fans used for moving gases at temperatures above 482°F (250°C) • Fans used for operation in explosive atmospheres • Reversible fans used for tunnel ventilation. <p>Edited existing exceptions to add clarification and update applicable standard.</p>
C403.4.4.4	Fractional hp fan motors	C403.2.12.4	Fractional hp fan motors	Section C403.4.4.4 moved to section C403.2.12.4. Also updated exception item(3) to reference code section C405.7 instead of C405.8.
C403.4.1	Fan control	C403.4.1	Reserved	Moved and replaced with <i>Reserved</i> . Requirements of section C403.4.1 Fan control are moved to new sub-section C403.2.12.5.
C403.4.1	Fan control	C403.2.12.5	Fan control	Moved section C403.4.1 to new sub-section C403.2.12.5.
Table C403.4.1.1	Effective Dates For Fan Control	Table C403.2.12.5	Requirements for Fan Control	<p>Moved section C403.4.1.1 to a new sub-section C403.2.12.5. Renamed Table C403.2.12.5 caption.</p> <p>Revised fan control requirements for chilled water and evaporative cooling system in Table</p>

				C403.2.12.5 to cover all fan motor sizes greater or equal to 0.25 hp.
C403.4.1.1	Fan airflow control	C403.2.12.5.1	Fan airflow control	Moved to new sub-section C403.2.12.5.1 for code clarity.
C403.4.1.2	Static pressure sensor location	C403.2.12.5.2	Static pressure sensor location	Moved to new sub-section C403.2.12.5.2 for code clarity.
C403.4.1.3	Set points for direct digital control	C403.2.12.5.3	Set points for direct digital control	Moved to new sub-section C403.2.12.5.3 for code clarity.
C403.2.14	Refrigeration equipment performance	C403.2.14	Refrigeration equipment performance	Revised commercial refrigerators, freezers, refrigerator-freezers, walk-in coolers, walk-in freezers and refrigeration equipment performance requirement to be determined in accordance with new sections C403.2.14.1 and C403.2.14.2 Added new exception: Walk-in coolers and walk-in freezers regulated under federal law in accordance with Subpart R of 10 CFR 431 are exempted.
-	-	C403.2.14.1	Commercial refrigerators, freezers, refrigerator-freezers and refrigeration (Mandatory)	Added new sub-section C403.2.14.1 <i>Commercial refrigerators, freezers, refrigerator-freezers and refrigeration</i> and designated it <i>mandatory</i> . Refrigeration equipment, defined in U.S. 10 CFR part 431.62, must have daily energy use in kWh/day not greater than the updated values of Table C403.2.14.1(1) when tested and rated in accordance with AHRI Standard 1200.
C403.2.15	Walk-in coolers, walk-in freezers, refrigerated warehouse coolers and refrigerated warehouse freezers	-	-	Removed section C403.2.15 and replaced it with the revised section C403.2.14 and the new sub-section C403.2.14.1.
-	-	C403.2.14.2	Walk-in coolers, walk-in freezers (Mandatory)	Added new sub-section C403.2.14.2 <i>Walk-in coolers, walk-in freezers refrigeration</i> and designated it <i>mandatory</i> . Walk-in cooler and freezer refrigeration systems, except for walk-in process cooling refrigeration systems as defined in U.S. 10 CFR 431.302, must comply with requirements of the updated Tables C403.2.14.2(1), C403.2.14.2(2) and C403.2.14.2(3).
C403.2.16	Walk-in coolers and walk-in freezers	-	-	Removed section C403.2.16 and replaced it with the new sub-section C403.2.14.2.

Table C403.2.14(1)	Minimum Efficiency Requirements: Commercial Refrigeration	TABLE C403.2.14.1(1)	Commercial Refrigerators and Freezers and Refrigeration minimum efficiency requirements	Updated Table C403.2.14.1(1).
Table C403.2.14(2)	Minimum Efficiency Requirements: Commercial Refrigerators and Freezers	Table C403.2.14.2(1)	Walk-in Cooler and Freezer Display Door minimum efficiency requirements	Updated Table C403.2.14.2(1).
-	-	Table C403.2.14.2(2)	Walk-in Cooler and Freezer Non-Display Door minimum efficiency requirements	Added new Table C403.2.14(2).
		Table C403.2.14.2(3)	Walk-in Cooler and Freezer Refrigeration System minimum efficiency requirements	Added new Table C403.2.14(3).
C403.4.3	Heat rejection equipment	C403.4.3	Heat rejection equipment	Revised this section by moving the heat rejection equipment coverage description provided in section C403.4.3.1 General.
C403.4.3.1	General	-	-	Deleted sub-section C403.4.3.1 General.
C403.4.3.2	Fan speed control	C403.4.3.1	Fan speed control	Section re-numbered and revised the requirements by merging in the sub-section C403.4.3.2.1 Fan motors not less than 7.5 hp. <ul style="list-style-type: none"> Revised the requirement such that the fan motor power input must not exceed 30% of design wattage at 50% of the fan design Airflow Removed the fan speed automatic control exception for fans installed in Climate Zones 1 and 2.
C403.4.3.2.1	Fan motors not less than 7.5 hp	-	-	Moved to sub-section C403.4.3.1 with exception item (3) deleted.
C403.4.3.2.2	Multiple-cell heat rejection equipment	C403.4.3.2	Multiple-cell heat rejection equipment	Section re-numbered. Made editorial changes.
C403.4.4	Requirements for complex mechanical systems serving multiple zones	C403.4.4	Requirements for complex mechanical systems serving multiple zones	Revised the complex mechanical systems serving multiple zones to comply sections C403.4.4.1 through C403.4.4.7.
C403.4.4.4	Fractional hp fan motors	C403.4.4.4	Fractional hp fan motors	Deleted this section. This section is moved to new sub-section C403.2.12.4.
-	-	C403.4.4.7	Parallel-flow fan-powered VAV air terminal control	Added new sub-section C403.4.4.7. Adds new automatic controls requirements for parallel-flow fan-powered VAV air terminals.

<p>Table C404.2</p>	<p>Minimum Performance of Water-Heating Equipment</p>	<p>Table C404.2</p>	<p>Minimum Performance of Water-Heating Equipment</p>	<p>Updated water-heating equipment minimum efficiency requirements by equipment type, sizing category, subcategory or rating condition, and hot water draw pattern. Also updated applicable the test procedure standards and added clarification new footnotes for tabletop water heaters in rectangular cabinet, grid-enabled electric resistance water heater, and water heaters and hot water supply boilers having more than 140 gallons of storage capacity. Water-heating equipment Energy Factor (EF) performance ratings metric is replaced with Uniform Energy Factor (UEF).</p> <p>UEF of storage water heaters, electric, tabletop, size less than or equal to 12 kW, tank-size greater or equal to 20 gal and less than or equal to 120 gal is changed depending on the hot water draw pattern: <i>Very small draw</i> $UEF = 0.6323 - (0.0058 \times V)$, <i>Low draw</i> $UEF = 0.9188 - (0.0031 \times V)$, <i>Medium draw</i> $UEF = 0.9577 - (0.0023 \times V)$, <i>High draw</i> $UEF = 0.9884 - (0.0016 \times V)$.</p> <p>UEF of storage water heaters, electric, size less than or equal to 12 kW, tank-size greater or equal to 20 gal and less than or equal to 55 gal is changed depending on the hot water draw pattern: <i>Very small draw</i> $UEF = 0.8808 - (0.0008 \times V)$, <i>Low draw</i> $UEF = 0.9254 - (0.0003 \times V)$, <i>Medium draw</i> $UEF = 0.9307 - (0.0002 \times V)$, <i>High draw</i> $UEF = 0.9349 - (0.0001 \times V)$.</p> <p>UEF of storage water heaters, electric, size less than or equal to 12 kW, tank-size greater 55 gal and less than or equal to 120 gal is changed depending on the hot water draw pattern: <i>Very small draw</i> $UEF = 1.9236 - (0.0011 \times V)$, <i>Low draw</i> $UEF = 2.0440 - (0.0011 \times V)$, <i>Medium draw</i> $UEF = 2.1171 - (0.0011 \times V)$, <i>High draw</i> $UEF = 2.2418 - (0.0011 \times V)$.</p> <p>Added grid-enabled electric storage water heater as a new category. UEF of grid-enabled storage water heaters, electric, size less than or equal to 12 kW, and tank-size greater than 75 gal is specified depending on the hot water draw pattern:</p>
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				<p>Very small draw $UEF = 1.0136 - (0.0028 \times V)$, Low draw $UEF = 0.9984 - (0.0014 \times V)$, Medium draw $UEF = 0.9853 - (0.0010 \times V)$, High draw $UEF = 0.9720 - (0.0007 \times V)$.</p>
				<p>Storage water heaters, electric, size greater than 12 kW, any tank-size and for all hot water draw pattern performance is rated by Standby Loss (SL) in %/h and is given by $SL = (0.3 + 27/Vm)$.</p>
				<p>UEF of instantaneous water heaters, electric, tank size of less than 2 gal and Very small, Low and Medium hot water draw patterns is updated to 0.91 whereas for High draw hot water pattern the UEF is updated to 0.92.</p>
				<p>UEF of instantaneous water heaters, electric, size greater than 12kW and less than or equal to 58.6kW, residential-duty commercial application and tank size of less than or equal to 2 gal for all hot water draw patterns is updated to 0.80.</p>
				<p>UEF of storage water heaters, gas, size less than or equal to 75kBtu/h, tank-size greater or equal 20 gal and less than or equal to 55 gal is changed depending on the hot water draw pattern: Very small draw $UEF = 0.3456 - (0.0020 \times V)$, Low draw $UEF = 0.5982 - (0.0019 \times V)$, Medium draw $UEF = 0.6483 - (0.0017 \times V)$, High draw $UEF = 0.6920 - (0.0013 \times V)$.</p>
				<p>UEF of storage water heaters, gas, size less than or equal to 75kBtu/h, tank-size greater than 55 gal and less than or equal to 100 gal is changed depending on the hot water draw pattern: Very small draw $UEF = 0.6470 - (0.0006 \times V)$, Low draw $UEF = 0.7689 - (0.0005 \times V)$, Medium draw $UEF = 0.7897 - (0.0004 \times V)$, High draw $UEF = 0.8072 - (0.0003 \times V)$.</p>
				<p>Storage water heaters, gas, size greater than 75kBtu/h, rating of 4,000 Btu/h/gal and for all hot water draw pattern the performance must meet 80% thermal efficiency and Standby Loss (SL) in Btu/h is given by $SL = (\frac{Q}{800} + 110\sqrt{V})$.</p>

			<p>UEF of <i>storage water heaters, gas</i>, size greater than 75kBtu/h and less than or equal to 105kBtu/h, <i>Residential-Duty Commercial</i>, and tank-size less than or equal to 120 gal is changed depending on the hot water draw pattern: <i>Very small draw</i> $UEF = 0.2674 - (0.0009 \times V)$, <i>Low draw</i> $UEF = 0.5362 - (0.0012 \times V)$, <i>Medium draw</i> $UEF = 0.6002 - (0.0011 \times V)$, <i>High draw</i> $UEF = 0.6597 - (0.0009 \times V)$.</p> <p>UEF of <i>instantaneous water heaters, gas</i>, size greater than 50kBtu/h and less than or equal to 200kBtu/h, rating of 4,000 Btu/h/gal and tank size of less than 2 gal and <i>Very small</i> hot water draw patterns is updated to 0.80 whereas for <i>Low and Medium</i> and <i>High</i> hot water draw patterns is updated to 0.81.</p> <p>UEF of <i>storage water heaters, oil</i>, size less than or equal to 105kBtu/h, and tank-size greater than or equal to 20 gal and less than or equal to 50 gal is changed depending on the hot water draw pattern: <i>Very small draw</i> $UEF = 0.2509 - (0.0012 \times V)$, <i>Low draw</i> $UEF = 0.5330 - (0.0016 \times V)$, <i>Medium draw</i> $UEF = 0.6078 - (0.0016 \times V)$, <i>High draw</i> $UEF = 0.6815 - (0.0014 \times V)$.</p> <p><i>Storage water heaters, oil</i>, size greater than 105kBtu/h, rating of 4,000 Btu/h/gal and for all hot water draw pattern the performance must meet 80% thermal efficiency and <i>Standby Loss (SL)</i> in Btu/h given by $SL = (\frac{Q}{800} + 110\sqrt{V})$.</p> <p>UEF of <i>storage water heaters, oil</i>, size greater than 105kBtu/h and less than or equal to 140kBtu/h, <i>Residential-Duty Commercial</i>, and tank-size less than or equal to 120 gal is changed depending on the hot water draw pattern: <i>Very small draw</i> $UEF = 0.2932 - (0.0015 \times V)$, <i>Low draw</i> $UEF = 0.5596 - (0.0018 \times V)$, <i>Medium draw</i> $UEF = 0.6194 - (0.0016 \times V)$, <i>High draw</i> $UEF = 0.6740 - (0.0013 \times V)$.</p>
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C404.4	Insulation of piping	C404.4	Insulation of piping	Removed all exceptions, instead listed applications that require minimum insulation level per Table C403.2.10.
C404.11	Service water-heating system commissioning and completion requirements	-	-	Deleted this sub-section. Service water-heating commissioning requirements are covered under updated Code section C408.2.
C404.12	Water flow rate controls	C404.11	Water flow rate controls	Section re-numbered.
C404.12.1	Showers	C404.11.1	Showers	Sub-section re-numbered.
C404.12.2	Lavatories or restrooms of public facilities	C404.11.2	Lavatories or restrooms of public facilities	Sub-section re-numbered.
C405.1	General (Mandatory)	C405.1	General (Mandatory)	Revised lighting system controls and maximum lighting power allowance requirements and clarified applicable code sections as follows: <ul style="list-style-type: none"> • Dwelling units within multifamily buildings must comply with section R404.1 • All other dwelling units must comply with section R404.1, or with sections C405.2.4 and C405.3 • Sleeping units must comply with section C405.2.4, and with section R404.1 or C405.3 • Lighting installed in walk-in coolers, walk-in freezers, refrigerated warehouse coolers and refrigerated warehouse freezers must comply with the lighting requirements of section C403.2.14.
C405.2	Lighting controls (Mandatory)	C405.2	Lighting controls (Mandatory)	Lighting controls sections were revised and re-organized for clarity. Revised lighting controls requirements must be met either via sections C405.2.1 through C405.2.6, or luminaire level lighting controls (LLLC) and lighting controls in sections C405.2.1, C405.2.4 and C405.2.5 by independently monitoring occupant activity, monitoring electric lighting and daylighting levels using sensors, setpoints, timers, and dimmers.
C405.2.1	Occupant sensor controls	C405.2.1	Occupant sensor controls	Revised space types that require <i>occupant sensor controls</i> installation: <ul style="list-style-type: none"> • Replaced <i>Lounge, Employee lunch and Break rooms</i> space types with <i>Lounges/breakrooms</i> • Renamed <i>Private offices</i> with <i>Enclosed offices</i>

				<ul style="list-style-type: none"> • Added <i>Open plan office areas</i> as new space type • Removed <i>Janitorial closets</i> space type • Replaced <i>Warehouse</i> space type with <i>Warehouse storage areas</i>.
C405.2.1.1	Occupant sensor control function	C405.2.1.1	Occupant sensor control function	<p>Added clarification that <i>occupant sensor controls</i> in warehouses must comply with section C405.2.1.2 and <i>occupant sensor controls</i> in open plan office areas must comply with new section C405.2.1.3.</p> <p>Occupant sensor controls requirement in all other space types is revised to automatically turn off lights within 20 minutes after all occupants have left the space. This revision reduced the elapsed time for lights turn off after occupants left the space to 20 minutes from 30 minutes.</p>
-	-	C405.2.1.3	Occupant sensor control function in open plan office areas	<p>Added new sub-section C405.2.1.3. Occupant sensor controls function in all open plan office spaces are required to comply with the following:</p> <ul style="list-style-type: none"> • General lighting must be controlled separately in control zones with floor areas not greater than 600 square feet (55 m²) within the open plan office space • General lighting control must automatically turn off in all control zones within 20 minutes after all occupants have left the open plan office space • General lighting power in each control zone must be reduced by not less than 80 percent of the full zone general lighting power in a reasonably uniform illumination pattern within 20 minutes of all occupants leaving that control zone • Any daylight responsive control will activate open plan office space general lighting or control zone general lighting only when occupancy for the same area is detected • Open plan office spaces less than 300 ft² (28 m²), are exempted but should comply with section C405.2.1.1.
C405.2.2	Time-switch controls	C405.2.2	Time-switch controls	Made editorial changes and removed time-switch slights control exemption from <i>Sleeping units</i> when there are <i>manual controls that provide light reduction</i> .

C405.2.2.1	Time-switch control function	C405.2.2.1	Time-switch control function	Made editorial changes and edited the space types names in the exceptions for clarity and consistency.
C405.2.2.3	Manual controls	C405.2.5	Manual controls	Moved to new section C405.2.5 with some editorial changes for clarification.
C405.2.3	Daylight-responsive controls	C405.2.3	Daylight-responsive controls	Made editorial changes and revised exemptions: <ul style="list-style-type: none"> Renamed <i>Sidelight Daylight Zones</i> with <i>Sidelit Zones</i>, and <i>Toplight Daylight Zones</i> with <i>Toplit Zones</i> Removed Dwelling and sleeping unit's exemption from daylight-responsive controls requirement For new buildings where the total connected lighting power calculated in accordance with section C405.3.1 is less than or equal to the adjusted interior lighting power allowance (LPAadj) calculated using the new Equation 4-8 is exempted from daylight-responsive controls requirement
C405.2.3.1	Daylight-responsive control function	C405.2.3.1	Daylight-responsive control function	Editorial changes for clarification.
C405.2.3.2	Sidelight daylight zone	C405.2.3.2	Sidelit zone	Modified sub-section title and made editorial changes for clarification. <ul style="list-style-type: none"> Moved item (2) that describe sidelit zones for fenestration located in a rooftop monitor to section C405.2.3.3 The revised visible transmittance of the fenestration not less than 0.20 requirement now applies to existing and new buildings.
C405.2.3.2	Figure C405.2.3.2(1)	C405.2.3.2	Figure C405.2.3.2	Figure re-numbered.
C405.2.3.2	Figure C405.2.3.2(2)	C405.2.3.3	Figure C405.2.3.3(2)	Figure re-numbered.
C405.2.3.2	Figure C405.2.3.2(3)	C405.2.3.3	Figure C405.2.3.3(3)	Figure re-numbered.
C405.2.3.3	Toplight daylight zone	C405.2.3.3	Toplit zone	Modified sub-section title and made editorial changes for clarification. Added a description for <i>sidelit</i> zones for fenestration located in a rooftop monitor depicted in Figure C405.2.3.3(2) and C405.2.3.3(3).

C405.2.3.3	Figure C405.2.3.3	C405.2.3.3	Figure C405.2.3.3(1)	Figure re-numbered. Also renamed the figure caption from <i>Daylight Zone Under A Roof Fenestration Assembly</i> to <i>Toplit Zone</i> .
C405.2.4	Specific application controls	C405.2.4	Specific application controls	<p>Revised <i>specific application lighting controls</i> requirements.</p> <ul style="list-style-type: none"> Besides occupant sensor based lighting control complying with section C405.2.1.1 or a time-switch control complying with section C405.2.2.1, a manual control separate from general lighting control is required for display and accent, display cases lighting, task lighting, permanently installed under-shelf or under-cabinet lighting, and lighting equipment used for sale or education demonstration Hotel and motel sleeping unit and guest suites space types are replaced with sleeping units Revised sleeping units requirements to have control devices or systems that are configured to automatically switch off all permanently installed luminaires and switched receptacles within 20 minutes after all occupants have left the unit except when the lighting and switched receptacles controlled by card key controls, and spaces where patient care is directly provided Permanently installed luminaires within dwelling units must be provided with controls complying with section C405.2.1.1 or C405.2.2.2. Lighting for nonvisual applications, such as plant growth and food warming, are revised to be controlled by a time switch control complying with section C405.2.2.1 that is independent of the controls for other lighting within the room or space.
C405.2.5	Exterior lighting controls	C405.2.6	Exterior lighting controls	<p>Exterior lighting controls section re-numbered, reorganized for clarification and added four new sub-sections: <i>Daylight shutoff</i>, <i>Decorative lighting shutoff</i>, <i>Lighting setback</i>, and <i>Exterior time-switch control function</i>.</p> <p>Revised exterior lighting systems controls to comply with new sub-sections C405.2.6.1 through C405.2.6.4. Decorative lighting systems are now required to comply with sections C405.2.6.1, C405.2.6.2, and C405.2.6.4. Also exterior lighting</p>

				control is not required if the lights are controlled from within dwelling units.
⋮	⋮	C405.2.6.1	Daylight shutoff	Added new sub-section C405.2.6.1. This new section requires exterior lighting must be automatically turned off when there is sufficient daylight.
⋮	⋮	C405.2.6.2	Decorative lighting shutoff	Added new sub-section C405.2.6.2. Decorative lighting of a building facade and landscape lighting must be automatically shut off from not later than one hour after business closing to not earlier than one hour before business opening.
⋮	⋮	C405.2.6.3	Lighting setback	Added new sub-section C405.2.6.3. Exterior lighting that is not controlled in accordance with section C405.2.6.2 must be capable of automatically reducing the total lighting wattage by not less than 50% by selectively switching off or dimming depending on hours of the day or where no activity is detected.
⋮	⋮	C405.2.6.4	Exterior time-switch control function	Added new sub-section C405.2.6.4. Time-switch controls must have a clock that is not less than 7 days and capable of setting for seven different day types per week, an automatic holiday setback and with backup power capability.
C405.3	Exit signs	-	-	Deleted this section.
C405.4	Interior lighting power requirements (Prescriptive)	C405.3	Interior lighting power requirements (Prescriptive)	Section re-numbered and made editorial changes.
C405.4.1	Total connected interior lighting power	C405.3.1	Total connected interior lighting power	Updated and edited Equation 4-9 used to calculate total connected interior lighting power (TCLP). Also revised lighting equipment that are not included in the TCLP calculation. Television broadcast lighting power for playing areas in sports arenas is now excluded from TCLP calculation.
C405.4.2	Interior lighting power	C405.3.2	Interior lighting power allowance	Section re-numbered and modified section title. The total interior lighting power allowance (watts) is determined according to updated Table C405.3.2(1) using the Building Area Method, or updated Table C405.3.2(2) using the Space-by-Space Method.

C405.4.2.1	Building Area Method	C405.3.2.1	Building Area Method	Section re-numbered and updated referenced code sections. For the Building Area Method, the interior lighting power density for each building area type is listed in the updated Table C405.3.2(1).
Table C405.4.2(1)	Interior Lighting Power Allowances: Building Area Method	Table C405.3.2(1)	Interior Lighting Power Allowances: Building Area Method	Section and table re-numbered and reduced the <i>Lighting Power Density (LPD)</i> for most <i>building area types</i> in Table C405.3.2(1).
C405.4.2.2	Space-by-Space Method	C405.3.2.2	Space-by-Space Method	Section re-numbered and updated referenced code sections. For the space by-space method, the interior lighting power density for each space type is provided in updated Table C405.3.2(2).
Table C405.4.2(2)	Interior Lighting Power Allowances: Space-By-Space Method	Table C405.3.2(2)	Interior Lighting Power Allowances: Space-By-Space Method	Section re-numbered and reduced <i>Lighting Power Density (LPD)</i> for most of <i>space types</i> in Table C405.3.2(2). Added new footnotes that clarifies sleeping units lighting power calculations by application of Section R404.1 and added descriptions for facilities type classification.
C405.4.2.2.1	Additional interior lighting power	C405.3.2.2.1	Additional interior lighting power	Section re-numbered and modified the requirements. <ul style="list-style-type: none"> Updated the additional interior lighting power allowance calculation Equation 4-10 used with space-by-space method and provided the equation in SI and IP units version Revised the additional lighting power density used for the purpose of decorative appearance or for highlighting art or exhibits not to exceed 0.9 W/ft² (9.7 W/m²) in lobbies and not to exceed 0.75 W/ft² (8.1 W/m²) in other spaces.
C405.5	Exterior lighting power (Mandatory)	C405.4	Exterior lighting power requirements (Mandatory)	Section re-numbered and revised the requirements. The revised code requires that the total connected exterior lighting power must be calculated in accordance with section C405.4.1 and must not exceed the exterior lighting power allowance calculated in accordance with section C405.4.2.
C405.5.1	Exterior building lighting power	C405.4.1	Total connected exterior building exterior lighting power	Section re-numbered and modified the title. The section was reduced just to provide definition that total exterior connected lighting power must be the total maximum rated wattage of all lighting that is powered through the energy service for the building. Added five more new exterior lights applications that are excluded from the calculation:

				<ul style="list-style-type: none"> • Lighting approved because of safety considerations • Emergency lighting automatically off during normal business operation • Exit signs • Used to highlight features of art, public monuments and the national flag • Lighting for water features and swimming pools • Lighting controlled from within dwelling units, where the lighting complies with section R404.1
-	-	C405.4.2	Exterior lighting power allowance	<p>Added new section C405.4.2.</p> <ul style="list-style-type: none"> • This new section requires that the total exterior lighting power allowance is the sum of the base site allowance plus the individual allowances for areas that are to be illuminated by lighting powered through the energy service for the building • The lighting zone for the building exterior is determined in accordance with exterior lighting zones definition in Table C405.4.2(1) unless otherwise specified by the code official. Also, lighting power allowances are as specified in updated Table C405.4.2(2).
Table C405.5.1(1)	Exterior Lighting Zones	Table C405.4.2(1)	Exterior Lighting Zones	Section re-numbered.
Table C405.5.1(2)	Individual Lighting Power Allowances For Building Exterior	Table C405.4.2(2)	Lighting Power Allowances For Building Exterior	<p>Section re-numbered and modified table caption. Base site allowance and all other allowances except the non-tradable surfaces only are included in the revised Table C405.4.2(2).</p> <ul style="list-style-type: none"> • Lighting power allowances for <i>Base Site</i>, <i>Uncovered Parking Area</i>, <i>Building Grounds</i>, <i>Building Entrances and Exits</i>, <i>Sales Canopies</i>, and <i>Outdoor Sales</i> were reduced for all lighting zones. Added <i>Dinning Area</i> and <i>Landscaping</i> as new categories under <i>Building Grounds</i> • Edited <i>Building Entrances and Exits</i> categories for clarification.
-	-	C405.4.2.1	Additional exterior lighting power	<p>Added new sub-section C405.4.2.1.</p> <ul style="list-style-type: none"> • Any increase in the exterior lighting power allowance is limited to the specific lighting

				<p>applications indicated in the updated Table C405.4.2(3).</p> <ul style="list-style-type: none"> The additional power must be used only for the luminaires that are serving these applications and must not be used for any other purpose.
Table C405.5.1(2)	Individual Lighting Power Allowances For Building Exterior	Table C405.4.2(3)	Individual Lighting Power Allowances For Building Exterior	<p>Added new Table C405.4.2(3) by extracting non-tradable surfaces exterior lighting allowance from Table C405.5.1(2). Allowances are reduced for all categories except <i>building facades</i>:</p> <ul style="list-style-type: none"> Allowances for automated teller machines (ATM) and night depositories were reduced by half to 135 W per location plus 45 W per additional ATM per location Allowances for uncovered entrances and gatehouse inspection stations at guarded facilities were reduced to 0.5 W/ft² from 0.75 W/ft² for all lighting zones Allowance for uncovered loading areas for law enforcement, fire, ambulance and other emergency service vehicles were reduced to 0.35 W/ft² from 0.5 W/ft² for all lighting zones Allowance for drive-up windows and doors were reduced to 200 W per drive through from 400 W for all lighting zones Allowances for parking near 24-hour retail entrances were reduced to 400 W per main entry from 800 W for all lighting zones.
C405.6	Electrical power (Mandatory)	C405.5	Electrical power (Mandatory)	Section re-numbered.
C405.6.1	Applicability	C405.5.1	Applicability	<p>Section re-numbered and added new exception.</p> <p>Revised code excludes this section from compliance requirement with ASHRAE 90.1 sections 8.4.2 and 8.4.3 in addition to section 9.4.1.1(g).</p>
C405.6.2	Electrical metering	C405.5.2	Electrical metering	Section re-numbered.
C405.6.3	Voltage drop	C405.5.3	Voltage drop	Section re-numbered.
C405.6.4	Completion requirements	C405.5.4	Completion requirements	Section re-numbered.

C405.6.4.1	Completion requirements	C405.5.4.1	Drawings	Section re-numbered.
C405.6.4.2	Completion requirements	C405.5.4.2	Manuals	Section re-numbered.
C405.7	Electrical transformers (Mandatory)	C405.6	Electrical transformers (Mandatory)	Section re-numbered and made editorial changes for clarification. Minimum efficiency requirements of Table C405.6 is revised to be applicable for Low-voltage dry-type distribution electric transformers.
Table C405.7	Minimum Nominal Efficiency Levels For 10 CFR 431 Low-Voltage Dry-Type Distribution Transformers	Table C405.6	Minimum Nominal Efficiency Levels For 10 CFR 431 Low-Voltage Dry-Type Distribution Transformers	Section re-numbered. Edited the minimum efficiency of single-phase transformers and increased minimum efficiency requirements of three-phase transformers.
C405.8	Electrical motors (Mandatory)	C405.7	Electrical motors (Mandatory)	Section re-numbered and added new exception. <i>Air-over electric motors, Component sets of an electric motor, Liquid-cooled electric motors, Submersible electric motors, and Inverter-only electric motors</i> are exempted from the minimum efficiency requirements of section C405.7.
Table C405.8(1)	Minimum Nominal Full-Load Efficiency For 60 HZ NEMA General Purpose Electric Motors (Subtype I) Rated 600 Volts or Less (Random Wound)	Table C405.7(1)	Minimum Nominal Full-Load Efficiency For NEMA Design A, NEMA Design B, AND IEC Design N Motors (Excluding Fire Pump) Electric Motors at 60 HZ	Section re-numbered, modified table caption, and re-arranged the table. Increased electric motors minimum efficiency requirements due to new US federal minimum motor efficiency change and added new footnotes to this table for clarification.
Table C405.8(2)	Minimum Nominal Full-Load Efficiency of General Purpose Electric Motors (Subtype II) and All Design B Motors Greater Than 200 Horsepower	Table C405.7(2)	Minimum Nominal Full-Load Efficiency For NEMA Design C and IEC Design H Motors at 60 HZ	Section re-numbered and, modified table caption, and re-arranged the table. Increased electric motors minimum efficiency requirements due to new US federal minimum motor efficiency change and added new footnotes to this table for clarification.
Table C405.8(3)	Minimum Average Full-Load Efficiency Polyphase Small Electric Motors	Table C405.7(3)	Minimum Average Full-Load Efficiency Polyphase Small Electric Motors	Section re-numbered.
Table C405.8(4)	Minimum Average Full-Load Efficiency For Capacitor-Start	Table C405.7(4)	Minimum Average Full-Load Efficiency For Capacitor-Start	Section re-numbered.

	Capacitor-Run and Capacitor-Start Induction-Run Small Electric Motors		Capacitor-Run and Capacitor-Start Induction-Run Small Electric Motors	
C405.9	Vertical and horizontal transportation systems and equipment	C405.8	Vertical and horizontal transportation systems and equipment	Section re-numbered.
C405.9.1	Elevator cabs	C405.8.1	Elevator cabs	Section re-numbered.
C405.9.2	Escalators and moving walks	C405.8.2	Escalators and moving walks	Section re-numbered. Added new exception: A variable voltage drive system that reduces operating voltage in response to light loading conditions can be substituted for reduced speed function.
C405.9.2.1	Regenerative drive	C405.8.2.1	Regenerative drive	Section re-numbered.
C406.1.1	Tenant spaces	C406.1.1	Tenant spaces	Added new exception. Previously occupied tenant spaces that comply with this code in accordance with section C501 is exempted.
C406.3	Reduced lighting power density	C406.3	Reduced lighting power density	Revised the total interior lighting power (watts) calculation to use the updated Table C405.3.2(1) for <i>Building Area Method</i> and updated section C405.3.2 for the <i>Space-by-Space Method</i> .
C406.5	On-site renewable energy	C406.5	On-site renewable energy	Editorial changes for clarification.
C406.7.1	Load fraction	C406.7.1	Load fraction	Editorial changes for clarification. Replaced <i>hot water requirements</i> with <i>the building's annual hot water requirements</i> . Also replaced <i>Solar water-heating systems</i> with <i>Solar on-site renewable energy water-heating systems</i> for clarification. Revised to clarify the code that water-heating systems can be sized to not less than 60% of <i>the buildings annual</i> hot water load if there are on-site combined heat and power systems or on-site solar renewable energy water-heating systems.
C407.1	Scope	C407.1	Scope	Added new exception. The total building performance determination revised to exclude energy used to recharge or refuel vehicles that are used for on-road and off-site transportation purposes.

Table C407.5.1(1)	Specifications For The Standard Reference And Proposed Designs	Table C407.5.1(1)	Specifications For The Standard Reference And Proposed Designs	<p>Editorial changes and added <i>schedule</i> exception for reference design building:</p> <ul style="list-style-type: none"> Updated the space use classification to reference Tables C405.3.2(1) and C405.3.2(2) The interior lighting power calculation should use the updated section C405.3.2. The exterior lighting power calculation should use the updated Tables C405.4.2(2) and C405.4.2(3) Added new exception that thermostat settings and schedules for HVAC systems that utilize radiant heating, radiant cooling, and elevated air speed can be used provided that equivalent levels of occupant thermal comfort are demonstrated by means of equal Standard Effective Temperature as calculated in Normative Appendix B of ASHRAE Standard 55.
Table C407.5.1(3)	Specifications For The Standard Reference Design HVAC Descriptions	Table C407.5.1(3)	Specifications For The Standard Reference Design HVAC Descriptions	Editorial changes to footnotes of Table C407.5.1(3) to update referenced Code sections.
C408	Section C408 System Commissioning	C408	Section C408 Maintenance Information and System Commissioning	Modified section title to include <i>Maintenance Information</i> .
-	-	C408.1	Generals	Added new sub-section C408.1. This section was revised to cover the provision of <i>maintenance information</i> , and <i>functional testing requirements</i> in addition to <i>building systems commissioning</i> .
!	!	C408.1.1	Building operations and maintenance information	Added new sub-section C408.1.1. This section requires buildings operations and maintenance documents that consist of manufacturer's information, specifications, and recommendations, programming procedures and data points, narratives, and other means of illustrating how the building equipment and systems are intended to be installed, maintained and operated must be provided to the owner.
C408.2	Mechanical systems and service water-heating systems commissioning and completion requirements	C408.2	Mechanical systems and service water-heating systems commissioning and completion requirements	Revised the exception to include that capacities of individual systems serving dwelling or sleeping units must not be counted in determining the total mechanical and/or water heating systems' capacity for the whole building.
C408.2.5.2	Manuals	C408.2.5.2	Manuals	Modified operating and maintenance manual requirements by moving items 5, 6, and 7 to a new

				section C408.3.2 and replacing item 5 with edited version of item 8 that states the manual should include <i>a narrative of how each system is intended to operate, including recommended setpoints.</i>
C408.3	Lighting controls functional testing	C408.3	Lighting controls functional testing	Modified sub-section title and made editorial changes to clarify that this section is about lighting control functional testing.
C408.3.1	Functional testing	C408.3.1	Functional testing	Revised functional testing requirement to include sub-section C408.3.1.3 as well.
C408.3.2	Documentation requirements	C408.3.2	Documentation requirements	Revised the code to clarify that the construction documents are to be provided to the building owner or owner's authorized agent.
⋮	⋮	C408.3.2.1	Drawings	Added new sub-section C408.3.2.1 Drawings. The new requirement states that <i>Construction documents</i> must include the location and catalogue number of each piece of equipment.
⋮	⋮	C408.3.2.2	Manuals	Added new sub-section C408.3.2.2 Manuals. This sub-section requires that operating and maintenance manual must provide the following: <ul style="list-style-type: none"> • name and address of agency that installed equipment • A description of how each system is intended to operate and recommended setpoints • Submittal data indicating all selected options for each piece of lighting device and lighting controls • Operation and maintenance manuals for each piece of lighting device including recommended routine maintenance, cleaning and proposed re-lamping • A schedule for inspecting and recalibrating all lighting controls.
⋮	⋮	C408.3.2.3	Reports	Added new sub-section C408.3.2.3 Report. This new reporting requirements must include results of <i>functional performance tests</i> and <i>nature of deficiencies found during testing and details of corrective measures used or recommended.</i>
CHAPTER 5 [CE] EXISTING BUILDINGS				
C503.2	Change in space conditioning	C503.2	Change in space conditioning	Added two new exceptions to compliance requirements when unconditioned or low-energy space is altered to a conditioned space:

				<ul style="list-style-type: none"> • component performance alternative in section C402.1.5 can be used to comply with this section if the proposed UA value is not greater than 110% of the target UA • total building performance option in section C407 can be used to comply with this section if the annual energy cost of the proposed design is not greater than 110% of the annual energy cost otherwise permitted by section C407.3.
C505.1	General	C505.1	General	<p>Updated referenced section numbers and added two new exceptions to compliance requirements when occupancy or use of a space changes:</p> <ul style="list-style-type: none"> • component performance alternative in section C402.1.5 can be used to comply with this section if the proposed UA value is not greater than 110% of the target UA • total building performance option in section C407 can be used to comply with this section if the annual energy cost of the proposed design is not greater than 110% of the annual energy cost otherwise permitted by section C407.3.
Appendix CA: Forms				
Forms	Form C402-2017 Alterations, Renovations and Building Systems	Forms	Form C402-2020 Alterations, Renovations and Building Systems	Updated form.
-	-	Forms	Commercial Compliance Checklist	New form added to Appendix.
Appendix CB: Solar-Ready Zone- Commercial				
-	-	Appendix CB	Solar-Ready Zone-Commercial	Added new section <i>Solar-Ready Zone-Commercial</i>
-	-	CB101	Scope	Added new section CB101 for scope of solar-ready zone.
-	-	CB101.1	General	Added new sub-section CB101.1. General. This sub-section describes the new provision applicable for new construction where solar-ready provisions are required.
-	-	CB102	Solar-Ready Zone	Added new definition for <i>Solar-Ready Zone</i> .
-	-	CB103	Solar-Ready Zone	Added new section CB103 for <i>Solar-Ready Zone</i> .

-	-	CB103.1	General	Added new sub-section CB103.1 The solar-ready zone is required to be located on the roof of buildings that are five stories or less in height above grade plane and are oriented between 110 degrees and 270 degrees of true north, or have low-slope roofs. <i>Solar-ready zones</i> are required to comply with the new sub-sections CB103.2 through CB103.8.
Chapter 2 [RE]: Definitions				
R202	Definitions deleted: High-Efficacy Lamps	-	-	Definition deleted.
-	-	R202	New definitions added: Cavity insulation Guest suite	New definitions.
R202	Definitions: Approved agency	R202	Definitions: Approved agency	Adds clarification language and “product certification” agency to definition.
R202	Definitions: Building thermal envelope	R202	Definitions: Building thermal envelope	Adds ‘ceilings’ to definition and expands “building elements” to “building element assemblies.”
R202	Definitions: Labeled	R202	Definitions: Labeled	Changes “inspection agency” to “approved agency.”
R202	Definitions: Skylight	R202	Definitions: Skylight	Revises wording to match 2018 IECC.
Chapter 3 [RE]: General Requirements				
R303.1.3	Fenestration product rating	R303.1.3	Fenestration product rating	Revises sub-section’s <i>U</i> -factor determination wording, changing from “exception” format to numbered bullets.
Table R303.1.3(2)	Default Door <i>U</i> -factors	Table R303.1.3(2)	Default Opaque Door <i>U</i> -factors	Adds “Opaque” to table heading.
Table R303.1.3(3)	Default Glazed Fenestration SHGC and VT	Table R303.1.3(3)	Default Window, Glass Door and Skylight SHGC and VT	Changes “Glazed Fenestration” in table heading to “Window, Glass Door and Skylight.”
Chapter 4 [RE]: Residential Energy Efficiency				
R402.1	General (Prescriptive)	R402.1	General (Prescriptive)	Adds prescriptive building thermal envelope compliance exception for log homes designed in accordance with ICC-400.
Table R402.4.1.1	Air Barrier and Insulation Installation	Table R402.4.1.1	Air Barrier and Insulation Installation	Replaces recessed lighting air barrier criteria wording “sealed to the drywall” with “sealed to the finished surface.” Clarifies HVAC register boots air barrier criteria wording by: 1) adding that HVAC “supply and return”

				register boots are intended, and 2) replacing “drywall” with “wall covering or ceiling penetrated by the boot.”
R403.3.3	Duct testing (Mandatory)	R403.3.3	Duct testing (Mandatory)	Clarifies the performance (R405) compliance duct testing exception by stipulating that duct leakage testing is required if the compliance report shows credit has been taken for a duct leakage to outside ($Q_{n,out}$) of less than 0.080.
R403.5.1	Heated water circulation and temperature maintenance systems (Mandatory)	R403.5.1	Heated water circulation and temperature maintenance systems (Mandatory)	Clarifies that the requirements of this section only apply if heated water circulation systems are installed.
R403.6.1	Whole-house mechanical ventilation system fan efficacy	R403.6.1	Whole-house mechanical ventilation system fan efficacy	Clarifies whole-house ventilation fan efficacy exception language for cases in which air handlers that are integral to HVAC equipment are being used to provide whole-house mechanical ventilation.
Table R403.6.1	Whole-house mechanical ventilation system fan efficacy	Table R403.6.1	Whole-house mechanical ventilation system fan efficacy	Adds minimum efficacy requirement of 1.2 cfm/watt for HRVs and ERVs.
R403.7	Heating and cooling equipment (Mandatory)	R403.7	Heating and cooling equipment	Removes “Mandatory” designation from this section heading. “Mandatory” and “Prescriptive” designations are moved to sub-sections, but these changes are organizational only; no change to code intent.
R403.7.1	Equipment Sizing	R403.7.1	Equipment Sizing (Mandatory)	“Mandatory” designation is added for this sub-section since the designation was removed from parent section R403.7; no change to code intent or requirements.
R403.7.1.1	Cooling equipment capacity	R403.7.1.1	Cooling equipment capacity	Corrects reference from “Section 403.7” to “Section R403.7.”
⋮	⋮	R403.7.2	Electric space heating (Prescriptive)	New sub-section disallows electric resistance space heating from being the primary heating system used in Climate Zone 2 for prescriptive compliance. Electric resistance space heating can still be the primary heating system for Climate Zone 2 projects complying via the performance (section R405) or Energy Rating Index (section R406) path.
R403.8	Systems serving multiple dwelling units (Mandatory)	R403.8	Systems serving multiple dwelling units (Mandatory)	Replaces reference to “IECC” with “ <i>Florida Building Code, Energy Conservation.</i> ”
⋮	⋮	R403.13	Dehumidifiers (Mandatory)	New section adds efficiency, control, insulation and condensate disposal requirements for dehumidifiers (only applicable if they are installed).

⋮	⋮	R403.13.1	Ducted dehumidifiers	New sub-section adds configuration and insulation requirements for ducted dehumidifiers.
R404.1	Lighting equipment (Mandatory)	R404.1	Lighting equipment (Mandatory)	Replaces "high-efficacy" term with minimum lumens per watt efficacy specifications for luminaries (45 lumens per watt) and lamps (65 lumens per watt), and increases the required percentage of permanently installed lamps with these minimum efficacies from 75% to 90%. "High-efficacy lamps" definition in previous edition included a range of minimum lumens per watt specifications based on lamp wattage, all being lower than the 65 lumens per watt all-lamp specification in Section R404.1 of the new edition. Exception for low-voltage lighting also removed.
⋮	⋮	R405.2.2	Building air leakage testing	New sub-section clarifies that if a building air leakage rate below (the maximum allowed rate of) 7 ACH50 is specified for the <i>proposed design</i> , testing must verify the air leakage rate does not exceed the air leakage rate of the <i>proposed design</i> instead of 7 ACH50.
⋮	⋮	R405.2.3	Duct air leakage testing	New sub-section clarifies that if a duct air leakage lower than the default $Q_{n,out}$ of 0.080 is specified for the <i>proposed design</i> , testing must verify a duct air leakage rate not exceeding the leakage rate of the <i>proposed design</i> ; otherwise, duct testing is not mandatory for buildings complying by Section R405.
R405.4.2.2	Compliance report for certificate of occupancy	R405.4.2.2	Compliance report for certificate of occupancy	Adds exception to compliance report for certificate of occupancy requirement in cases in which there is no change to the proposed design during the course of construction and all required inspections to verify compliance have been performed.
Table R405.5.2(1)	Specifications for the Standard Reference and Proposed Designs	Table R405.5.2(1)	Specifications for the Standard Reference and Proposed Designs	Clarifies Standard Reference Design specifications for Vertical fenestration other than opaque doors. Clarifies Standard Reference Design and Proposed Design specifications for Skylights. Modifies the Mechanical ventilation Standard Reference Design annual vent fan energy use equation, including adding a table-based minimum exhaust fan efficacy component.

				<p>Adds Heating systems Type Standard Reference Design and Proposed Design specifications, clarifying that the Standard Reference Design system type is a heat pump if the proposed heating system is electric; otherwise as proposed.</p> <p>Adds new Dehumidification Systems Standard Reference Design and Proposed Design specifications (only applicable if dehumidification equipment is specified for the proposed design)</p> <p>Adds new Dehumidistat Standard Reference Design and Proposed Design specifications (only applicable if dehumidification equipment is specified for the proposed design)</p> <p>Modifies Service water heating Standard Reference Design and Proposed Design specifications, making use and energy consumption for both determined in accordance with ANSI/RESNET/ICC 301.</p> <p>Modifies footnote "a" to align air exchange rate testing with section R402.4.1.2.</p> <p>Clarifies footnote "e" by specifying that for cases in which a proposed design does not have a proposed heating system, the heating system used for both the standard reference design and proposed design is a an electric heat pump if the proposed design has an electric water heater.</p> <p>Modifies footnote "h" to clarify the standard reference design of Vertical fenestration other than opaque doors and Skylights.</p>
R405.7.7	Installation criteria for homes claiming the heat recovery unit (HRU) option	R405.7.7	Installation criteria for homes claiming the heat recovery unit (HRU) option	Updates the Form 400D reference in Item 1 of this sub-section from the 2017 to 2020 version.
R406.3	Energy Rating Index	R406.3	Energy Rating Index	Addition to section stipulates that energy used to recharge or refuel a vehicle for on-road (and off-site) transportation purposes are not to be included in the <i>ERI reference design</i> or the <i>rated design</i> .

R406.4	ERI-based compliance	R406.4	ERI-based compliance	<p>Updates referenced standard ANSI/RESNET/ICC 301 Addendum A from the 2015 to 2019 edition which will impact ERI calculation results.</p> <p>Adds exception to section stipulating that ERI-based compliance cannot be used for <i>guest suites</i> without kitchens.</p>
Chapter 5 [RE]: Existing Buildings				
R501.7	Building systems and components	R501.7	Building systems and components	Adds duct R-value exception for cases in which space does not permit replacement air distribution systems to meet the prescriptive R-value requirement.
R503.1.1.1	Replacement fenestration	R503.1.1.1	Replacement fenestration	Addition to sub-section stipulates that where more than one replacement <i>fenestration</i> unit is being installed, an area-weighted average <i>U</i> -factor and/or SHGC of all replacement <i>fenestration</i> units are permitted to be used to demonstrate compliance.
R503.2	Change in space conditioning	R503.2	Change in space conditioning	Replaces use of “energy cost” in this section’s R405 compliance option exception with “total normalized modified loads” for the proposed design and “total loads” for the standard reference design, and clarifies that Appendix RC is to be used for the compliance calculation.
R505.2	General	R505.2	General	Replaces use of “energy cost” in this section’s R405 compliance option exception with “total normalized modified loads” for the proposed design and “total loads” for the standard reference design, and clarifies that Appendix RC is to be used for the compliance calculation.
Appendix RD: Forms				
-	-	Forms	Duct Leakage Test Report	New form added to Appendix.
-	-	Forms	Envelope Leakage Test Report	New form added to Appendix.
-	-	Forms	Residential Energy Conservation Code Documentation Checklist	New form added to Appendix.
Forms	Form R402-2017	Forms	Form R402-2020	Form significantly revised for clarity.
Forms	Energy Performance Level (EPL) Display Card	Forms	Energy Performance Level (EPL) Display Card	Form revised for clarity.

Forms	Form R400D-2017 Desuperheater, Heat Recovery Unit (HRU) Water Heater Efficiency Certification	Forms	Form R400D-2020 Desuperheater, Heat Recovery Unit (HRU) Water Heater Efficiency Certification	Year updated from 2017 to 2020.
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