

## AGENDA

UNIFORM BUILDING CODE COMMISSION  
MECHANICAL ADVISORY COMMITTEE  
ARCHITECTURAL ADVISORY COMMITTEE  
JOINT MEETING

July 16, 2015 9:00  
Room 341  
Sandy City Hall  
10000 Centennial Pkwy Sandy, UT

*This agenda is subject to change up to 24 hours prior to the meeting.*

### ADMINISTRATIVE BUSINESS:

Sign attendance sheet

1. Approval of the minutes from the June 30, 2015 joint meeting
2. Swear in new member

### DISCUSSION ITEMS

3. Review of 2015 IECC and current amendments

Next Scheduled Meeting: as needed

**If you do not plan on attending this meeting, please call Sharon at 530-6163 or email at [ssmalley@utah.gov](mailto:ssmalley@utah.gov) or [dansjones@utah.gov](mailto:dansjones@utah.gov).**



**In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Dave Taylor, ADA Coordinator, at least three working days prior to the meeting. Division of Occupational and Professional Licensing, 160 East 300 South, Salt Lake City UT 84115, Phone 530-6628 or toll-free in Utah only 866-275-3675.**

UNIFORM BUILDING CODE COMMISSION  
MECHANICAL ADVISORY COMMITTEE  
ARCHITECTURAL ADVISORY COMMITTEE  
JOINT MEETING

June 30, 2015  
Sandy City Hall Room 201  
10000 Centennial Pkwy Sandy UT

MINUTES

STAFF:

Dan Jones, Bureau Manager  
Sharon Smalley, Board Secretary

MECHANICAL ADVISORY COMMITTEE:

David Wilson	Tyler Lewis
Trent Hunt (excused)	Brent Ursenbach
Dennis Thatcher	Roger Hamlet
Randy Beckstead	

ARCHITECTURAL ADVISORY COMMITTEE

William Hall	Jerry Jensen
Scott Marsell	James Sullivan
Kenny Nichols	Chris Jensen
Gary Payne	

VISITORS:

Kevin Emerson, Utah Clean Energy	Ross Ford, Utah HBA
Donna L Gethers, Governor's Office of Energy Development	

MINUTES

A motion was made by Dave Wilson to approve the minutes from the May 12, 2015 meeting for the Mechanical Advisory Committee. The motion was seconded by Tyler Lewis and passed unanimously.

A motion was made by Kenny Nichols to approve the minutes from the June 2, 2015 meeting for the Architectural Advisory Committee. The motion was seconded by James Sullivan and passed unanimously.

REVIEW AMENDMENT FOR IECC  
SECTION C403.2.9.1.3

Roger Hamlet gave a report on this section of the code. Following the discussion, a motion was made by Roger Hamlet to add an amendment that would delete the words "by the designer" from this

section. The motion was seconded by Dave Wilson and passed unanimously.

#### REVIEW AMENDMENT FOR IFGC SECTION 631.2

Roger Hamlet asked the committees to consider an amendment for this section. Following the discussion, a motion was made by Dennis Thatcher to modify the current amendment for this section by adding the statute and rule number for the Utah Labor Commission, Division of Boiler, Elevator and Coal Mine Safety. The motion was seconded by Roger Hamlet and passed unanimously.

#### REVIEW 2015 IECC

Kevin Emerson spoke to the committees in connection with the report submitted on the cost-effectiveness analysis of the 2015 energy code for both residential and commercial.

Following the discussion on the energy code by all present, a motion was made by Chris Jensen to make a recommendation to move forward with the 2015 IECC. The motion was seconded by Kenny Nichols. Following further discussion, the motion was withdrawn and the second concurred.

The committee agreed that further review needed to be done before a recommendation could be made. The committees will meet again on July 16<sup>th</sup> at nine o'clock to make a final recommendation.

The meeting adjourned at 4:00.

*Note: These minutes are not intended to be a verbatim transcript but are intended to record the significant features of the business conducted in this meeting. Discussed items are not necessarily shown in the chronological order they occurred.*



**Potential impact:** This change allows the option of using an exterior door that meets the U-value requirements or an interior door with enough insulation attached to the back to meet the vertical access door requirement.

### 3. Building envelope air leakage testing

Building envelope air leakage testing must now be done in accordance with either ASTM E 779 or ASTM E 1827.

**What's the difference?** In both the 2009 and 2012 versions of the IECC there were requirements for air leakage testing of the building envelope, but neither code referenced any standard by which to conduct the test. The 2015 code now requires that one of the two ASTM standards be followed when conducting the air leakage test.



**Potential impact:** The impact of this requirement is expected to be minimal, but make sure reports for air leakage test results reference the ASTM standard used.

### 4. Combustion closets

There is a new section, R402.4.4—"Rooms containing fuel burning appliances," that states "where open combustion air ducts provide combustion air to open combustion fuel burning appliances, the appliance and combustion air opening shall be located outside the building thermal envelope or enclosed in a room, isolated from inside the thermal envelope." This new requirement only applies in Climate Zones 3-8, but requires combustion closets to be insulated to levels not less than the basement wall R-value requirements in Table R402.1.2. The closet must also be air sealed and the door must be fully gasketed.

**What's the difference?** This is an entirely new requirement.

**Potential impact:** Complying with this new requirement could cost a few hundred dollars, depending on current construction practices. There are several options for complying: (1) Install direct vent appliances (i.e., high-efficient furnace and water heater) where both intake and exhaust pipes are continuous to the outside; (2) Where you have combustion air ducts (often called hi/low vents) bringing combustion air to an atmospherically vented appliance, you can enclose the appliance in a combustion closet; (3) Don't use combustion appliances (i.e., build an all-electric house); or (4) Locate your combustion appliances outside the building thermal envelope (i.e., in an unfinished basement with insulation in the floor joists or in an attic where the roofline is uninsulated). Plans examiners and inspectors should verify that this new requirement is being properly complied with.

### 5. Duct insulation

The requirements for duct insulation have been revised slightly. The new language makes duct insulation requirements dependent on location and the diameter of the duct.

**What's the difference?** The 2012 IECC requires supply ducts in the attic to be R-8 and all other ducts R-6. The 2015 code revises the requirements as follows:

- Supply and return ducts in the attic must be a minimum of R-8 (where  $\geq 3$ -inch diameter) and R-6 (where  $< 3$ -inch diameter).
- Supply and return ducts everywhere else must be a minimum of R-6 (where  $\geq 3$ -inch diameter) and R-4.2 (where  $< 3$ -inch diameter).

**Potential impact:** Although these revisions allow more flexibility, they also require careful attention by HVAC contractors to

not mix up insulation values. Of course, there is always the exception which allows for ducts (or portions of ducts) located completely inside conditioned space not to be insulated.

Overall, builders and code officials will find the 2015 IECC to be a better code than the 2012 version. Not only does it allow for a new and more flexible compliance path (**the ERI Compliance Path**), but also many of the small changes, not included here, have cleaned up the language to make the code easier to understand and comply with.

# IMPLICATIONS OF THE 2015 IECC ENERGY RATING INDEX (ERI)

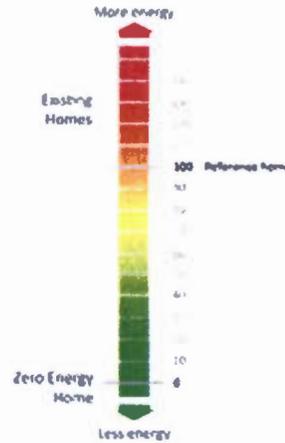
Historically, the residential International Energy Conservation Code (IECC) has offered two main ways (or paths) for builders to demonstrate code compliance: prescriptive and performance. The 2015 IECC includes a third and new compliance path—the Energy Rating Index (ERI). The ERI provides flexibility for builders, but if weakened, becomes the path of least efficiency.

## UNDERSTANDING THE ERI

Like a miles-per-gallon sticker on cars, an ERI allows homebuyers to compare the energy-efficiency (and estimated annual energy costs) of different homes by providing a score for each house, based on a scale of zero to 100. A home that scores 100 points is about as efficient as a reference home built to 2006 standards, and a home that scores zero is considered net zero.<sup>1</sup> (see right)

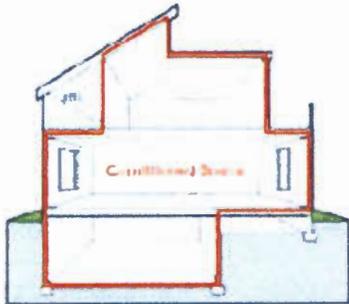
The 2015 IECC provides the required ERI score for each climate zone to ensure that the efficiency of homes built using this path to demonstrate code compliance are at least as efficient as homes using other compliance paths in the 2015. It is imperative that state and local jurisdictions considering adoption of the 2015 IECC not raise the ERI scores.

CLIMATE ZONE	1	2	3	4	5	6	7	8
ENERGY RATING INDEX (SCORE)	52	52	51	54	55	54	53	53



## ALL COMPLIANCE PATHS MUST BE EQUAL, WHICH IS WHY ERI SCORES SEEM SO LOW

The ERI path is different from other compliance paths because it gives builders credit for installing some high-efficiency items not otherwise covered in the code to compensate for decreased efficiency in the building envelope (see left). This is important because while other compliance paths require 2015-specific building envelope components, the ERI path



### What's a building envelope?

The building envelope includes basement walls, exterior walls, floor, ceiling, windows, doors and any other boundary between the conditioned (heated and/or cooled) living space and the outdoors (or un-conditioned spaces like an attic or crawlspace).

only requires a building envelope that meets the 2009 requirements. In fact, while the prescriptive and performance paths cannot take high-efficiency HVAC equipment or home appliances (such as refrigerators) into account when determining the overall building efficiency, the ERI does. A home gets ERI credit (i.e. a lower score) for features such as solar panels, high-efficiency mechanical equipment such as heating, cooling and water heating, and appliances (refrigerators, dryers, etc).

There is the possibility that these items will be removed and substituted with less efficient features. Consequently, future home owners may be left with a less efficient and more costly home that is built only to 2009 standards. With this in mind, the ERI scores were set to help ensure that the overall building efficiency is not compromised.



Moving Truck