



LITTLE ELM

**BUILDING SAFETY DIVISION
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Prescriptive Tradeoff Code Compliance Options Statement

Date: September 1, 2016

Prepared By: Building Safety
Approved By: 
Cruz Hernandez MCP, CBO.

RE: Requirements

I. Purpose

The purpose is to provide code compliance trade off options on meeting the Required Air Changes per Hour / ACH per 2015 IECC Sec. R402.4 Air Leakage and 2015 IRC Chapter 11 - N1102.4

II. Scope

The tradeoff will permit houses that test to less than or equal to 4 ACH as outlined in options # 1 and # 2, see attached ESL 4 ACH Prescriptive Tradeoff Code Equivalency Sheet

III. Requirements

Must meet all requirements as specified in the Prescriptive Tradeoff Code Compliance Options Sheet

IV. Responsibility

The responsibility for meeting all the requirements of the tradeoff options under this requirement shall be on the building contractor, owner or remodeling contractor.



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.



Town of Little Elm Texas
Residential Energy Compliance Path
Energy Code Requirements of the 2015 IRC (IECC)

Submit with Permit Application

Project Address: _____ Permit Number: _____

N1101.13 (R401.2) – Projects shall comply with one of the following:

- Option #1a – Prescriptive: Sections N1101.14 (R401) through N1104 (R404):**
 N1102 (R402) Building Thermal Envelope. {Using table N1102.1.2 (R402.1.2) INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT}
 N1103 (R403) Systems.
 N1104 (R404) Electrical Power and Lighting Systems(Mandatory).
 Plus all mandatory provisions
- Option #1b – Prescriptive-Using REScheck™ UA approach Only: Sections N1101.14 (R401) through N1104 (R404):**
 N1102 (R402) Building Thermal Envelope.
 N1103 (R403) Systems.
 N1104 (R404) Electrical Power and Lighting Systems(Mandatory).
 Plus all mandatory provisions
- Option #2 – Section N1105 (R405) Performance Approach:** Plus all mandatory provisions
- Option #3 – ENERGY STAR Certified Homes®**
- Option #4 – Section N1106 (R406) Energy Rating Index Compliance Alternative**
- Option #5 – ESL 4ACH⁵⁰ Tradeoff Code Equivalency Compliance^a**

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

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

^b First value is cavity insulation, second is continuous insulation or insulated siding.

NOTE: Attach appropriate compliance option “compliance report”

I certify that I have reviewed the construction documents including, but not necessarily limited to, insulation materials and R-values; fenestration U-factors and SHGC values; area-weighted average U-factor and SHGC calculations; mechanical system design criteria; mechanical and service water heating system and equipment types, sizes and efficiencies; equipment and system controls; duct sealing, duct and piping insulation and location; and air sealing details; and that the project as designed satisfies the minimum requirements for the compliance approach selected above.

Agency and Certification Number: _____

Agency Contact Information: _____

Signature of Responsible Party: _____

Printed Name and Title of Responsible Party: _____



Town of Little Elm Texas
Residential Energy Compliance Certificate
Energy Code Requirements of the 2015 IRC (IECC)

Project Address: _____ Permit Number: _____

DUCT LEAKAGE TESTING VERIFICATION

Rough-In Test Option (R403.3.3) **Post Construction Option (R403.3.3)**

System #1 - _____ CFM25 System #2 - _____ CFM 25 System #3 - _____

System #4 - _____ CFM25 System #5 - _____ CFM 25 System #6 - _____

I certify that I have conducted a **duct leakage test** and it has passed the requirements of the 2015 International Energy Conservation Code. I further certify that I am certified to perform duct leakage testing certified by national or state organizations as approved by the building official. I certify I am an independent third-party entity, and have not installed the HVAC system; nor am I employed or have any financial interest in the company that constructs the structure.

Agency and Certification Number: _____

Signature of Responsible Party: _____

Printed Name and Title of Responsible Party: _____

BUILDING THERMAL ENVELOPE LEAKAGE TESTING VERIFICATION

Building Thermal Envelope Leakage Testing (R402.4.1.2): _____ ACH50

I certify that I have conducted an **air leakage test** and it has passed the requirements of the 2015 International Energy Conservation Code. I further certify that I am certified to perform air infiltration testing certified by national or state organizations as approved by the building official. I certify I am an independent third-party entity, nor am I employed or have any financial interest in the company that constructs the structure.

Agency and Certification Number: _____

Signature of Responsible Party: _____

Printed Name and Title of Responsible Party: _____

COMPLIANCE STATEMENT

We have concluded all inspections, testing and plan reviews of the above project and hereby declare it in compliance with the residential provisions of the 2015 IECC, as amended, for the selected compliance approach.

- Option 1(a) **Prescriptive: Sections N1101.14 (R401) through N1104 (R404)**
- Option 1(b) **Prescriptive: REScheck™ UA Approach Only: Sections N1101.14 (R401)-N1104 (R404) (attach report)**
- Option 2 **Performance: Section N1105 (R405) Performance Approach (attach report)**
- Option 3 **ENERGY STAR Certified Homes® (attach certificate)**
- Option 4 **Energy Rating Index Compliance Alternative (ERI): Section N1106 (R406) ERI: _____**
- Option #5 **ESL 4ACH⁵⁰ Tradeoff Code Equivalency Compliance**

Agency and Certification Number: _____

Agency Contact Information: _____

Signature of Responsible Party: _____

Printed Name and Title of Responsible Party: _____

PROVIDE THIS FORM AT DOCUMENTAION STEP BEFORE BUILDING FINAL