

**AGENDA – SSPC 140**  
**Standard MOT for the Evaluation of Building Energy Analysis Computer Programs**  
**Monday June 26, 2017; Long Beach**

**Time: 2:15P – 6:15P**

**Location: Delker (Renaissance Hotel, 3rd floor)**

**Chair: Joel Neymark**

1. Introductions: Sign-in sheet, participant introductions, quorum (= 6 VMs).
2. Chair Announcements/Communications since last meeting [5 min.]
  - **Current 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) **8 progs (12 vers.) qualified**
    - o On or before Dec 31, 2015: test to 140-2007, **13 programs qualified.**
  - **New submittals to [ron.judkoff@nrel.gov](mailto:ron.judkoff@nrel.gov).**
  - **Qualified programs listed at <http://energy.gov/eere/buildings/qualified-software-calculating-commercial-building-tax-deductions>** (Last check 20Jun2017).
  - **New IRS rules** for projects placed in service on or after Jan 1, 2016. Agenda item below.
  - **RESNET or DOE list 6** (last check 21Jun2017) tools as either accredited for HERS ratings, “45L” tax credit compliance (DOE), or existing home tax credit compliance. 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](mailto: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).
  - **2015 IECC cites 140-2011;** IGCC citation accords with IECC.
  - **ASHRAE 90.2** proposing to reference Standard 140
  - **140-2014 Addendum A, Airside HVAC Equipment:** ASHRAE published/posted May 16, 2017.
  - **140-2017 Continuous Maintenance Revision:** ASHRAE is in progress; agenda item below.
  - **IEA BESTEST Thermal Fabric Tests Update:** Round 2 sim-trial draft distributed Mar 13, 2017; 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. SSPC 140 Website (<http://sspc140.ashraepcs.org/index.html>) [Sturm, 5 min.]
  - Updates this cycle + traffic count
7. 140-2017 Continuous Maintenance Revision [Neymark, 20 min]
  - Integrates 140-2014 Addendum A (Airside HVAC cases) with current 140-2014
8. 140-2017-A: Update Section 5.2 (IEA BESTEST thermal fabric, 1995) test spec/example results [Neymark/Judkoff, 30 min].
  - Meeting summary, BESTEST Thermal Fabric Working Group
  - Extension cases: weather-driven infiltration, other?
9. Proposed Work Schedule for Above Items 7, 8 [Neymark, 5 min.]
10. Empirical Validation Activities [*Start ~3:15p to 4:15p (V&U team be there at 3:05p)*]
  - DOE Empirical Validation Projects [Judkoff, Haves, Muehleisen, New, 60 min.]

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
- 12a. References to Std 140-2014 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
- 12b. IECC (C407.6.1) Referencing of Standard 140
- S. Ferguson indicates (6/22/2016) IECC 2018 to ref 140-2014.
- 12c. 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.
- 12d. Future new language for 90.1 to ref Std 140 [*Judkoff, 10 min*]
13. Additional or Revised HVAC Equipment Test Suites
- a. Airside HVAC Volume 2 [*Neymark, 10 min*]
  - b. Empirical Data-Based HVAC BESTEST (unitary equipment) [*Judkoff, 10 min*]
  - c. Other (e.g., revisions to furnace cases, etc) [*All, 10 min*]
14. SSPC 140 Work Plan (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.*
15. Other Related Activities [*as time permits*]
- IEA ECBCS Annex 58 task on whole building empirical validation [*Hong, 5 min.*]
  - *ASHRAE Handbook of Fundamentals, Validation Methods* [*Judkoff, 2 min.*]
16. Additional Future Test Suites that could be adopted [*Judkoff, 5 min.*]
- Empirical Validation Data Sets
    - ETNA BESTEST (Electricité de France 2004)
    - IEA-34/43: Shading/Daylighting/Load Interaction by Switz and Iowa Energy Center. Hydronic Equipment by Germany. Double-Skin Façade empirical by Denmark.
    - IEA-58: Twin Houses at Fraunhofer, Holzkirchen, Germany.
    - Tests from FLEXLAB and MAXLAB.
    - Empirically based HVAC-BESTEST
  - 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)
    - IEA BCS Annex 42: Testing/Validation of Models for Resl. Cogen Devices
  - Other Existing Test Suites and new research
17. New business
18. Adjourn