

AGENDA – SSPC 140
Standard MOT for the Evaluation of Building Energy Analysis Computer Programs
Monday June 25, 2018; Houston

Time: 2:15P – 6:15P

Location: 370CF (3), GRBCC

Chair: Joel Neymark

1. Introductions: Sign-in sheet, participant introductions, quorum (= 7 VMs).
2. Chair Announcements/Communications since last meeting [5 min.]
 - **140-2017 CM revision is published; integrates airside HVAC cases with 140-2014 test suites.**
 - **IRS rules** re the deduction for energy efficient **commercial buildings** require software used for assessing tax credits be tested as follows for projects placed in service:
 - o On/after Jan 1,2016: test to 140-2014 (except Secs. 5.2.4, 7, 8) **9 progs (16 vers.) qualified**
 - o On or before Dec 31, 2015: test to 140-2007, **13 programs qualified.**
 - **New submittals to ron.judkoff@nrel.gov.**
 - **Qualified programs listed at <http://energy.gov/eere/buildings/qualified-software-calculating-commercial-building-tax-deductions>** (Last check 19Jun2018).
 - **RESNET or DOE list 4** (last check 15May2018) tools as either accredited for HERS ratings, “45L” tax credit compliance (DOE). Required tests are NREL’s HERS BESTEST (included in Std 140-2011,-2014), along with equipment modeling and other modeling tests developed by RESNET. “45L” submit to DOE (45Lsoftware@ee.doe.gov) **Other submittals to RESNET (<http://www.resnet.us/professional/programs/software>).**
 - **ASHRAE 90.1 and 189.1 reference Standard 140;**
 - 90.1-2016, published Fall 2016, references 140-2014 (except Sections 7, 8).
 - **2018 IECC cites 140-2014;** IGCC citation accords with IECC.
 - **ASHRAE 90.2** proposing to reference Standard 140
 - **IEA BESTEST Thermal Fabric Tests Update:** Round 4 sim-trial draft distributed Apr 24, 2018, 8 participants submitted results thru Jun 2018; agenda item below.
3. Membership [5 min.]
4. Acceptance of Previous Minutes [5 min.]
5. Adjustments to Agenda (New business or news briefs to include?) [5 min.]
6. 140-2017-A: Update Section 5.2 (IEA BESTEST thermal fabric, 1995) test spec/example results [Neymark/Judkoff, 15 min].
 - Meeting summary, BESTEST Thermal Fabric Working Group
 - Discussion, if needed:
 - Proposed work schedule
- 10a. 90.1 Referencing of 140-2017 [*here if time permits, otherwise after 7 & 8*] [Neymark 5 min.]
7. Empirical Validation Activities [*Start ~2:45p, (V&U team arrive 2:30p)*]
 - DOE Empirical Validation and Discussion [Judkoff, Haves, Im, Muehleisen, 120 min.]
8. Prioritization of Possible Test Suites and Discussion [Neymark/Judkoff, 60 min.]
9. SSPC 140 Website (<http://sspc140.ashraepecs.org/index.html>) [Sturm, 5 min.]
 - Updates this cycle + traffic count

10a. References to Std 140-2017 in Std 90.1 [Neymark/Pegues, 10 min, > 4:15P for JP]

- 90.1-2016 cites 140-2014; next 90.1 CM rev likely in 2019

10b. ASHRAE 90.2 proposing to reference Standard 140

- Neymark submitted PR comment, after consultation with P. Fairey (previous 90.2 Chair), explicitly recommending 140's Class II, Tier 1 tests for consistency with RESNET.

[Items below here as time permits]

11. Incentive Programs [Judkoff/Roth, 10 min]

- New IRS Sec 179D rules (commercial building tax deductions under PATH Act) for projects placed in service on or after Jan 1, 2016 require testing against Standard 140-2014 and use of 90.1-2007 as the base case (instead of 90.1-2001) .
- RESNET Accreditation:
 - HERS Tools; Existing Homes Tax Credit Compliance
 - 45L Tax Credit Compliance is by DOE, references RESNET

12. SSPC 140 Work Plan for StdsC (approved by StdsC in Atlanta, June 2015) [5 min]

- Addendum A: ASHRAE RP-865 Airside HVAC Equipment model tests, 2016
- Addendum B: Update of Building Thermal Fabric Model Tests, 2017 or 2018
- Addendum C: Adaptation of Multi-Zone (non-airflow) model tests, 2017 or 2018
- Needs update after publication of 140-2017.

13. Other Related Activities [as time permits]

- IEA ECBCS Annex 71 task on whole building empirical validation [Hong, 5 min.]
- ASHRAE Handbook of Fundamentals, Validation Methods [Judkoff, 2 min.]

14. Additional or Revised Test Suites

- a. Airside HVAC Volume 2 [Neymark, 5 min]
- b. Weather-Driven infiltration [Neymark, 5 min]
- c. Other (weather drivers, 2/3-D conduction, ground coupling, etc) [10 min]

15. Additional Future Test Suites that could be adopted [Judkoff, 5 min.]

- Empirical Validation Data Sets
 - Tests from FLEXLAB and MAXLAB.
 - Empirically based HVAC-BESTEST
 - ETNA BESTEST (Electricité de France 2004)
 - NREL "i-Unit"
 - IEA-34/43: Hydronic Equipment by Germany.
- Analytical Verification and Comparative Tests
 - Adaptation of NREL/IEA 34/43 Multi-Zone (MZ) Tests
 - Adaptation of BESTEST-EX Physics cases for Section 7
 - ASHRAE RP 1052 building thermal fabric analytical verification tests
 - IEA 34/43 Airflow Tests by Japan (final report still in progress),
 - RESNET mechanical equipment test cases (RESNET now qualified for ANSI)
 - BESTEST-EX Physics Tests
- Other Existing Test Suites and new research

16. New business

17. Adjourn