Minutes
RESNET Board of Directors Teleconference
April 20, 2007

Members Attending
Steve Byers
Philip Fairey
Ken Fonorow
Tom Hamilton
Bruce Harley
Mark Jansen
C.T. Loyd
Lee O'Neal
Kelly Parker
Douglas Walter
Daran Wastchak

Members Absent
Ben Adams
Eric Borsting
David Goldstein
Michael Holtz
Galo LeBron
Joseph Lstiburek
Greg Nahn
David Wilson
Barb Yankie

Staff Attending
Steve Baden
Claudia Brovick

The meeting was called into order by Kelly Parker a 3:20 p.m. Eastern Daylight Time.

Approval of Agenda

Mark Jansen moved that the proposed agenda be accepted, Philip Fairey seconded the motion. The motion passed.

Approval of the March 13, 2007 Board Meeting Minutes

Bruce Harley identified editorial changes to the draft minutes. Lee O'Neal made a motion to approve the amended version of the minutes of the March 13, 2007 Board meeting. Bruce Harley seconded the motion. The motion passed with Steve Byers abstaining.

Fall Meeting of the RESNET Board

Steve Baden proposed that with the increased issues that the RESNET Board is considering it would be appropriate to consider having a fall face-to-face board meeting. The proposal was conceptually approved with the provisos that the meetings would take place at a hotel near a hub airport and that board members may participate via audio or video teleconferencing. RESNET staff agreed to look into the logistics involved with a 2007 fall meeting and present a recommendation to the Board.

Energy Efficiency Credit Trading

Steve Baden reported that he is in discussions with the Environmental Resources Trust to have RESNET certified as an energy efficiency certificate measurement and verification organization. It was not clear what fees would be involved but that RESNET had authorization in its budget to cover the expenses. There was no objection expressed by board members on proceeding with this.

Revision of 2007 RESNET Budget

Daran Wastchak moved that the 2007 RESNET budget be amended by moving $7,000 from the Contributions category into the Professional Services Category. Ken Fonorow seconded the motion. The motion passed.

Proposed Revision of F-factor Equation Amendment to RESNET Standards

Mark Jansen moved to accept the proposal from the RESNET Technical Committee on F-factor equation (Attachment A) and submit it to the standard amendment public review and comment process. Philip Fairey seconded the motion. The motion passed.

Proposed Roof Reflectivity Amendment to the RESNET Standards

Philip Fairey moved to accept the proposal from the RESNET Technical Committee on roof reflectivity (Attachment B) and submit it to the standard amendment public review and comment process. Tom Hamilton seconded the motion. The motion passed.

Proposed Interpretation on Ventilation Controls by the Technical Committee

Daran Wastchak moved that the RESNET Board adopt the RESNET Technical Committee's proposed interpretation on Ventilation Controls (Attachment C).

Philip Fairey seconded the motion. The motion passed with Ken Fonorow, Mark Jansen, C.T. Loyd and Doug Walter opposing the motion.

Sampling Standard Effective Date

Philip Fairey moved that the effective dates of the Sampling Standard be amended as follows:

July 1, 2007 – The quality assurance requirements contained in Section 603.9 are required
January 1, 2007 – New effective date for standard

Steve Byers seconded the motion. The motion passed.

Sampling Standard Accreditation Application Fee

Mark Jansen moved that for 2007 and 2008 the initial accreditation application fee be $500 and the renewal application fee be $250. Daran Wastchak seconded the motion. The motion passed with Ken Fonorow abstaining.

Adjournment

Mark Jansen made a motion to adjourn. Bruce Harley seconded the motion. The motion passed. The meeting was adjourned at 4:29 p.m. Eastern Daylight Time.

Respectfully Submitted
Bruce Harley, Secretary

Attachment A

Proponent:
David Meisegeier, ICF International
Dean Gamble, ICF International
Dave Roberts, Architectural Energy Corporation
Philip Fairey, Florida Solar Energy Center

Applies to:
2006 Mortgage Industry National Home Energy Rating Systems Standards
Table 303.4.1(1) Notes, footnote b).

Amendment: Revision of F-factor equation

Background

The 2006 Mortgage Industry National Home Energy Rating System Standards (RESNET standards) state that multi-family attached reference homes shall be configured with the following window area:

"(b) For homes with conditioned basements and for multi-family attached homes the following formula shall be used to determine total window area:

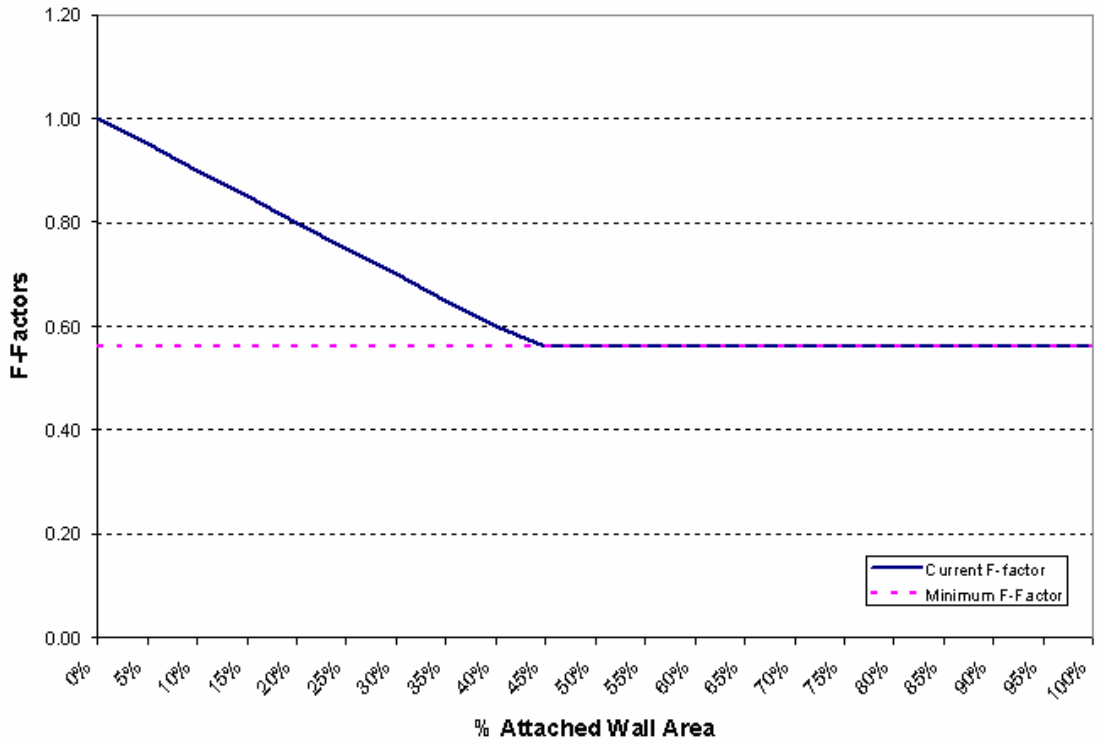
AF = 0.18 x AFL x FA x F

where:
AF = Total fenestration area
AFL = Total floor area of directly conditioned space FA = (Above-grade thermal boundary gross wall area) / (above-grade boundary wall area + 0.5 x below-grade boundary wall area)
F = (Above-grade thermal boundary wall area) / (above-grade thermal boundary wall area + common wall area) or 0.56, whichever is greater

and where:"…

"Common wall is the total wall area of walls adjacent to another conditioned living unit, not including foundation walls."

Graphically, the equation for the "F" factor is represented as follows:



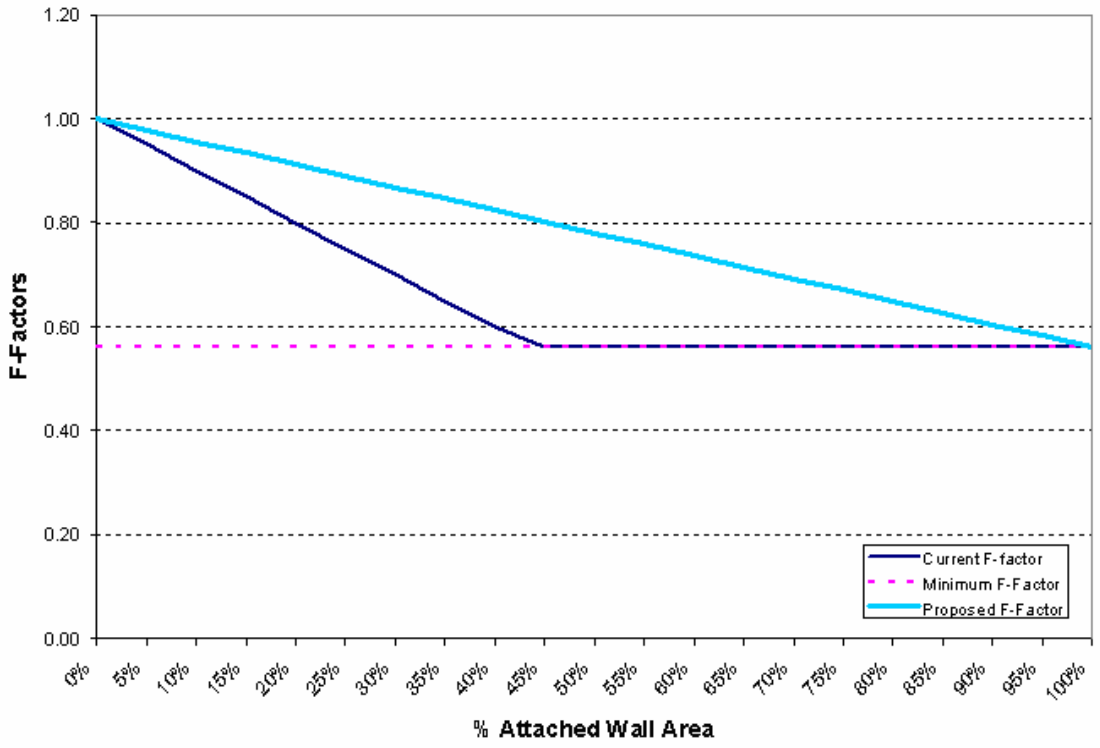
With the current equation, the window area to floor area (WFA) ratio ranges from 18.0% for homes with no attached walls down to 10.1% for all homes with attached wall area greater than 44% of total wall area. The rationale for maintaining the WFA ratio at a constant 10.1% value for all homes with common wall area above 44% is not known. Furthermore, the fact that the equation is not linear between the two end points (i.e., 0% attached wall area and 100% attached wall area) results in inconsistent performance trends of homes with attached wall area greater than 44%.

Proposed Amendment

To more accurately represent window area in attached housing, it is proposed that the F-factor equation be revised to the following:

F =1- 0.44 * (~~Above-grade thermal boundary wall area~~ Common Wall Area) / (above-grade thermal boundary wall area + common wall area) ~~or 0.56, whichever is greater~~

Graphically, the revised F-factor is represented as:



This revised F-factor equation would result in the same WFA ratio for homes with no attached wall area and 100% attached wall area, but would define the WFA ratio for all points in between in a linear fashion. This will increase the WFA ratio in the reference home for all configurations except the end points and result in more consistent performance trends of homes with greater than 44% common wall area.

Attachment B

RESNET Proposed Amendment

Proponent: Cool Metal Roofing Coalition, and RESNET Technical Committee

Proposed Changes:

2006 Mortgage Industry Home Energy Rating Systems Standards

Table 3.2(1) Specifications for the Reference and Qualifying Homes, and Table 3.3 Default Solar Absorptance for Various Roofing Surfaces - Amend as follows:

Table 3.2(1) Specifications for the Reference and Qualifying Homes

Building Component	Reference Home	Qualifying Home
Roofs:	Type: composition shingle on wood sheathing Gross area: same as Rated Home Solar absorptance = ~~0.75~~ 0.92 Emittance = 0.90	Same as Rated Home Same as Rated Home ~~Same as Rated Home~~ Values from Table **303.4.1(4)** shall be used to determine solar absorptance except where test data are provided for roof surface in accordance with ASTM methods E-903, C-1549, E-1918 or CRRC Method #1. ~~Same as Rated Home~~ Emittance values provided by the roofing manufacturer in accordance with ASTM C-1371 shall be used when available. In cases where the appropriate data are not known, same as the Reference Home.

Table 303.4.1(4)

Default Solar Absorptance for Various Roofing Surfaces

Roof Materials	Absorptance
White Composition Shingles	0.80
White Tile (including concrete)	0.60
White Metal	0.50
All others	0.92

Justification:

In Table 3.2(1) Specifications for the Reference and Qualifying Homes, the solar absorptance of the roof on the qualifying home comes from Table 3.3 except where test data is provided for roof surface in accordance with ASTM E-903. Although the ASTM standard E-903 is a legitimate test method for measuring solar reflectance and absorptance, it is only one of several industry recognized standard test methods used for measuring radiative properties of roofing products. For example, the Cool Roof Rating Council, and the Energy Star program accept ASTM C-1549 for low and steep slope roofing, and ASTM E-1918 for low slope roofing. In addition to these ASTM test methods, both CRRC and Energy Star also accept a method referred to as the CRRC Test Method #1 for measuring solar reflectance/absorptance of variegated roof products. Emittance is commonly tested using ASTM C-1371. Therefore, we would petition RESNET to accept these other recognized test methods for measuring solar reflectance/absorptance and emittance of roof products used on the qualifying home.

[edited for length and to reflect subsequent changes. Note that the reference to Table 3.3 applies to the tax credit document (Publication 05-001), which contained this table; the 2006 Mortgage Industry Home Energy Rating Systems Standards has no such table.]

We should be encouraging the roofing industry to use actual certified solar reflectance/absorptance data rather than using default values. An Energy Star labeled product or CRRC-listed product would already have these data available from the roofing manufacturer.

The revised table provides conservative (high) default values for three common, white roofing materials, allowing some default (un-tested) credit relative to the reference home, for clearly identifiable roofing materials.

Attachment C

RESNET Formal Interpretation 2007-001
Approved by the RESNET Board of Directors, April 20, 2007

Proponent:
RESNET Standing Technical Committee

Applies to:
2006 Mortgage Industry National Home Energy Rating Systems Standards
Table 303.4.1.(1), under "Mechanical Ventilation" and "Air exchange rate", and footnote (f).

Interpretation: RESNET Ventilation System Definition and Application

Background

The *2006 Mortgage Industry National Home Energy Rating System Standards* (RESNET standards) contains a definition of "mechanical ventilation system," as follows (p 3-4):

> *"Mechanical ventilation system* – A fan designed to exchange the air in the house with outside air, sized to provide whole-house service per ASHRAE 62.2, and controlled automatically (i.e. not requiring human intervention to turn on and off). The presence of a remote-mounted on-off switch or dedicated circuit breaker labeled "whole house ventilation" (or equivalent) shall not disqualify a system from meeting the requirement of automatic control."

The precise interpretation of this definition is significant, because credit for energy savings due to reduced envelope air leakage (less than 0.35 ACH) can only be achieved when documented by a blower door test, and then *only* if a mechanical ventilation system is present (Table 303.4.1(1) and footnotes (e) and (f)).
Compliance with new home tax credits, voluntary programs such as ENERGY STAR, and energy codes may all depend on raters' interpretation of this definition.

Interpretation

The RESNET Technical Committee provides the following statements of clarification to the RESNET definition of “Mechanical Ventilation System”:

1. The RESNET Standards do not include by reference the entire content of ASHRAE Standard 62.2.

2. “Sized to provide whole-house service” means ventilation fan(s) shall be sized to at least meet the air flow requirements for whole building ventilation per ASHRAE Standard 62.2-2004 Section 4 Whole Building Ventilation to qualify as a mechanical ventilation system. Ventilation fan flow requirements shall be determined from Standard 62.2, Table 4.1, or the equation:

$$CFM = 0.01 \times CFA + 7.5 \times (Nbr + 1)$$

Where:
CFM= minimum air flow requirement
CFA = Conditioned space floor area
Nbr = Number of bedrooms

3. “Controlled automatically” means the ventilation fan system shall be capable of operating automatically on a continuous or intermittent basis, without occupant intervention, to meet the delivered mechanical ventilation rate requirements of ASHRAE Standard 62.2 2004 Section 4.
    a. A thermostat “fan-on” switch by itself (for air-handler integrated supply-air systems) or a locally-mounted on-off switch (for devices serving as local exhaust appliances as well as whole-house ventilation systems) do not meet this requirement.
    b. Hard-wired (continuous) devices meet the requirement.

4. Although not presently required, it is recommended that fan installations comply with Section 7 of ASHRAE 62.2-2004, with regard to sound level ratings and air flow. 62.2 requires field confirmation of air flow(s) with a flow hood, flow grid, or other flow rate measuring device, OR the use of prescriptive criteria for design and installation of air-moving equipment and ducts to ensure that design air flows are actually achieved.