



**SOUTHERN NEVADA  
AMENDMENTS  
TO THE  
2018 INTERNATIONAL  
ENERGY CONSERVATION CODE**

## **PREFACE**

This document was developed by the Southern Nevada Building Officials' International Energy Conservation Code Committee and presents recommended amendments to the 2018 International Energy Conservation Code (IECC) as published by the International Code Council (ICC).

Participation in the 2018 IECC Committee was open to all interested parties. However, voting on amendment proposals was limited to one vote each for six of Southern Nevada municipalities (Clark County, Henderson, Las Vegas, North Las Vegas, Boulder City, and Mesquite), the Clark County School District, and three industry representatives. All committee proceedings were conducted in accordance with Robert's Rules of Order.

The recommended amendments contained herein are not code unless adopted and codified by governmental jurisdictions. These amendments are not intended to prevent the use of any material or method of construction not specifically prescribed herein, provided any alternates have been approved and their use authorized by the Building Official. This document may be copied and used in whole or in part without permission or approval from the organizations listed on the cover page.

## Table of Contents

<b>C202 Definitions.....</b>	<b>4</b>
<b>Section C301.1 General</b>	
<b>Section C402.5 Air Leakage-thermal envelope (mandatory)</b>	
<b>Section C402.5.9 Air Curtains</b>	
<b>Section</b>	
<b>C405.2.4.....</b>	<b>5</b>
<b>Section C405.3.1 Total connected interior lighting power</b>	
<b>Section C405.4.1 Total connected exterior building exterior lighting power</b>	
<b>Section C407.3</b>	
<b>Section C408.3.1 Functional testing .....</b>	<b>6</b>
<b>Section C503.6 Lighting systems</b>	
<b>Chapter 6 Referenced Standards</b>	
<b>Section R402.4.1.2 Testing.....</b>	<b>7</b>
<b>Section R301.1 General</b>	
<b>Section R403.6 Mechanical ventilation (mandatory).....</b>	<b>8</b>
<b>Section R406.2 Mandatory Requirements</b>	
<b>Section R406.3 Energy Rating Index</b>	
<b>Section Chapter 6 – Referenced Standards (Residential).....</b>	<b>9</b>

## Section C202 Definitions

Add definition of Luminaire, as follows:

**LUMINAIRE:** A complete lighting unit consisting of a light source, such as a lamp or lamps, together with the parts designed to position the light source and connect it to the power supply. It may also include parts to protect the light source or the ballast or to distribute the light. The individual components of a luminaire (i.e., lamp, ballast, driver, reflector, etc.) do not constitute a luminaire.

## Section C301.1 General

Revise Section C301.1 as follows:

**C301.1 General.** *Climate zones* from Figure C301.1 or Table C301.1 shall be used for determining the applicable requirements from Chapter 4. Locations not indicated in Table C301.1 shall be assigned a *climate zone* in accordance with Section C301.3.

**Exception:** Areas within Clark County above altitudes of 4000 feet shall be considered in Climate Zone 5B. Areas within Nye County below altitudes of 4000 feet shall be considered in Climate Zone 3B.

## Section C402.5

Revise Section C402.5, as follows:

**C402.5 Air Leakage – thermal envelope (Mandatory).** The *thermal envelope* of buildings shall comply with Sections C402.5.1 through C402.5.89, or the building *thermal envelope* shall be tested in accordance with ASTM E 779 at a pressure differential of 0.3 inch water gauge (75 Pa) or an equivalent method approved by the code official and deemed to comply with the provisions of this section when the tested air leakage rate of the building *thermal envelope* is not greater than 0.40 cfm/ft<sup>2</sup> (2.0 L/s • m<sup>2</sup>). Where compliance is based on such testing, the building shall also comply with Sections C402.5.5, C402.5.6 and C402.5.7.

## Section C402.5.9

Add new section C402.5.9, as follows:

**C402.5.9 Air Curtains.** Where doorway, passageway or pass-thru openings in the building thermal envelope are intended to be normally open to the exterior environment, an approved air curtain tested in accordance with ANSI/AMCA 220 shall be used to separate conditioned air from the exterior.

## Section C405.2.4

Revise section 405.2.4 to add an exception, as follows:

### **C405.2.4 Specific application controls.** *(Remains unchanged)*

#### **Exceptions:**

1. Lighting and switched receptacles controlled by card key controls.
2. Spaces where patient care is directly provided.
3. Bathroom lighting within sleeping units.

## Section C405.3.1

Add new item #20 to the second paragraph of Section C405.3.1, as follows:

### **C405.3.1 Total connected interior lighting power.**

20. Theme/entertainment elements in theme/amusement parks and casinos.

## Section C405.4.1

Modify Exception No. 11 in Section C405.4.1, as follows:

**C405.4.1 Total connected exterior building exterior lighting power.** The total exterior connected lighting power shall be the total maximum rated wattage of all lighting that is powered through the energy service for the building.

**Exception:** Lighting used for the following applications shall not be included.

1. through 10. *(Remains unchanged)*
11. Theme/entertainment elements in theme/amusement parks and casinos.
12. through 14. *(Remains unchanged)*

## Section C407.3

Revise the exception in Section C407.3, as follows:

### **C407.3 Performance Based Compliance.** *(Remains unchanged)*

**Exception:** The energy use based on source energy expressed in Btu or Btu per square foot of *conditioned floor area* shall be permitted to be substituted for the energy cost. The source energy multiplier for electricity shall be 3.16. The source energy multiplier for fuels other than electricity shall be 1.1.

### Section C408.3.1

Revise 408.3.1, as follows:

**C408.3.1 Functional Testing.** Prior to passing final inspection, the *registered design professional* or other agency or means approved by the jurisdiction shall provide evidence that the lighting control systems have been tested to ensure that control hardware and software are calibrated, adjusted, programmed and in proper working condition in accordance with the *construction documents* and manufacturer's instructions. Functional testing shall be in accordance with Sections C408.3.1.1 through C408.3.1.3 for the applicable control type.

### Section C503.6

Revise section C503.6 to add an exception, as follows:

**C503.6 Lighting systems.** New lighting systems that are part of the *alteration* shall comply with Section C405.

#### Exceptions:

1. *Alterations* that replace less than 10 percent of the luminaires in a space, provided that such *alterations* do not increase the installed interior lighting power.
2. *Alterations* that replace only the bulb and ballast within the existing luminaires in a space, provided that the *alteration* does not increase the installed interior lighting power.

### Chapter 6

Revise the referenced standards to identify the correct referenced code section for AMCA standard 220-08, as follows:

<b>AMCA</b>	Air Movement and Control Association International 30 West University Drive Arlington Heights, IL 60004-1806
<b>220-08 (R2012): Laboratory Methods for Testing Air Curtain Units for Aerodynamic Performance Rating</b> C402.5.67	

Revise the referenced standards to include the IAPMO codes and updates to standards used in Southern Nevada, as follows:

<b>IAPMO</b>	International Association of Plumbing and Mechanical Officials 5001 E. Philadelphia Street Ontario, CA 91761
<b>UMC-18: Uniform Mechanical Code ®</b> C201.3, C403.2.2, C403.6, C403.6.6, C403.7.1, C403.7.2, C403.7.4, C403.7.5, C403.7.7, C403.11.1, C403.11.2.1, C403.11.2.2, C406.6, C501.4	
<b>UPC-18: Uniform Plumbing Code ®</b> C201.3, C501.4	

Revise the referenced standards to include ICC standards, as follows:

<b>ICC</b>	International Code Council 500 New Jersey Avenue NW 6 <sup>th</sup> Floor Washington, DC 20001
<b>IBC-18: International Building Code®</b> C201.3, C303.1.1, C303.2, C402.5.3, C402.5.4, C501.4	

### Section R301.1

Add exception to section, as follows:

**R301.1 General.** *Climate zones* from Figure R301.1 or Table R301.1 shall be used for determining the applicable requirements from Chapter 4. Locations not indicated in Table R301.1 shall be assigned a *climate zone* in accordance with Section R301.3.

**Exception:** Areas within Clark County above altitudes of 4000 feet shall be considered in Climate Zone 5B. Areas within Nye County below altitudes of 4000 feet shall be considered in Climate Zone 3B.

### Section R402.4.1.2

Revise section and add exception to section, as follows:

**R402.4.1.2 Testing.** The *building* or dwelling unit shall be tested and verified as having an air leakage rate not exceeding five air changes per hour in *Climate Zones* 1 and 2, and four air changes per hour when nonsprinklered, or 4.5 air changes per hour when sprinklered or attached, in *Climate Zones* 3 through 8. (...)

**Exception:** For residential tract developments using an approved above code program, testing shall be allowed to conform to the program requirements when the following documentation is submitted to the jurisdiction by the developer:

1. Approved software per Section R406.6.1.
2. A copy of the contractual agreement between the developer and a certified HERS rater to perform all mandatory field testing, sampling protocols and program verifications.
3. Additional documentation as may be deemed necessary by the jurisdiction.

## Section R403.6

Add exception to the section, as follows:

**R403.6 Mechanical ventilation (Mandatory).** The *building* shall be provided with ventilation that complies with the requirements of the *International Residential Code* or *International Mechanical Code*, as applicable, or with other *approved* means of ventilation. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.

**Exception:** Where clothes dryer exhaust vents terminate vertically at the roof, back draft dampers are not permitted.

## Section R406.2

Revise Section R406.2 to add language at the end of the paragraph, as follows:

**R406.2 Mandatory Requirements.** Compliance with this section requires that the provisions identified in Sections R401 through R404 indicated as "Mandatory" and Section R403.5.3 be met. The *building thermal envelope* shall be greater than or equal to levels of efficiency and *Solar Heat Gain Coefficients* in Table 402.1.1 or 402.1.3 of the 2009 *International Energy Conservation Code*. The mandatory thermal envelope requirements referenced in this section and Section R406.4 may be met by utilizing the Total UA Alternative referenced in Section R402.1.5.

## Section R406.3

Delete last sentence of the section in its entirety, as follows:

**R406.3 Energy Rating Index.** The Energy Rating Index (ERI) shall be determined in accordance with RESNET/ICC 301 except for buildings covered by the *International Residential Code*, the ERI Reference Design Ventilation rate shall be in accordance with Equation 4-1.

Ventilation rate, CFM = (0.01 x total square foot area of house) + [7.5 x (number of bedrooms + 1)]

(Equation 4-1)

## Section Chapter 6 – Referenced Standards (Residential)

Revise as follows:

Revise the referenced standards to include the IAPMO codes and updates to standards used in Southern Nevada, as follows:

<b>IAPMO</b>	International Association of Plumbing and Mechanical Officials 5001 E. Philadelphia Street Ontario, CA 91761
<b>UMC – 18: Uniform Mechanical Code ®</b> R201.3, R403.3.2, R403.3.6, R403.6, R501.4	
<b>UPC – 18: Uniform Plumbing Code ®</b> R201.3, R501.4	

Revise the referenced standards to include ICC standards, as follows:

<b>ICC</b>	International Code Council 500 New Jersey Avenue NW 6 <sup>th</sup> Floor Washington, DC 20001
<b>IBC – 18: International Building Code ®</b> R201.3, R303.1.1, R303.2, R402.1.1, R402.2.11, R501.4	
<b>IRC – 18: International Residential Code ®</b> R201.3, R303.1.1, R303.2, R402.1.1, R402.2.11, R402.4.4, R403.3.2, R403.3.6, R403.6, R406.3, R501.4	