



## **MINUTES**

### ***TC8.11 Unitary and Room Air Conditioners and Heat Pumps***

#### **2019 ASHRAE WINTER MEETING Atlanta, GA**

**Monday, January 14, 2019: 4:15 – 6:30 PM**  
**Location: 2<sup>nd</sup> Floor, room B204, GWCC, Bldg B**

TC8.11 Subcommittee Meeting – Sunday, Jan 13, 3:00-6:30 PM  
Location: 3<sup>rd</sup> Floor, room B318, GWCC, Bldg B

TC8.11 PMS RP-1721 Meeting – Sunday, Jan 13, 2:00-3:00 PM  
Location: 3<sup>rd</sup> Floor, room B318, GWCC, Bldg B

## Minutes

1. Call to order Christensen  
Meeting was called to order at 4:20 p.m.
2. Review Scope  
Technical Committee 8.11 is concerned with products for use in comfort cooling and/or heating systems. The factory engineered vapor compression systems include: (1) unitary equipment which generally requires the field engineering of the product mounting and ducting, piping and electrical connections, (2) room air conditioners such as window mounted units and ductless split systems and (3) packaged terminal equipment. Specifically excluded are unitary combustion engine driven systems
3. ASHRAE Code of Ethics Commitment Christensen  
In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interests. (See full Code of Ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>)
4. Introductions All
5. Determination of a Quorum Christensen

### VOTING MEMBERS FOR THIS MEETING (Need 7 for a Quorum)

Chad Kirkwood-2020 (Present)	Dane Christensen-2020 (Present)	Kasey Worthington-2019 (Present)
Chris Stone-2022 (Present)	Darin Nutter-2021 (Present)	Henry 'Skip' Ernst-2021 (Present)
Sivakumar Gopalnarayanan-2020 (Present)	Jeff Warther-2022 (Present)	Chad Bowers-2022 (Present)
Kishan Padakannay-2021 (Present)	Bo Shen-2021 (Absent)	Dutch Uselton-2020 (Present)

- a. Quorum was met. 11 of 12 voting members present.
  - b. Since last meeting 5 new corresponding member have joined TC through the Website request
6. Agenda additions All
    - a. No additions
  7. Chair's Report Christensen
    - a. Chair's Goals
      - i. Provide leadership to ASHRAE with integrity and purpose
      - ii. Increasing diversity among activity committee participation
        1. Pulling in at least 3 new members
        2. Establish a YEA chair to improve engagement with YEA
      - iii. Increasing our program engagement
        1. 4 or more sponsored or co-sponsored program sessions per conference
        2. Put the TC on track for one conference paper session annually
      - iv. Maintain Successful TC Research
        1. Continue to facilitate and support already started research projects sponsored by TC 8.11
        2. Ensure at least 2 additional research projects initiated within the next two years out of TC 8.11
      - v. Ensure handbook chapters are revised on time with meaningful and appropriate content
      - vi. Support completion and publication of standard 37
      - vii. Modernize the committee business practices
    - b. Announcements and Highlights from TC Chairs' Breakfast Meeting
      - i. Disbanded MTG Building Dampness
      - ii. Formed MTG Health and Wellness in the Built Environment

- iii. Formed TC2.10 Resilience and Security
- iv. Revisions were made to the TC Manual of Practices
- v. Residential Building Committee are interested in co-sponsoring related TC research
- vi. Please get a TC-Only name badge if not registered for the conference
- vii. 2018-2019 TC master calendar is now available on the ASHRAE website
- viii. Remote participation meeting is available to all TCs
  - 1. Discussion if TC 8.11 would like to look into this
    - Some interest was voiced
  - 2. Dane will fill out request for Kansas City
- ix. CEC has a standing request for future society meeting program track suggestions
  - 1. Currently seeking ideas for track for Austin 2020
- x. TAC has identified the following critiques of current TC meetings/operations:
  - 1. We are working in silos; too specific; need more global perspective
  - 2. Management of stagnant TCs and membership is lacking
  - 3. Takes too long to change things in TCs -members are getting discouraged
  - 4. We are not maintaining industry leadership
  - 5. We need to do a better job of sharing best practices
- xi. A committee was formed to look at reorganizing the FG structure. By taking on this reorganization, we hope to:
  - 1. Decrease the silo effect
  - 2. Increase collaboration for programs, research & handbook
  - 3. Increase meeting efficiency & increase the effectiveness of members' volunteer time
- xii. Currently there are over 110 FG and 180 subcommittees at each conference.
- xiii. TAC proposal is to work these numbers down to around 30
- xiv. The hope is to use the same rooms as the programs, where programs would be offered in the morning and TCs would meet in the afternoon
- xv. Main takeaway is TAC is asking/requesting for feedback on this change. They would like each TC to consolidate their feedback and submit it as one document.
  - 1. Dane is asking TC members to fill out feedback by going to the follow url: <https://tinyurl.com/TC811-TACfeedback>
  - 2. This feedback will be collected on 2/14/19 and submitted for TC 8.11
  - 3. This subject brought on a lot of discussion (approx. 30 mins worth)
  - 4. TAC liaison, Dustin, walked into the Meeting and tried to answers questions concerning this subject. His main driving point was that nothing has to be decided and encouraged that everyone provide feedback and ideas on how to approach the current proposals to reduce TC numbers.



2019 TAC Section  
Head Brkfst Handout.

- 8. Liaison reports (as they arrive)
  - a. MTG – Low GWP Refrigerants
    - i. No update provide in Atlanta
- 9. Approval of minutes from Houston
  - a. **Motion to approve Houston draft minutes with correction/typo, Chad Kirkwood Seconded by Dutch Uselton. PASSED unanimously 10-0-0-1-CNV (chair not voting)**
- 10. Membership/Roster

Liaisons  
Uselton

Christensen

Berg

c. New Handbook Chair: Ted Duffy

11. Subcommittee reports

a. Programs

Jeff Warther

- i. Jeff pushing the idea to use the program type "Forum" instead of others.
- ii. One seminar sponsored in Atlanta
  1. Seminar 13 "Load-Based Testing"
- iii. Kansas City Track Review
  1. Systems & Equipment in the Built Environment
  2. Fundamentals and Applications
  3. Optimization in HVAC&R
  4. Commissioning New & Existing Buildings
  5. Occupant Health & Safety
  6. Modeling Throughout the Building Life Cycle
  7. Professional Development
  8. Research Summit
  9. (Mini-Track): Radiant Heating & Cooling Mini-Track
- iv. Feb 8<sup>th</sup> is the due date for KC seminars submissions
- v. Floor opened for discussion for potential ideas for KC
  1. Chad proposed that we do a debate and/or forum between/about TC 8.11 and SPC 221
    - Proposed Name: Proper Commissioning, Avoiding Confusions
    - Members from SPC 221 were at the TC8.11 meeting and agreed they would be interested in participating in this debate.
    - Jeff W. plans to reach out to the track chair for 5 and/or 8 for Orlando to see how this subject may fit there as getting this program ready for KC may be overly optimistic, as well as there may be more attendance in Orlando.
  2. Some of the RPs sponsored by 8.11 will have presentations at KC under the Research Summit Track. Jeff W. to work on getting all 8.11 RP conference papers grouped together and linked back to the TC
  3. Chad K. volunteered AHRI for Track 6 to talk about Standard 1380 Demand Response
    - Chad agreed to be chair
- vi. Floor open to talk about Programs for Orlando
- vii. Orlando track review
  1. HVAC&R Fundamentals and Applications
  2. System and Equipment
  3. Refrigeration and Refrigerants
  4. Cutting Edge Approaches
  5. High Efficiency Design and Operation
  6. Big Data and Smart Controls
  7. Ventilation, IAQ and Air Distribution Systems
  8. Standards, Guidelines and Codes
- viii. Dutch agreed to work with Low GWP MTG to get a co-sponsorship for Orlando related around RP-1807

b. Research

Eric Berg

- i. Highlights from Research Chair Breakfast
  1. 3 RTARs considered at the last RAC meeting
    - 1 accepted, 1 conditionally accepted, 1 rejected
  2. 3 WS considered at the last RAC meeting
    - All 3 conditionally accepted
  3. Service to ASHRAE Research Award nominee due September 30<sup>th</sup>
  4. Homer Addams Award nominee due December 3<sup>rd</sup>
  5. New Investigator Award nominee December 3<sup>rd</sup>
  6. Submissions to RAC deadlines:
    - Aug 15<sup>th</sup>
    - Dec 3<sup>rd</sup>

7. Curtis Eichelberger is rolling off as Section 8.0 Research Liaison and Peter Armstrong will be the new 8.0 RL.
  - Curtis plans to set up a web meeting with Eric and Peter to do a formal hand off due to the large amount of RP going on in 8.11.
- ii. Current 8.11 RPs
  1. RP-1645
    - PMS has accepted the final report.
    - Hoping to have a seminar and/or conference paper session at one of the upcoming conferences.
    - Prior to the Atlanta meeting letter ballot was circulated to TC 8.4 members to approve RP Final report, It was Approved
  2. RP-1705
    - PMS met between Houston and Atlanta and accepted final report
    - **Final report was circulated following the Atlanta meeting along with letter ballot which was Approved 12-0-0**
  3. RP-1721
    - Presentation was given in sub-committee meeting in Atlanta
      - i. Results for the baseline test were presented.
      - ii. They were not able to achieve low flow rate of 11kg/hr
      - iii. A needle valve was added to the system to add back pressure on the pump to help at low flows
      - iv. A suggestion was made to add a bypass valve to help with low flow.
      - v. The diaphragm pump was determined to be the cause for the noise on the data. A suggestion was made to add a pulsation damper to smooth out the noise on the system
      - vi. Ran into problems with the ref. condensing in the oil separators
      - vii. Group discussed ways to stop condensing. Idea is to heat up the surface above the condensing temp with heater.
      - viii. Proposed process for weight oil retention was presented. It was suggested that it might be over complicated and could be reduced. Will assess this process once oil results start coming in
    - PI asked the PMS for a 1yr no cost extension
    - **Motion was made to grant a 1 year no cost extension, Dutch Uzelton. Seconded by Chad Kirkwood. PASSED unanimously 10-0-0-1-CNV (chair not voting)**
  4. RP-1733
    - Presentation was given in sub-committee meeting in Atlanta
    - Preliminary CFD work and drawings of the test stand have been submitted to the PMS
    - PMS stated that good progress has been made at this point in the RP
    -
  5. RP-1743
    - Presentation on project status/update given in sub-committee meeting in Atlanta
    - Both experimental and CFD work is ongoing
    - **A request for an additional no cost extension with an estimated new completion date of 2/29/2020 was Approved by letter ballot 12-0-0**
  6. RP-1785
    - Presentation on project status/update given in sub-committee meeting in Atlanta
    - All the test coils are now on hand

- Proposed method was presented to the PMS on how to refine test matrix. PMS to review.
  - Completion of the coil test holder expected in mid-February.
  - Start first shake down test expected in mid-March
7. RP-1824
- WS was completed and circulated prior to Atlanta meeting
  - John Winkler agreed to be chair of the PMS
  - SSPC 41 voted and motion passed unanimously to be a co-sponsor for this RP
  - **Motion made to Accept and Submit WS for RP-1824 with SSPC 41 as co-sponsor, Chad Kirkwood. Seconded by Chris Stone. PASSED unanimously 10-0-0-1-CNV (chair not voting)**

iii. Ideas

1. Room Stratification Impacts on Psychrometric Testing
  - Scott Karmer had WS ready and has submitted to Eric Breg.
  - Eric plans to review WS with our RAC Liaison first then send it out to TC 8.11 members for letter ballot.
2. Filtration in mini splits and VRF system
  - Lead by TC 2.4 and Tom Justice
  - Expecting an RTAR submission soon
  - Looking for volunteers from 8.11 to help with this
  - Request was made to see the RTAR, but with general/current info TC8.11 view at this point is this subject does not appear to have much substance and does not see 8.11 having interest.
3. New 41.2 has been released, would like to compare the effects of the results based on the difference between this release, older versions, and ASHRAE 37
  - Chris Stone volunteers to lead the efforts to write WS.
  - AHRI could possibly co-sponsor this RP
  - Plan to bring up subject in SSPC 37 to get more traction
4. Oil Retention in MC HX
  - Chad Bowers working on RTAR
  - This is a co-sponsor opportunity with TC 8.4
  - About 80% done. Chad thinks he can work on getting this wrapped up soon.
5. Cyclic test result correlation based on unit design/configuration
  - No action at this point



TC 8\_11 Research  
Summary.xls

c. Handbook

Duffy

- i. 2020 - Handbook Systems and Equip
  1. Chapters 49: Unitary AC (Due: 7/4/2019) and 50: Room AC/PTACs (Due: 7/11/19)
  2. New Liaison: Steve Sill
  3. Volunteers:
    - Chapter 49: Unitary AC - Ray Rite, Kevin Mercer, Skip Ernst, Bo Shen, Craig Messmer, Siva Gopalnarayanan, Mark Olsen
    - Chapter 50: Room AC/PTACs - Ray Rite, Vance Payne, Bo Shen, Kevin Mercer, Chelsea Moussouni
  4. Due date for Chapters-July 4th
  5. Need to send out link to TC so they can access and make comments

d. Standards

Chris Stone

- i. ASHRAE 221p
  - 1. Rob Falke and Ben Lipscomb from SPC 221 visited TC 8.11 meeting to continue the discussion started in Houston. They stated that all comments submitted by June 2018 were thoroughly gone through and answered by September of 2018. This point the Standard was sent back out for a full public review which is coming to a close just after this conference.
  - 2. Their main point they would like to get across is SPC 221 is about the system, while the content/focus that 8.11 is about is the units.
  - 3. Seem a lot of 8.11 members have concerns on where the line is drawn and how others will interpret when and not to use SPC 221.
- ii. ASHRAE 16 has combined with ASHRAE 58
  - 1. Released in 2016
  - 2. ASHRAE 58 withdrawn
- iii. ASHRAE 15.2
  - 1. Monthly meetings have been scheduled and hoping for final Standard to be out by the end of 2018.
- iv. SSPC 205
  - 1. Nothing new to report
- v. ASHRAE 37
  - 1. Currently going through a major revision
  - 2. Combining 37 and 116
  - 3. APR Expected: 2019
- vi. ASHRAE 137
  - 1. Reaffirmed 2017
- vii. ASHRAE 206
  - 1. Reaffirmed 2017
- viii. SPC 213p
  - 1. Nothing new to report
- ix. ASHRAE 41 series
  - 1. Multiple ASHRAE 41s are in the revision state.
  - 2. Chris Stone encouraged TC members/attendees to get involved with the SPCs for the 41 series Standards
- x. ISO
  - 1. Multiple ISO Standards relevant to this TC are very active.
  - 2. Chris Stone encouraged TC members/attendees to get involved with the Standards



Std\_Report\_Jan2019  
\_TC811 draft.docx

- e. Web site
  - i. "Up to date"

Darin Nutter

- 12. Old Business
  - a. None

- 13. New Business
  - a. None

- 14. Adjournment
  - a. **Motion to adjourn.**
    - i. Meeting was adjourned at 6:33 p.m.