



ENERGY SYSTEMS LABORATORY

November 28, 2016

Ed Dryden, CBO
Assistant Building Official
Sustainable Development and Construction
Building Inspections
320 E. Jefferson Blvd., Room 115
Dallas, TX 75203

Dear Mr. Dryden:

Per the request of the Energy and Green Advisory Board (EAGB) of the North Central Texas Council of Government (NCTCOG) and in accordance with Sec. 388.003 of the Health and Safety Code, the Energy Systems Laboratory (ESL) of the Texas A&M Engineering Experiment Station has performed a stringency analysis of certain proposed amendments and trade off analysis to the 2015 edition of the international Energy Conservation Code (IECC) and comparable sections to the energy provisions I Chapter 11 of the 2015 International Residential Code (IRC). In addition, the analysis considered the current Texas Building Energy Performance Standards and the 2015 edition of the IECC/IRC as published for the NCTCOG.

Part One of the request considered the requirements in reference to the ACH in the Mandatory Testing Section R402.4.1.1, in reference to the ACH. The ESL previously provided two prescriptive options for ACH compliance that met code stringency. Those options includes a trade-off of the 3 ACH in the Dallas-Fort Worth metro-plex area. Both options reduced code requirements in the following areas: window U-factor, wall R-value and infiltration ACH reduction and an increase in the attic insulation. One option also reduced the duct insulation R-value and added a radiant barrier.

Your request concerning the Performance Path (R405) can be evaluated in a similar manner as our prior Prescriptive Path analysis in that it increases the flexibility of the code without affecting stringency. So long as the proposed design demonstrates an annual energy cost that is equal to or less than that of the standard reference design, the tradeoff you propose is, by definition, as stringent or more stringent than the current Texas Building Energy Performance Standards.

An ACH trade-off is currently available using the ESL's International Code Compliance Calculator (IC3) when the Performance path and the NCTCOG Energy Code are selected.

Part Two of the request considered the possible Trade-Off for ACH Mandatory Requirements in the Energy Rating Index (ERI) path. This analysis is continuing and results will be provided upon completion.

Please feel free to contact us should you have any questions.

Sincerely,

Bahman L. Yazdani, P.E.
Associate Director

Jeff Haberl, PhD
Associate Director