



July 8, 2016

**Determination of Prescriptive Tradeoff Code Compliance Options
for the NCTCOG Region**

In accordance with the Health and Safety Code, Section 388.003, subsection (e), the Energy Systems Laboratory of the Texas A&M University System has analyzed tradeoff code compliance options for the North Central Texas Council of Government (NCTCOG) Region to meet the requirements of the *2015 International Energy Conservation Code (IECC)* and the *2015 International Residential Code (IRC)*.

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	≤ 4ACH ⁵⁰	≤ 4ACH ⁵⁰
Wall Insulation R-value	R13 + R3 ^b	R13 + R3 ^b
Fenestration U-factor	≤ 0.32	≤ 0.32
Fenestration SHGC	≤ 0.25	≤ 0.25
Ceiling R-value	≥ R49	≥ R49
Duct Insulation R-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.