



**SOUTHERN NEVADA  
AMENDMENTS**

**TO THE**

**2012 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 2012 *International Energy Conservation Code* (IECC) as published by the International Code Council (ICC).

Participation in the 2012 International Energy Conservation Code Committee was open to all interested parties. However, voting on amendment proposals was limited to one vote each for the seven Southern Nevada municipalities (Clark County, Henderson, Las Vegas, North Las Vegas, Boulder City, Pahrump, and Mesquite), the Clark County School District, and three industry representatives. All International Energy Conservation Code 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.

## **ADOPTION BY CLARK COUNTY**

Adopted by action of the Clark County Commission on August 20, 2013 for correlation with the 2012 International Energy Conservation Code. This document and the 2012 International Energy Conservation Code shall be effective on July 7, 2014.

## TABLE OF CONTENTS

<b>Commercial Energy Code Provisions.....</b>	<b>5</b>
Section C101.1 Title. ....	5
Section C101.4.3 Additions, Alterations, Renovations or Repairs. ....	5
Section C102.1.1 Above Code Programs.....	5
Section C106.1 Referenced Codes and Standards. ....	6
Section C202 General Definitions .....	6
Section C301.1 General. ....	7
Section C303.1.3 Fenestration Product Rating. ....	7
Section C402.4 Air Leakage (Mandatory). ....	8
Section C402.4.1 Air Barriers. ....	8
Section C402.4.7 Vestibules. ....	8
Section C402.7 Vestibules. (... ).....	8
Section C405 Electrical Power and Lighting Systems (Mandatory) .....	9
Section C405.1 General (Mandatory). ....	9
Section C405.2.3 Specific Application Controls. ....	9
Section C405.5.1 Total Connected Interior Lighting Power. ....	9
Section C405.6.2 Exterior Building Lighting Power.....	9
Section C408.2 Mechanical Systems Commissioning and Completion Requirements..	10
Section C408.2.4 Preliminary Commissioning Report.....	10
Section C408.3 Lighting System Functional Testing.....	10
Chapter 5 Referenced Standards .....	12
<b>Residential Energy Code Provisions.....</b>	<b>13</b>
Section R101.1 Title. ....	13
Section R101.4.3 Additions, Alterations, Renovations or Repairs. ....	13
Section R102.1.1 Above Code Programs.....	13
Section R106.1 Referenced Codes and Standards. ....	13
Section R202 Definition of AIR BARRIER.....	14
Section R202 General Definitions .....	14
Section R301.1 General. ....	14
Section R303.1.3 Fenestration Product Rating. ....	15
Section R401.3 Certificate (Mandatory). ....	15
Section R402.2.4 Access Hatches and Doors. ....	16

**Table R402.4.1.1 Air Barrier and Insulation Installation .....16**  
**Section R402.4.1.2 Testing. ....17**  
**Section R403.5 Mechanical Ventilation (Mandatory). ....18**  
**Chapter 5 Referenced Standards .....18**

# Commercial Energy Code Provisions

## **Section C101.1 Title.**

Revise Section C101.1 Title, as follows:

**C101.1 Title.** This code shall be known as the *International Energy Conservation Code of Southern Nevada*, and shall be cited as such. It is referred to herein as “this code”.

## **Section C101.4.3 Additions, Alterations, Renovations or Repairs.**

Revise Exception and add a new item #9 to the Exception, as follows:

**Exception:** The following need not comply with the applicable provisions of the code, provided the authority having jurisdiction deems the energy use of the building is not increased:

1. (same)
2. Glass only replacements in an existing sash and frame, provided glass meets or exceed the same U-factor and SHGC of the glass being replaced. If the U-factor and SHGC of the glass cannot be determined, the windows shall either meet the minimum prescriptive values of Table C402.3 or justified using the whole building performance modeling approach per Sec. C407.
3. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities had been filled with insulation. If insulation is missing and R-value cannot be determined, then all exterior cavities absent the insulation shall be insulated per the minimum prescriptive requirements of Sec. C402, or justified using the whole building performance modeling approach per Sec. C407.
4. (same)
5. (same)
6. (same)
7. Alterations that replace less than 50 percent of the luminaires in a room or space provided that such alterations do not increase the installed interior lighting power of Sec. C405.5.2. Altered rooms or spaces created within the remodeled area must still comply with the switching requirements of section C405.2.
8. same
9. Relocations only of exiting luminaires within an area enclosed by existing walls or floor-to-ceiling partitions are exempted from lighting power requirements of Sec. C405.5.2. Altered rooms or spaces created within the remodeled area must still comply with the switching requirements of section C405.2.

## **Section C102.1.1 Above Code Programs.**

Revise Section C102.1.1, as follows:

**C102.1.1 Above code programs.** The *code official* or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the efficiency required by this code. Programs seeking approval must submit all requested supporting documentation, including program guidelines, protocols, calculations and program simulation performance software, if applicable, to the Southern Nevada Building Officials for

review. Buildings certified in writing by such an energy efficiency program shall be considered in compliance with this code, but all requirements identified as “mandatory” in Chapter 4 of this code shall be met.

### **Section C106.1 Referenced Codes and Standards.**

Revise Section C106.1, as follows:

**C106.1 Referenced codes and standards.** The codes and standards referenced in this code shall be those listed in Chapter 5. Where this code refers to other codes not adopted by the jurisdiction, the applicable code adopted by the jurisdiction shall govern. Such codes and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections C106.1.1 and C106.1.2.

### **Section C202 General Definitions**

Revise C202 General Definitions, as follows:

**AIR BARRIER.** An integral component of the building thermal envelope comprised of approved material(s) that are assembled and joined together to support in-contact insulating materials on one or more of its surfaces and to provide a barrier to air leakage through the building envelope. An air barrier may be comprised of, but not be limited to, the exterior siding, exterior lath and stucco, rigid insulation board, exterior sheathing and sub-sheathing, water proof substrate with tiles, masonry walls, roof sheathing and drywall between conditioned and unconditioned spaces.

**BUILDING THERMAL ENVELOPE.** The building’s exterior walls, floor(s), ceilings, roof(s) and any other building elements that define a thermal barrier (heat gain/loss) between the interior and exterior environments. The building thermal envelope includes the air barrier installed in direct contact with insulation and is enclosed by, but is not limited to, the following combination of elements: thermal insulation, air barrier, framing/structural members, glazing, doors and other components between the conditioned interior and unconditioned exterior environments.

**CASINO.** A structure that houses a business with a Non-restricted Gaming License from the Nevada Gaming Commission and State Gaming Control Board. It includes the gaming area(s) as well as all the adjacent area(s) within the same building envelope.

**CASINO GAMING AREA.** The space within a casino wherein gaming is conducted. The gaming area shall also include accessory uses within the same room(s) as, or substantially open to, the gaming floor(s). Such areas shall include, but not be limited to lobbies, balconies, public circulation areas, assembly areas, restaurants, bars, lounges, food courts, retail spaces, mezzanines, convention pre-function areas, cashiers’ cages, players’ clubs, customer support, conservatories and promenades that share the same atmosphere, spillover lighting and theme lighting with the adjacent gaming floor area.

For accessory areas situated on the perimeter of the gaming floor to be considered substantially open, the walls(s) or partitions(s) separating an accessory space from the gaming area must be a minimum of 50% open, as measured from the interior side of the accessory space, with no doors, windows and other obstructions, other than roll up security grills, installed within the opening.

**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, ballast, or distribute the light. A lampholder itself is not a luminaire.

### **Section C301.1 General.**

*Delete the current Section C301.1 in its entirety and replace, as follows:*

**C301.1 General:** Climate zones from Figure C301.1 or Table C301.1 shall be used in determining the applicable requirements from Chapters 4. Locations not in Table C301.1 (outside the United States) shall be assigned a climate zone based on Section C301.3.

**Exception:** Areas within these jurisdictions above altitudes of 4000 feet shall be considered in Climate Zone 5B.

### **Section C303.1.3 Fenestration Product Rating.**

*Add two new subsections under Section C303.1.3 Fenestration product rating.*

**C303.1.3.1 Fenestration rating documentation.** All *fenestration* products to be used in a project must be listed in a *fenestration* schedule on the approved plans. This schedule shall include all of the following:

1. A list of all *fenestrations*, including, but not limited to, fixed and operable windows, skylights, sliding, swinging and overhead doors and glass block.
2. For site-built window assemblies not listed in the NFRC CMAST data base, simulation report reference numbers provided by an NFRC accredited simulation laboratory, for each type of product to be used in the project. [Note: The simulation reports are required as part of the plans submittal documentation, and shall include specific frame profiles, glazing options, emissivity coatings, gas fills, and spacer usage.]
3. The *fenestration* type, size, quantity and NFRC 100 certified U-factor
4. The solar heat gain coefficient for each *fenestration* proposed, using the NFRC 200 certified value.

**C303.1.3.2 Construction site documentation.** In addition to the approved plans described in Section C303.1.3.1, the following documentation shall be provided at the construction site prior to inspection of the *building thermal envelope*:

- 1 All NFRC certified factory-built *fenestration* products shall be labeled with the NFRC label certificates. This label is to remain intact on the fenestration unit until inspected by the jurisdiction having authority.
- 2 For rated site-built *fenestration* products, there shall be a separate NFRC label certificate for each type of fenestration product used in the project,. The label will display the following information:
  - a) The NFRC certification logo
  - b) The name, address and authorized NFRC license number of the approved inspection agency
  - c) The product ratings (U-factor, solar heat gain coefficient and visible light transmittance)
  - d) The address and name of the project
  - e) the product line information
  - f) The names, addresses and contractors/business license numbers for the suppliers of the frame, the glazing and the contractor

**Section C402.4 Air Leakage (Mandatory).**

*Revise Section C402.4 to include reference to added subsection C402.4.9 and add subsection C402.4.9, as follows:*

**C402.4 Air Leakage (Mandatory). The thermal envelope of buildings shall comply with Sections C402.4.1 through C402.4.9.**

**C402.4.9 Air curtains.** Where doorway, passageway or pass-thru openings in the building thermal envelope are intended to be normally opened 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 C402.4.1 Air Barriers.**

*Revise Section C402.4.1, to remove the exception, as follows:*

**C402.4.1 Air barriers.** A continuous air barrier shall be ...(section to read as in text)...

**Section C402.4.7 Vestibules.**

*Add a #7 item to the Exception to Section C402.4.7, as follows:*

**Section C402.7 Vestibules. (... )**

**Exceptions:**

Items #1 to #6 remain the same.

7. Doors equipped with an approved air curtain meeting testing requirements described in Sec. C402.4.9.

## **Section C405 Electrical Power and Lighting Systems (Mandatory)**

Revise Section C405 to remove “Mandatory” from the title, as follows:

### **Section C405.1 General (Mandatory).**

*Revise Exception to Section C405.1, as follows:*

#### **C405.1 General (Mandatory). (...)**

**Exception:** Dwelling units within commercial buildings shall not be required to comply with Sections C405.2 through C405.5 provided that not less than 75 percent of the permanently installed light fixtures, other than low voltage lighting, shall be fitted for, and contain only *high-efficacy lamps*.

### **Section C405.2.3 Specific Application Controls.**

*Revise Section C405.2.3, as follows:*

**C405.2.3 Specific application controls.** Specific application controls shall be provided for the following:

1. (no change to existing text)
2. (no change to existing text)
3. Hotel and motel sleeping units and guest suites shall have a master control device at the main room entry that controls all permanently installed luminaires and switched receptacles except in bathrooms.
4. (no change to existing text)
5. (no change to existing text)
6. (no change to existing text)

### **Section C405.5.1 Total Connected Interior Lighting Power.**

*Add a #15 item to the Exception to Section C405.5.1, as follows:*

#### **C405.5.1 Total connected interior lighting power. (...)**

**Exceptions:**

1. through 14. (text remains the same)
15. Theme/entertainment elements in theme/amusement parks and casinos.

### **Section C405.6.2 Exterior Building Lighting Power.**

Revise the Exception to Section C405.6.2, as follows:

#### **C405.6.2 Exterior building lighting power. (...)**

##### **Exceptions:**

1. through 7 (text to remain the same)
8. Theme elements in theme/amusement parks and casinos; and
9. (exception to remain the same)

#### **Section C408.2 Mechanical Systems Commissioning and Completion Requirements.**

Revise Section C408.2 is amended to read as follows:

**C408.2 Mechanical systems commissioning and completion requirements.** Prior to passing the final mechanical inspection, a *registered design professional* or other *agency approved* by the jurisdiction shall provide evidence of mechanical systems *commissioning* and completion in accordance the provisions of this section. (rest of section to remain the same)

#### **Section C408.2.4 Preliminary Commissioning Report.**

Revise Section C408.2.4, as follows:

**C408.2.4 Preliminary commissioning report.** A preliminary report of commissioning test procedures and results shall be completed and certified by a *registered design professional* or other *agency approved* by the jurisdiction and provided to the building owner. ...  
(rest of text for this section shall be the same)

#### **Section C408.3 Lighting System Functional Testing.**

Delete Section C408.3 and subsection C408.3.1 in their entirety and replace, as follows:

**C408.3 Lighting system functional testing.** Controls for automatic lighting systems shall comply with Section C408.3.1

**C408.3.1 Functional testing.** Lighting control devices and control systems shall be 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 installation instructions. The requirement for functional testing shall be stated in construction documents. When *occupancy sensors*, time switches, programmable schedule controls, or photosensors are installed, at a minimum, the following procedures shall be performed:

1. *Occupancy Sensors*:
  - 1.1. Certify that the sensor has been located and aimed in accordance with manufacturer recommendations
  - 1.2. For projects with up to seven (7) *occupancy sensors*, all shall be tested.
  - 1.3. For projects with more than seven (7) *occupancy sensors*, testing shall be

done for each unique combination of sensor type and space geometry. If multiples of each unique combination of sensor type and space geometry exists, at least one (1) or 10% random sampling of each shall be tested, whichever is more. The design professional and code official may require a higher percentage of each unique combination of sensor type and space geometry to be tested. If 30% or more of the tested controls within the random sampling fails, test all remaining identical combinations. For each sensor to be tested, verify the following:

- Status indicator (as applicable) operates correctly.
- The controlled lights turn off or down to the permitted level within the required time.
- For auto-on *occupancy sensors*, the lights do turn on to the permitted level when someone enters the space.
- For manual on sensors, the lights turn on only when manually activated.
- The lights are not incorrectly turned on by movement in nearby areas or by HVAC operation.

2. Automatic Time Switches:

- 2.1. Confirm that the automatic time switch control is programmed with appropriate weekday, weekend, and holiday (as applicable) schedules.
- 2.2. Document for the owner automatic time switch programming including weekday, weekend, holiday schedules as well as all set-up and preference program settings.
- 2.3. Verify the correct time and date is properly set in the time switch.
- 2.4. Verify that any battery back-up (as applicable) is installed and energized.
- 2.5. Verify that the override time limit is set to no more than 2 hours.
- 2.6. Simulate occupied condition. Verify and document the following:
  - All lights can be turned on and off by their respective area control switch.
  - Verify the switch only operates lighting in the enclosed space in which the switch is located.
- 2.7. Simulate unoccupied condition. Verify and document the following:
  - All non-exempt lighting turns off.
  - Manual override switch allows only the lights in the enclosed space where the override switch is located to turn on or remain on until the next scheduled shut off occurs.

3. Daylight Controls:

- 3.1. All control devices (photocontrols) have been properly located, field-calibrated and set for appropriate set points and threshold light levels.
- 3.2. Daylight controlled lighting loads adjust to appropriate light levels in response to available daylight.
- 3.3. The location where calibration adjustments are made is readily accessible only to authorized personnel.

The individual(s) responsible for the functional testing shall provide documentation certifying that the installed lighting controls meet or exceed all documented performance criteria of Section C405. The qualifications for the individual(s) responsible for the functional testing shall be identified on the construction documents and shall be subject to the code official's approval. Functional testing can begin when conditions exist to support the required testing and shall be complete within 90 days from the date the owner occupies the project.

## Chapter 5 Referenced Standards

Revise the referenced standards to provide AMCA standard for air curtain testing, as follows:

<b>AMCA</b>	Air Movement and Control Association International 30 West University Drive Arlington Heights, IL 60004-1806	
Standard reference number	Title	Reference in code section number
500D-10 220-05	Laboratory Methods for Testing Dampers for Rating Laboratory Methods for Testing Air Curtain Units for Aerodynamic Performance Rating	C402.4.5.1, C402.4.5.2 ,C402.4.9

Revise the ICC standard to remove the IMC and IPC not adopted by SNBO. Add new standard for IAPMO referencing the UMC and UPC, as follows:

<b>IAPMO</b>	International Association of Plumbing and Mechanical Officials 5001 E. Philadelphia Street Ontario, CA 91761	
Standard reference number	Title	Referenced in code section number
UMC—12	Uniform Mechanical Code®	C403.2.5, C403.2.5.1, C403.2.6, C403.2.7, C403.2.7.1, C403.2.7.1.1, C403.2.7.1.2, C403.2.7.1.3, C403.4.5, C408.2.2.1
UPC--12	Uniform Plumbing Code®	C201.3

<b>ICC</b>	International Code Council 500 New Jersey Avenue NW 6 <sup>th</sup> Floor Washington, DC 20001	
Standard reference number	Title	Reference in code section number
IBC—12	International Building Code®	C201.3, C303.2, C402.4.4
IFC—12	International Fire Code®	C201.3
IFGC—12	International Fuel Gas Code®	C201.3

# Residential Energy Code Provisions

## Section R101.1 Title.

Revise Section R101.1, as follows:

**R101.1 Title.** This code shall be known as the *International Energy Conservation Code of Southern Nevada*, and shall be cited as such. It is referred to herein as “this code”.

## Section R101.4.3 Additions, Alterations, Renovations or Repairs.

Revise the Exception to Section R101.4.3, as follows:

### R101.4.3 Additions, alterations, renovations or repairs. (...)

**Exception:** The following need not comply with the applicable provisions of the code, provided the authority having jurisdictions deems the energy use of the building is not increased:

1. (same)
2. Glass only replacements in an existing sash and frame, provided glass meets or exceed the same U-factor and SHGC of the glass being replaced. If the U-factor and SHGC of the glass cannot be determined, the windows shall either meet the minimum prescriptive values of Table R402.1.1 or justified using the whole building performance modeling approach per Sec. R405.
3. Existing ceiling, wall or floor cavities exposed during construction provided that these cavities had been filled with insulation. If insulation is missing and R-value cannot be determined, all exterior cavities absent the insulation shall be insulated per the minimum prescriptive requirements of Sec. R402 or justified using the whole building performance modeling approach per Sec. R405.
4. (same)
5. (same)

## Section R102.1.1 Above Code Programs.

Revise Section R102.1.1, as follows:

**R102.1.1 Above code programs.** The *code official* or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the efficiency required by this code. Programs seeking approval must submit all requested supporting documentation, including program guidelines, protocols, calculations and program simulation performance software, if applicable, to the Southern Nevada Building Officials for review. Residences certified in writing by such an energy efficiency program shall be considered in compliance with this code. The requirements identified as “mandatory” in Chapter 4 shall be met.

## Section R106.1 Referenced Codes and Standards.

*Revise Section R106.1, as follows:*

**Section R106.1 Referenced codes and standards.** The codes and standards referenced in this code shall be those listed in Chapter 5. Where this code refers to other codes not adopted by the jurisdiction, the applicable code adopted by the jurisdiction shall govern. Such codes and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections R106.1.1 and R106.1.2

## **Section R202 Definition of AIR BARRIER**

*Revise the definition of AIR BARRIER in Section R202, as follows:*

**AIR BARRIER.** An integral component of the *building thermal envelope* comprised of approved materials that are assembled and joined together to support in-contact insulating materials on one or more of its surfaces and to provide a barrier to air leakage through the building envelope. An air barrier may be comprised of, but not limited to, the exterior siding, exterior lath and stucco, rigid insulation board, exterior sheathing and sub-sheathing, water proof substrate with tiles, masonry walls, roof sheathing and drywall between conditioned and unconditioned spaces.

## **Section R202 General Definitions**

*Revise the definition of BUILDING THERMAL ENVELOPE in Section R202, as follows:*

**BUILDING THERMAL ENVELOPE.** The building's exterior walls, floor(s), ceilings, roof(s) and any other building elements that define a thermal barrier (heat gain/loss) between the interior and exterior environments. The building thermal envelope includes the air barrier installed in direct contact with insulation and is enclosed by and includes, but is not limited to, the following combination of elements: thermal insulation, air barrier, framing/structural members, glazing, doors and other components between the conditioned interior and unconditioned exterior environments.

## **Section R301.1 General.**

*Delete Section R301.1 in its entirety and replace, as follows:*

**R301.1 General.** Climate zones from Figure 3 01.1 or Table R301.1 shall be used in determining the applicable requirements from Chapters 4. Locations not in Table R301.1 (outside the United States) shall be assigned a climate zone based on Section 301.3.

**Exception:** Areas within these jurisdictions above altitudes of 4000 feet shall be considered in Climate Zone 5B.

### **Section R303.1.3 Fenestration Product Rating.**

*Add two new subsections to R303.1.3, as follows:*

**R303.1.3.1 Fenestration rating documentation.** All *fenestration* products to be used in a project must be listed in a *fenestration* schedule on the approved plans. This schedule shall include all of the following:

1. A list of all *fenestrations*, including, but not limited to, fixed and operable windows, skylights, sliding, swinging and overhead doors and glass block.
2. For site-built window assemblies not listed in the NFRC CMAST data base, simulation report reference numbers provided by an NFRC accredited simulation laboratory, for each type of product to be used in the project. [Note: The simulation reports are required as part of the plans submittal documentation, and shall include specific frame profiles, glazing options, emissivity coatings, gas fills, and spacer usage.]
3. The *fenestration* type, size, quantity and NFRC 100 certified U-factor
4. The solar heat gain coefficient for each *fenestration* proposed, using the NFRC 200 certified value.

**R303.1.3.2 Construction site documentation.** In addition to the approved plans described above, the following documentation shall be provided at the construction site prior to inspection of the *building thermal envelope*:

1. All NFRC certified factory-built *fenestration* products shall be labeled with the NFRC label certificates. This label is to remain intact on the fenestration unit until inspected by the jurisdiction having authority.
2. For rated site-built *fenestration* products, there shall be a separate NFRC label certificate for each type of fenestration product used in the project,. The label will display the following information:
  - a) The NFRC certification logo
  - b) The name, address and authorized NFRC license number of the approved inspection agency
  - c) The product ratings (U-factor, solar heat gain coefficient and visible light transmittance)
  - d) The address and name of the project
  - e) the product line information
  - f) The names, addresses and contractors/business license numbers for the suppliers of the frame, the glazing and the contractor

### **Section R401.3 Certificate (Mandatory).**

*Revise Section R401.3, as follows:*

**R401.3 Energy Certificate.** A permanently installed home thermal energy component certificate approved by the building official shall be completed and posted on an interior wall within the garage by the builder or registered design professional.

**Section R402.2.4 Access Hatches and Doors.**

*Revise Section R402.2.4, as follows:*

**R402.2.4 Access hatches and doors.** Access doors from conditioned space to unconditioned spaces (e.g. attics and crawl spaces) shall be weatherized and insulated to a level equivalent to the insulation on the surrounding surfaces. Insulation shall be permanently affixed to the access door or hatch to provide a permanent means of maintaining the installed *R*-value. Access shall be provided to all equipment that prevents damaging or compressing insulation. A wood framed equivalent baffle or retainer is required to be provided when loose fill insulation is installed, the purpose of which is to prevent the loose fill insulation from spilling into the living space when the attic access is opened, and to provide a permanent means of maintaining the installed *R*-value of the loose fill insulation.

**Table R402.4.1.1 Air Barrier and Insulation Installation**

*Revise Table R402.4.1.1, as follows:*

**Table R402.4.1.1.  
Air Barrier and Insulation Installation**

Component	Criteria
Air barrier and thermal barrier	<p>A continuous air barrier shall be installed in the building envelope.</p> <p>External thermal envelope contains a continuous air barrier that is in substantial contact and continuous alignment with the insulation free of any gaps, voids or compression.</p> <p>Breaks or joints in the air barrier shall be sealed.</p> <p>Air-permeable insulation shall not be used as a sealing material.</p>
Ceiling/attic	<p>The air barrier in any ceiling/ attic, including but not limited to dropped ceilings, soffits and others, shall be in substantial contact and continuous alignment with the insulation, free of any gaps, voids or compression and the air barrier sealed.</p> <p>Access openings, drop down stairs or knee wall doors to unconditioned space shall be insulated and sealed.</p>
Walls	<p>Corners and headers shall be insulated and the junction of the foundation and sill plate shall be sealed.</p> <p>The junction of the top plate and top of exterior walls shall be sealed.</p> <p>Exterior thermal envelope insulation for frame walls shall be installed in substantial contact and continuous alignment with the air barrier without gaps, voids or compression.</p> <p>Knee walls shall be sealed and insulated.</p>

Rim joists	Rim joists shall be insulated, with the insulation in substantial contact and continuous alignment with the exterior air barrier, free of any gaps, voids or compression.
Floors (including above-garage and cantilevered floors)	Insulation shall be installed free of any gaps, voids or compression in substantial contact and continuous alignment to maintain permanent contact with underside of subfloor decking
Crawl space walls	Where provided in lieu of floor insulation, insulation shall be permanently attached to the crawlspace walls in substantial contact and continuous alignment free of any gaps, voids or compression. Exposed earth in unvented crawl spaces shall be covered with a Class 1 vapor retarder with overlapping joints taped.
Shafts, Penetrations	All penetrations and architectural openings to the exterior or unconditioned space shall be sealed with a continuous air barrier.
Narrow cavities	Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation, readily conforms to the available cavity space, in substantial contact and continuous alignment with the air barrier, free of any gaps, voids or compression.
Plumbing and wiring	Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior wall or insulation that on installation readily conforms to the available space shall extend behind piping and wiring in substantial contact and continuous alignment with the air barrier, free of any gaps, voids or compression.

The rest of the table remains the same.

#### **Section R402.4.1.2 Testing.**

*Add an Exception to Subsection R402.4.1.2, as follows:*

**Exception:** For residential tract developments, consisting of 10 homes or more, using an approved above code program, testing shall be allowed to conform to the program requirements and when the following documentation is submitted to the jurisdiction by the developer:

1. Written HERS documentation, certifying compliance with an approved energy efficiency program using approved RESNET software.
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 R403.5 Mechanical Ventilation (Mandatory).**

*Add an Exception to Section R403.5, as follows:*

**R403.5 Mechanical ventilation (Mandatory). (...)**

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

**Chapter 5 Referenced Standards**

*Revise the ICC standard to remove the IMC and IPC not adopted by SNBO. Add new standard for IAPMO referencing the UMC and UPC, as follows:*

<b>IAPMO</b>	International Association of Plumbing and Mechanical Officials 5001 E. Philadelphia Street Ontario, CA 91761	
Standard reference number	Title	Referenced in code section number
UMC—12 UPC--12	Uniform Mechanical Code® Uniform Plumbing Code®	R201.3, R303.2, R402.2.10, R403.2.2, R403.5 R201..3

<b>ICC</b>	International Code Council 500 New Jersey Avenue NW 6 <sup>th</sup> Floor Washington, DC 20001	
Standard reference number	Title	Reference in code section number
IBC—12 IFC—12 IFGC—12 IRC--12	International Building Code® International Fire Code® International Fuel Gas Code® International Residential Code®	C201.3, C303.2, C402.4.4 C201.3 C201.3 R301.3, R303.2, R402.2.10, R403.2.2, R403.5