AGENDA

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

August 4, 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 July 16, 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 or 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

July 16. 2015
Sandy City Hall Room 341
10000 Centennial Pkwy Sandy UT

MINUTES

STAFF:
Dan Jones, Bureau Manager
Sharon Smalley, Board Secretary

MECHANICAL ADVISORY COMMITTEE:
David Wilson
Trent Hunt
Dennis Thatcher
Dave Halverson (excused)
Tyler Lewis (excused)
Brent Ursenbach
Roger Hamlet

ARCHITECTURAL ADVISORY COMMITTEE
David Triplett
Scott Marsell
Kenny Nichols
Gary Payne
Jerry Jensen
James Sullivan
Chris Jensen

VISITORS:
Kevin Emerson, Utah Clean Energy
John Gasman, McArthur Homes
Dianna Gethers, Governor's Offiice of Energy Development
Ron McArthur, McArthur Homes
Meghan Duttan, Utah Clean Energy

SWEAR IN NEW MEMBER

Dave Halverson, new member for the Mechanical Advisory Committee, was not present.

Brent Ursenbach asked the Mechanical Committee to look at the current amendment for IRC, Table M1601.1.1(2). Following the review, a motion was made by Dennis Thatcher to delete the current amendment. The motion was seconded by Trent Hunt and passed unanimously.

The committees also discussed the current amendment for IFGC, Section 631.2 and IMC, Section 1004.2. A motion was made by Trent Hunt to modify the current amendment by changing the wording

by adding "with minimum clearances as prescribed by the manufacturer's installation instructions and the state boiler code, whichever is greater." The motion was seconded by Roger Hamlet and passed unanimously.

MINUTES

A motion was made by David Wilson to approve the minutes from the June 30, 2015 joint meeting as written. The motion was seconded by Scott Marsell and passed unanimously.

REVIEW 2015 IECC AND CURRENT AMENDMENTS

The committees and those present discussed the 2015 IECC and the energy portion of the IRC and the current energy requirements.

Following the discussion by all present, a motion was made by Jerry Jensen to adopt the 2015 IECC without any of the existing state amendments. The motion was seconded by David Triplett. The motion was passed with a vote of ten in favor and Scott Marsell and James Sullivan voting in opposition.

A motion was made by David Tripletts to adopt the commercial portion of the IECC and separate out the residential portion and Chapter 11 of the IRC and recommend them as a separate bill. Following further discussion, the motion was withdrawn

A motion was made by Trent Hunt to recommend to the UBCC that the 2015 IRC and the 2015 residential IECC be reviewed separately from the remaining 2015 codes. The motion was seconded by Roger Hamlet and passed unanimously.

At this point in the meeting Jerry Jensen and Chris Jensen left the meeting.

The Architectural Committee deferred the recommendation for the amendments to the commercial portion of the IECC to the Mechanical Committee.

A motion was made Trent Hunt to approve an amendment to Section C403.2.9.1.3 of the 2015

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

The meeting adjourned at 11:26.

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.

REScheck Software Version 4.6.2

Compliance Certificate

Project UA trade off

Energy Code:	**Utah Energy Conservation Code**
Location:	**Salt Lake City, Utah**
Construction Type:	**Single-family**
Project Type:	**New Construction**
Orientation:	**Unspecified**
Conditioned Floor Area:	**2,400 ft2**
Glazing Area	**18%**
Climate Zone:	**5 (5765 HDD)**
Permit Date:	
Permit Number:	

Construction Site: Owner/Agent: Designer/Contractor:

Compliance: Fails using UA trade-off

Compliance: **10.0% Worse Than Code** Maximum UA: **380** Your UA: **418**

The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules. It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Ceiling 1: Flat Ceiling or Scissor Truss	2,400	38.0	0.0	0.030	72
Wall 1: Wood Frame, 16" o.c. Orientation: Front	489	13.0	0.0	0.082	32
Window 1: Vinyl/Fiberglass Frame:Double Pane with Low-E Orientation: Front	80			0.350	28
Door 1: Solid Orientation: Front	20			0.350	7
Wall 2: Wood Frame, 16" o.c. Orientation: Right side	489	13.0	0.0	0.082	37
Window 2: Vinyl/Fiberglass Frame:Double Pane with Low-E Orientation: Right side	41			0.350	14
Wall 3: Wood Frame, 16" o.c. Orientation: Left side	489	13.0	0.0	0.082	38
Window 3: Vinyl/Fiberglass Frame:Double Pane with Low-E Orientation: Left side	22			0.350	8
Wall 4: Wood Frame, 16" o.c. Orientation: Back	489	13.0	0.0	0.082	33
Window 4: Vinyl/Fiberglass Frame:Double Pane with Low-E Orientation: Back	41			0.350	14
Door 2: Glass Orientation: Back	40			0.350	14
	350	13.0	0.0	0.059	19

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Window 5: Vinyl/Fiberglass Frame:Double Pane with Low-E Orientation: Front	32			0.350	11
Basement Wall 2: Solid Concrete or Masonry Orientation: Right side Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	13.0	0.0	0.059	19
Window 6: Vinyl/Fiberglass Frame:Double Pane with Low-E Orientation: Right side	32			0.350	11
Basement Wall 3: Solid Concrete or Masonry Orientation: Left side Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	13.0	0.0	0.059	20
Window 7: Vinyl/Fiberglass Frame:Double Pane with Low-E Orientation: Left side	16			0.350	6
Basement Wall 4: Solid Concrete or Masonry Orientation: Back Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	13.0	0.0	0.059	18
Window 8: Vinyl/Fiberglass Frame:Double Pane with Low-E Orientation: Back	48			0.350	17

REScheck Software Version 4.6.2

Compliance Certificate

Project Equipment ~~96~~ 95%

Energy Code:	**Utah Energy Conservation Code**
Location:	**Salt Lake City, Utah**
Construction Type:	**Single-family**
Project Type:	**New Construction**
Orientation:	**Bldg. faces 0 deg. from North**
Conditioned Floor Area:	**2,400 ft2**
Glazing Area	**18%**
Climate Zone:	**5 (5765 HDD)**
Permit Date:	
Permit Number:	

Construction Site: Owner/Agent: Designer/Contractor:

Compliance: Passes using performance alternative

Compliance: **6.4% Better Than Code**

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Ceiling 1: Flat Ceiling or Scissor Truss	2,400	38.0	0.0	0.030	72
Wall 1: Wood Frame, 16" o.c. Orientation: Front	489	13.0	0.0	0.082	32
Window 1: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Front	80			0.350	28
Door 1: Solid Orientation: Front	20			0.350	7
Wall 2: Wood Frame, 16" o.c. Orientation: Right side	489	13.0	0.0	0.082	37
Window 2: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Right side	41			0.350	14
Wall 3: Wood Frame, 16" o.c. Orientation: Left side	489	13.0	0.0	0.082	38
Window 3: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Left side	22			0.350	8
Wall 4: Wood Frame, 16" o.c. Orientation: Back	489	13.0	0.0	0.082	33
Window 4: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Back	41			0.350	14
Door 2: Glass SHGC: 0.30 Orientation: Back	40			0.350	14

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Basement Wall 1: Solid Concrete or Masonry Orientation: Front Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	13.0	0.0	0.059	19
Window 5: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Front	32			0.350	11
Basement Wall 2: Solid Concrete or Masonry Orientation: Right side Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	13.0	0.0	0.059	19
Window 6: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Right side	32			0.350	11
Basement Wall 3: Solid Concrete or Masonry Orientation: Left side Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	13.0	0.0	0.059	20
Window 7: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Left side	16			0.350	6
Basement Wall 4: Solid Concrete or Masonry Orientation: Back Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	13.0	0.0	0.059	18
Window 8: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Back	48			0.350	17

Mechanical Equipment

Description	Fuel type	Efficiency
Forced Hot Air	Gas	95 AFUE

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the Utah Energy Conservation Code requirements in RES*check* Version 4.6.2 and to comply with the mandatory requirements listed in the RES*check* Inspection Checklist.

Name - Title _____ Signature _____ Date _____

REScheck Software Version 4.6.2

Compliance Certificate

Project Equipment- ~~96~~ 95% R-15/R13

Energy Code:	**Utah Energy Conservation Code**
Location:	**Salt Lake City, Utah**
Construction Type:	**Single-family**
Project Type:	**New Construction**
Orientation:	**Bldg. faces 0 deg. from North**
Conditioned Floor Area:	**2,400 ft2**
Glazing Area	**18%**
Climate Zone:	**5 (5765 HDD)**
Permit Date:	
Permit Number:	

Construction Site: Owner/Agent: Designer/Contractor:

Compliance: Passes using performance alternative

Compliance: **7.9% Better Than Code**

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Ceiling 1: Flat Ceiling or Scissor Truss	2,400	38.0	0.0	0.030	72
Wall 1: Wood Frame, 16" o.c. Orientation: Front	489	15.0	0.0	0.077	30
Window 1: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Front	80			0.350	28
Door 1: Solid Orientation: Front	20			0.350	7
Wall 2: Wood Frame, 16" o.c. Orientation: Right side	489	15.0	0.0	0.077	34
Window 2: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Right side	41			0.350	14
Wall 3: Wood Frame, 16" o.c. Orientation: Left side	489	15.0	0.0	0.077	36
Window 3: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Left side	22			0.350	8
Wall 4: Wood Frame, 16" o.c. Orientation: Back	489	15.0	0.0	0.077	31
Window 4: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Back	41			0.350	14
Door 2: Glass SHGC: 0.30 Orientation: Back	40			0.350	14

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Basement Wall 1: Solid Concrete or Masonry Orientation: Front Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	0.0	13.0	0.051	16
Window 5: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Front	32			0.350	11
Basement Wall 2: Solid Concrete or Masonry Orientation: Right side Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	0.0	13.0	0.051	16
Window 6: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Right side	32			0.350	11
Basement Wall 3: Solid Concrete or Masonry Orientation: Left side Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	0.0	13.0	0.051	17
Window 7: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Left side	16			0.350	6
Basement Wall 4: Solid Concrete or Masonry Orientation: Back Wall height: 8.0' Depth below grade: 7.0' Insulation depth: 8.0'	350	0.0	13.0	0.051	15
Window 8: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.30 Orientation: Back	48			0.350	17

Mechanical Equipment

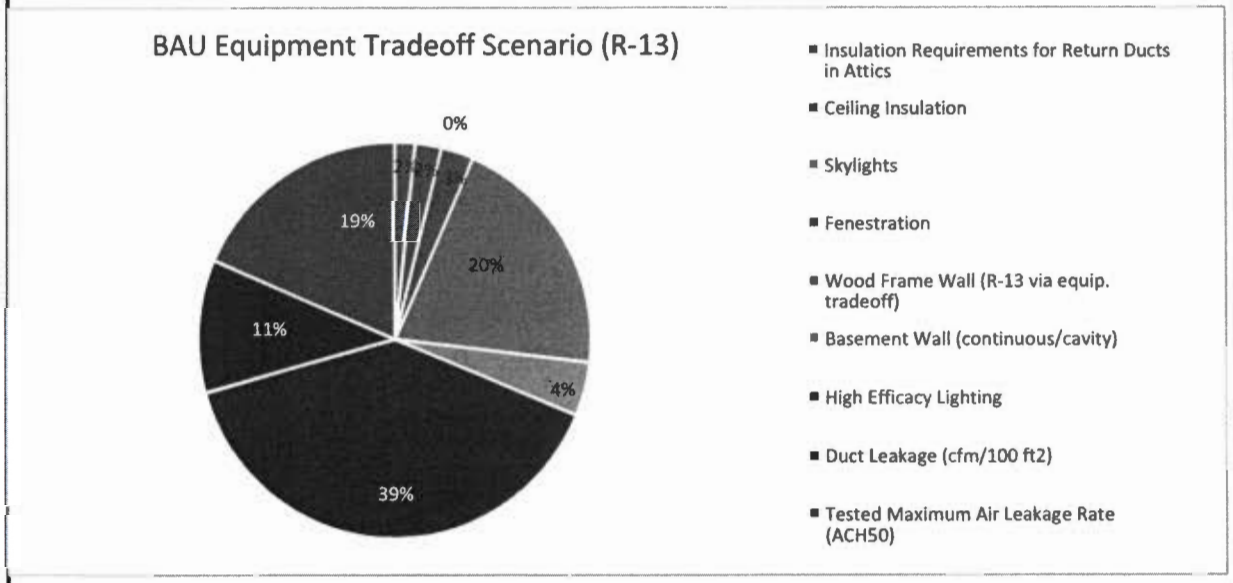
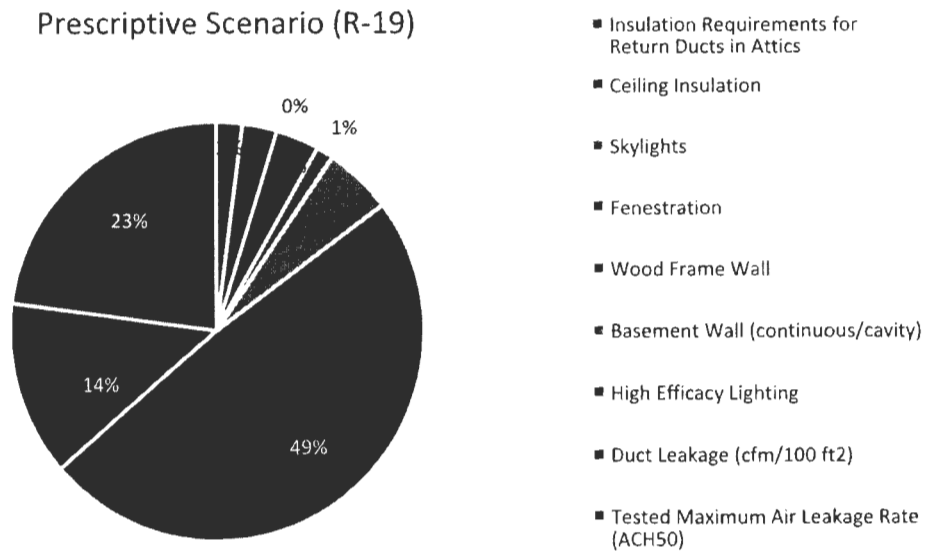
Description	Fuel type	Efficiency
Forced Hot Air	Gas	95 AFUE

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the Utah Energy Conservation Code requirements in RES*check* Version 4.6.2 and to comply with the mandatory requirements listed in the RES*check* Inspection Checklist.

Name - Title _____ Signature _____ Date _____

	Efficiency Measure	Change in Efficiency Value (CZ5)		Energy Cost ($/yr)		Energy Cost Differential ($/yr)	Percentage of total savings	
		Utah IECC	2015 IECC	Utah IECC	2015 IECC	2015 IECC vs. Utah IECC	Prescriptive scenario - % of total savings	Equip. tradeoff scenario - % of total savings
1	Insulation Requirements for Return Ducts in Attics	R-6	R-8 (diameter ≥ 3 inches); R-6 (diameter < 3 inches)	$ 2,179	$ 2,173	$ 6.00	2%	2%
2	Ceiling Insulation	R-38	R-49	$ 2,159	$ 2,151	$ 8.00	3%	2%
3	Skylights	U-factor 0.6	U-factor 0.55			$ -	0%	0%
4	Fenestration	U-factor 0.35	U-factor 0.32	$ 2,164	$ 2,154	$ 10.00	3%	3%
5a	Wood Frame Wall	R-19 or R-13+5	R-20	$ 2,090	$ 2,086	$ 4.00	1%	n/a
5b	Wood Frame Wall (via equip. tradeoff)	R-13 (via equip. tradeoff)	R-20	$ 2,161	$ 2,086	**$ 75.00**	n/a	20%
6	Basement Wall (continuous/cavity)	R-10/13	R-15/19	$ 2,170	$ 2,154	$ 16.00	5%	4%
7	High Efficacy Lighting	0% (not required)	75%	$ 2,159	$ 2,014	**$ 145.00**	49%	39%
8	Duct Leakage (cfm/100 ft^2)	10	4	$ 2,092	$ 2,052	**$ 40.00**	13%	11%
9	Tested Maximum Air Leakage Rate (ACH50)	5	3	$ 2,092	$ 2,024	**$ 68.00**	23%	18%
	Prescrtiptive Scenario Total (R-19 walls)					$ 297.00		
	BAU Equipment Tradeoff Scenario Total (R-13 walls)					$ 368.00		

Efficiency Measure	Energy Cost Differential ($/yr) 2015 IECC vs Utah IECC
Insulation Requirements for Return Ducts in Attics	$ 6.00
Ceiling Insulation	$ 8.00
Skylights	$ -
Fenestration	$ 10.00
Wood Frame Wall (R-13 via equip. tradeoff)	$ 75.00
Basement Wall (continuous/cavity)	$ 16.00
High Efficacy Lighting	$ 145.00
Duct Leakage (cfm/100 ft^2)	$ 40.00
Tested Maximum Air Leakage Rate (ACH50)	$ 68.00
TOTAL	**$ 368.00**



Efficiency Measure	Energy Cost Differential ($/yr) 2015 IECC vs Utah IECC
Insulation Requirements for Return Ducts in Attics	$ 6.00
Ceiling Insulation	$ 8.00
Skylights	$ -
Fenestration	$ 10.00
Wood Frame Wall	$ 4.00
Basement Wall (continuous/cavity)	$ 16.00
High Efficacy Lighting	$ 145.00
Duct Leakage (cfm/100 ft^2)	$ 40.00
Tested Maximum Air Leakage Rate (ACH50)	$ 68.00
TOTAL	**$ 297.00**