



Legislation Text

File #: ID 16-1148, **Version:** 1

Agenda Information Sheet

DEPARTMENT: Development Services, Building Inspections Division

CM/ ACM: Jon Fortune

Date: September 13, 2016

SUBJECT

Receive a report, hold a discussion and give staff direction regarding additional amendments to the 2015 International Energy Conservation Code (IECC) as proposed by the North Central Texas Council of Governments and recommended by staff.

BACKGROUND

As a result of testing conducted by builders attempting to prepare for the requirements of the 2015 IECC, it was determined that the most challenging issue was obtaining compliance with the maximum air leakage requirements of the code. As a result, the North Central Texas Council of Governments (COG), in conjunction with the Dallas Builders Association, and other industry representatives, developed a proposed amendment to the 2015 IECC which would allow for an alternative prescriptive path for complying with these code requirements. As required by State law, COG submitted the proposed amendments to the Energy Systems Laboratory (ESL) at Texas A&M University for analysis and on July 8, 2016 the ESL completed its review of the proposed amendments. ESL determined that the proposed amendments met or exceeded the efficiency requirements of the 2015 IECC. COG posted these proposed amendments under the recommended amendments section of their website in August.

The 2015 IECC currently provides both a prescriptive and a performance based path to builders when determining how to demonstrate compliance with the code. The performance based path has several options and several different software programs available to the builder to demonstrate compliance. However, the prescriptive path has a single rigid set of guidelines which must be followed in order to demonstrate compliance. The proposed amendments apply to those projects which are choosing to comply with this prescriptive path. The purpose of these amendments is to allow builders a less rigid option to demonstrate compliance with the code, as well as an option which includes flexibility when they are unable to meet the maximum requirement of 3 air changes per hour for the required blower door test. This amendment enables the builder to provide additional insulation in all ceiling areas as well as trade-offs in other areas in order to provide a product which meets or exceeds the energy efficiency requirements of the 2015 IECC.

These tradeoff options are deemed to be not less stringent than the residential provisions of the *2015 IECC* and the *2015 IRC*. The tradeoff relaxes the required 3ACH50 per Sections R402.4.1.2 (N1102.4.1.2) of the residential provisions of the *2015 IECC* and the *2015 IRC*. The tradeoff will permit houses that test to less than or equal to 4ACH50 as outlined in Options #1 and #2 below. The tradeoff is limited as follows:

1. Limited to one- and two- family residences with a conditioned floor area between 1,000 and 6,000 square feet.
2. Limited to one- and two-family residences containing between 2 to 6 bedrooms.
3. Assumes all ductwork and mechanical equipment is located in the unconditioned attic.
4. Assumes typical wood framing in the walls and roof.
5. Assumes one of the following heating/cooling systems:
 - a. All electric system with a heat pump for heating, or
 - b. A system with electric cooling and natural gas heating.(Note: electric resistance strip heating does not qualify for this tradeoff.)

ESL 4ACH⁵⁰ Prescriptive Tradeoff Code Equivalency Compliance^a

Envelope Component	Option #1	Option #2
R402.4 Air Leakage	$\leq 4\text{ACH}^{50}$	$\leq 4\text{ACH}^{50}$
Wall Insulation <i>R</i> -value	$R13 + R3^b$	$R13 + R3^b$
Fenestration <i>U</i> -factor	≤ 0.32	≤ 0.32
Fenestration SHGC	≤ 0.25	≤ 0.25
Ceiling <i>R</i> -value	$\geq R49$	$\geq R49$
Duct Insulation <i>R</i> -value	R8	R6
Radiant Barrier Required	No	Yes

^a Except for the values listed in the table, all other mandatory code provisions are applicable.

^b The first value listed is the *R*-value of cavity insulation, the second value is the *R*-value of the continuous insulation or insulated siding.

CURRENT ADOPTION

Staff is recommending incorporating the table titled “ESL 4ACH Prescriptive Tradeoff Code Equivalency Compliance” (attached) to the current proposed COG amendments in order to provide an alternative path for builders to demonstrate compliance with the 2015 IECC. This will provide builders with several options as to how to comply with the code requirements.

FISCAL IMPACT

Staff does not anticipate any fiscal impact as a result of adopting this code.

OPTIONS (No action required)

1. Direct staff to proceed with the addition of the proposed amendments.
2. Request more information about the proposed amendments.

RECOMMENDATION

Staff recommends that the City Council include this amendment with the adoption of the 2015 International Energy Conservation Code along with previous staff recommended amendments.

EXHIBITS

1. The Proposed 2015 Energy Code Adoption Ordinance.
2. Additional Amendment Proposed by COG
3. Council Presentation on Updated Amendment 2015 IECC.

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