New York State Energy Code Technical Subcommittee meeting

Wednesday, October 3, 2012

Meeting Minutes

In attendance:

- Ian Graham (NYC)
- Mark Schwarz (NYC)
- Kenrick Chai-Hong, for member Marshall Kaminer (NYC)
- Mike Burke
- Mike DeWein
- Scott Copp (by phone)
- Todd Stewart
- Daniel Farrell
- Joseph Hill, Chair, DOS
- Mike Burnetter
- John Ferraro

Joseph Hill called the meeting to order at approximately 9:15 am. He noted a quorum of members in attendance. Joseph stated that the primary focus of the meeting would be on residential issues. He noted that the Energy Code Technical Subcommittee is being asked to deliberate more quickly than anticipated on the adoption of IECC 2012, and that any modifications made to the 2012 IECC as published will need to be justified to the NY State Code Council.

It was noted by several members of the Subcommittee that due to the accelerated adoption schedule for the commercial Energy Standards, it is likely that some projects in the design phase will be affected by the changes in the energy code. It would be advisable to alert the public of the projected adoption date. Chairman Hill agreed that this alert has been anticipated, and will be carried out shortly.

Joseph noted that Energy Code Technical Subcommittee meeting minutes are to be posted to DOS' website. Approved minutes will be posted shortly, subject to review by DOS .Mark Schwarz (member) asked for clarification if energy code changes become effectively immediately. Joseph noted that changes to the commercial provisions (including **ASHRAE 90.1-2010)** will become effective in July, 2013, while residential provisions are to be effective May, 2014. It was noted that the State of Maryland is the only state thus far to adopt the **IECC 2012** (MD has adopted as is without modifications.) Other jurisdictions (not statewide adoptions) in the country have adopted IECC 2012, with some modification.

Sean Maxwell, Senior Energy Consultant with Steven Winter Associates (SWA) then gave a presentation on air leakage testing for multifamily buildings. The presentation focused on the various techniques that have been developed to pressure test (using a blower door) either whole buildings or units in multifamily buildings. Sean noted that SWA has developed protocols based on national testing standards (ASTM-E779-2003). He stated that the metric 0.3 CFM/SF of unit enclosure surface area SWA is testing to and advising clients on how to reach has been widely accepted and used by national rating systems such as ENERGY STAR and LEED for Homes.

Sean concluded by stating that in his/SWA's professional opinion, single-point blower door testing at the unit level (which involves compartmentalization testing of units) helps builders and building owners with

quality control, which ultimately provides a host of benefits, including saving energy, reducing transmission of odors, smoke and other pollutants, making the building safer in a fire (by testing and remedying the draft stopping properties of the building), and improving the performance of the HVAC system(s). Sean noted that this protocol allows the use of established sampling methodologies, and is most easily implemented statewide compared to other methods.

Sean responded to several questions are clarifications offered by the group. Ian Graham (member) referred to **IECC 2012 Section C402.4.1.1.2** which includes both an assembly and building envelope pressure testing metric. The applicability of this provision to residential buildings was discussed. Joseph Hill stated that DOS would likely not have to do a 10-year payback study with regard to relaxing the ACH50 requirement.

Discussion continued regarding the appropriate maximum allowable level air leakage and various ways to codify a testing requirement for residential buildings. It was generally agreed that for buildings subject to the Residential Code of NYS (1 and 2-family buildings and townhouses) that envelope leakage not to exceed 5 ACH_{50} was the appropriate level to codify. For low-rise multifamily buildings that will be classified as R-2, R-3 or R-4 Use and Occupancy Classification per the NYS Building Code, the maximum allowable leakage should be 0.3 CFM 50 per square foot of enclosure surface area. This would apply to any building with 3 dwelling units or above. The merits of pointing to the RESNET sampling protocol in the Mortgage Industry National Standard were debated. Some members noted that absent pointing to an established standard, there is no provision for establishing how testing equipment should be calibrated. Appropriate timing of test was again discussed (i.e., when testing must be conducted).

Mike DeWein (member) provided some background on lessons learned from the Massachusetts (MA) stretch code. The stretch code has been adopted by many jurisdictions in MA. The stretch code requires a full HERS rating. Mike stated several states have found that it is valuable to establish some training and oversight framework for duct and envelope testing (DET) contractors. Quality assurance and other oversight issues were debated. It was again discussed if pointing specifically to certify Home Energy (HERS) Raters and certain combinations of BPI certifications, was appropriate. It was noted from the presentation given during the 9/17 meeting that NE HERS Alliance survey shows that Rater companies can add capacity for DET testing to be conducted. Possible language was discussed, centering on the concept of referencing "an approved third party, *including but not limited to*, RESNET HERS Rater, BPI Building Analyst."

Joseph Hill suggested at approximately noon that the group break for lunch and reconvene in 45 minutes.

The meeting reconvened at approximately 12:45 pm.

Joseph Hill asked the group to vote on draft meeting minutes. July 23, 2012 minutes were accepted with correction to Mark Schwarz' name. August 8, 2012 minutes will be corrected for Marshall Kaminers' name spelling. A motion was made (and seconded) to accept as amended the August 8, 2012, and September 6, 2012 meeting minutes. The minutes were unanimously accepted as noted above.

Joseph Hill asked the group to consider the proposed prohibition of material that has Class I vapor retarders in Climate Design Zone #4, remarking that Vapor retarders are not required in Climate Design Zone 4, however, and their use continues due to past practice. Ian Graham (member) stated that he believed that NYC building code requires class 1 vapor retarders. A suggestion was offered and discussed regarding if provision should be made if a design professional can demonstrate that a Class I vapor retarder is warranted based on proposed use of interior space (such as indoor pool, commercial

cooking facility, etc). Certain applications, such as use of closed-cell (2 pound) spray foam insulation in unvented attics, would be exempt from the installation of Vapor retarders. The group further discussed due to its air barrier properties, open cell foam insulation is exempt only when it can be classified as an air barrier. The group agreed that language from the IRC 2009 should be added as a reference which gives the threshold at which this occurs. Joseph Hill noted that a proposal could be made to modify language in **ECCCNYS 2010 Section 402.5.1** and add it to IECC 2012**;** the proposed language would be added to state that Class III Vapor Retarders shall be permitted in lieu of Class I or II.

It was further noted that a portion of **ECCCNYS 2010 Section 402.5.3** was in error, (citing requirements of the IRC 2012) which requires a 2-inch air space behind masonry walls should be modified to 1-inch consistent with the 2012 Residential Code.

Mike DeWein made a motion to vote on the revised provisions noted above to prohibit Class I Vapor Retarders (perm rating of less than 0.1) in Climate Zone 4, and the motion was seconded. The record reflects that the vote was unanimous.

The following proposed language to modify **IECC 2012 Section R 402.2.3 Building Cavities** was provided by Todd Stewart, of Stewart Construction for the group's consideration:

> Building framing cavities located in exterior walls or in unconditioned space shall not be used as ducts or plenums. ~~Building framing cavities shall not be used as supply ducts or plenums.~~ Any duct ~~or plenum~~ located in an exterior wall shall be sealed and insulated with a minimum of 2 inches of rigid foam insulation installed between the duct and the interior face of the sheathing. Any return air plenum located inside a ~~wall~~ framing cavity shall be sealed with caulk or mastic and the drywall shall be sealed to the framing with a gasket that is visible at the time of the insulation inspection.

After some discussion, it was agreed that the proposed language would be need to be modified further and brought to a vote in either the October 11 or October 12 meeting.

Due to several past discussions on the need for ventilation air, Joseph Hill requested a motion to consider adding references in the ECCCNYS where appropriate to the following sections of the 2012 IRC:

- **R 403.5.1 Mechanical ventilation;**
- **R 302.3 Kitchen and bathroom exhaust rates;**
- **R 302.4 Combustion, ventilation and dilution air;**
- **R 302.5 Fireplaces**

A motion was made to vote on the above provisions and seconded. The record reflects that the vote in favor of adoption of these references was unanimous.

The meeting was adjourned at approximately 4:00 pm.