**Minutes for**

ASHRAE TECHNICAL COMMITTEE 6.3

CENTRAL FORCED AIR HEATING AND COOLING SYSTEMS

TC 6.3 Forced Air Heating and Cooling, Tuesday June 27, 2017 1:00-3:30p Wilmore (R-2), Renaissance, 2nd floor, Long Beach, CA

1. **Call to Order and Introductions – Review Scope and Purpose of TC 6.3**

Chair Kevin Mercer opened the meeting with introductions, and a review of the ASHRAE code of ethics.

(See full Code of Ethics: [https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics](https://urldefense.proofpoint.com/v2/url?u=https-3A__www.ashrae.org_about-2Dashrae_ashrae-2Dcode-2Dof-2Dethics&d=DwMGaQ&c=ilBQI1lupc9Y65XwNblLtw&r=sFo4ic-hprqLxgzCOO4ffFSDOU95Noks1V1lg2o2bHM&m=y6M_f0cU72oGsYhXpQrpu5r_P5LNNZAUqwUcwUvD69o&s=lbReSPMgQsElFGiRPyLpvTTQopkfltvfus56B6x2Gh0&e=).)

**VM Present Term Expires Position Affiliation**

Kevin Mercer 06/30/2018 Chair/Prog SC Chair Carrier

Bert Phillips 06/30/2018 Vice Chair UNIES

Lawrence Brand 06/30/2018 Frontier Energy

Byron Horak 06/30/2018 Intertek

Mark Olsen 06/30/2018 Lennox

George Yaeger 06/30/2020 Webmaster Sears

Anuj Mistry Secretary Daikin U.S. Corporation

**VM Not Present**

James Cummings 06/30/2017 Florida Solar

Jon Douglas 06/30/2020 Lennox

Kristin Heinemeier 06/30/2020 Research SC Chair Western Cooling Efficiency Center

Jeffrey Munk 06/30/2020 ORNL

Wayne Kraft 06/30/2020 Ingersoll Rand/Trane

**Corresponding Members and Guests Present**

Roy Crawford CM JCI

Chuck Gaston CM Applied Creativity Enterprises

Jon Winkler Guest NREL

Jonathan Marshall Guest LG Electronics USA, Inc.

Bryan Rocky CM Johnson Controls

Mark Shoemaker CM Program SC Chair Carrier

Diane Jakobs CM Handbook SC Chair Rheem

Peng Yin Guest UL-Lafayette

Gil Staffend Guest AeraDIGM

Detlef Westphalen Guest Navigant

Shawn Ohara Guest SMACNA

Chris Pickens Guest Bakaert Corp.

1. **Review Agenda, Voting Membership (Roster update) and establish quorum**

Meeting was called to order at 1:05 PM. Chairman Mercer reviewed the agenda, followed by a review of the TC membership. Based on member feedback, new positions were assigned to volunteers as indicated below.

|  |  |  |
| --- | --- | --- |
| **Name** | **End Year** | **Position** |
| **Voting** | | |
| Kevin Mercer x | 6/30/2018 | Chair |
| Elbert Phillips x | 6/30/2018 | Vice Chair |
| Anuj Mistry |  | Secretary (New) |
| Roy Crawford x |  | Research Subcommittee Chair |
| (open) |  | Member |
| Byron Horak x | 6/30/2018 | Member |
| William Roy x | 6/30/2018 | Member |
| Mark Olsen x | 6/30/2018 | Standards Subcommittee Chair |
| Wayne Kraft x | 6/30/2020 | Member |
| Jeffrey Munk x | 6/30/2020 | Member |
| George Yaeger x | 6/30/2020 | Webmaster (New) |
| **Non-voting** | | |
| Bryan Rocky |  | Program Subcommittee Chair (New) |
| Diane Jakobs, PhD |  | Handbook Subcommittee Chair |
| Siva Gopalnarayanan |  | MTG.LowGWP |
| Bryan Rocky |  | MTG.Op & Main. Act. |

Based on the members present at the meeting, Chairman Mercer announced that a quorum was present.

1. **Approval of previous minutes**

A motion was made, duly seconded, the members unanimously approved the Las Vegas 2017 meeting minutes.

1. **Announcements**

Chairman Mercer announced that there is a new section head for ASHRAE Section 6.0. The old section head, Mark Hegberg, is no more participating in ASHRAE in that capacity.

Chairman Mercer briefed the TC on information received at the TC Chairs’ Breakfast. Updates from the TC Chairs Breakfast are as follows:

* Conferences & Exposition Committee (CEC) is looking for reviewers for next meeting in Chicago. Please contact Tiffany Cox if interested. CEC is looking for competent people to review conference and technical papers. Please email Tiffany Cox, if you are available.
* Chairman Mercer announced that the ASHRAE Publications Committee is looking for ideas and can help with anyone wanting to publish via books, papers, magazines, online, software, apps, ASHRAE Journal, etc. The publications have to be specifically related to TC 6.3.
* Chairman Mercer announced that there is a new position on the roster called “Provisional Corresponding Member”. This position is to allow new members who wish to become a member of the committee but need to gain experience in the specific TC’s. Provisional CM become CM before 2 years or drop off as Provisional CM at 2 years.
* Chairman Mercer announced that 2020 is the 125th anniversary of ASHRAE. ASHRAE is looking for anyone to offer historical accounts and technical advances after 1920. Members who have material to contribute can offer anything should contact Emily Sigman for more information.

* Chairman Mercer announced that the ASHRAE is encouraging members to write Technical Bulletins that can be published on TC websites. These publications, however, must be peer reviewed and approved by TAC.
* Chairman Mercer announced that ASHRAE has published a new TC Manual of Procedures (MOP) to make things simpler.
* Chairman asked members whether the TC 6.3 needs a basecamp site offered by ASHRAE. However, there was no interest to acquire one right now.
* Chairman asked members whether they would need facility to meet remotely, for those who cannot physically be at the meeting. Members did not have any comments, however, Chairman Mercer will:

ACTION: Survey all TC 6.3 members on whether they are interested to participate via web-meeting/remotely.

* Chairman Mercer announced that there is a new web platform for TC websites which are easier to work with. He will pass on the details to Mr. George Yaeger, the new Webmaster for TC 6.3.
* Chairman Mercer announced that the RAC prioritizing research topics related to residential relative to goal #3.
* Chairman Mercer announced that the CEC requesting ideas for program tracks for Atlanta 2019 meeting. The CEC is seeking to determine a conference track based on member feedback instead of proposing its own tracks to TCs.
* Chairman Mercer announced that the Professional Development Committee is seeking ideas for new ASHRAE Learning Institute courses. Committee members discussed and recommended that topics related to Variable Speed motors and controls.

1. **Subcommittee Reports**
2. Handbook (Diane Jakobs)

Handbook Subcommittee Chairperson Jakobs reported that ASHRAE handbooks including TC 6.3 can be easily edited online using the URL authoring.ashrae.org. the handbook chapters. ASHRAE has not indicated any issues with the TC 6.3 chapter, however, Mrs. Jakobs identified opportunities for improvement related to the following topics:

* + Ductwork diagrams and descriptions
  + Updates to recent regulations
  + Need to update references and citations. Some of the references are obsolete and some may be inaccurate.

1. Program (Mark Shoemaker) –Informed committee he would be resigning this position because of time constraints

Mr. Mark Shoemaker presented the topics that the committee members have discussed. The following items were covered:

* Concepts that were discussed in Las Vegas:
  + - Comparing pros and cons of Ductless v/s Ducted
  + Members discussed that this is a sensitive topic and must be dealt with carefully. There may be many differing opinions and the topic needs to be considered carefully.
    - Impact of furnaces on net zero homes
  + Mr. Rick Chickwood, mentioned that California needs lower capacity units since the heating loads are very small in CA. Thus the program discussions on net-zero homes should include sizing factors.
  + Mr. Shoemaker suggested that the committee could conduct a seminar on this in the Z&E track for Chicago in 2018.
  + Members also discussed that net zero homes cannot sustain a gas furnace and would be challenging to include in a discussion while proving the efficacy of such a design.
    - Impact of net zero homes on the HVAC industry
* Mr. Jeff Warther, the new Program Subcommittee chair for TC 8.11 offered to work together with TC 6.3 on suggesting program topics. He recommended that the DOE should participate on the recommended programs above. As an example, Ashley, from DOE, participated in the panel discussions for water heaters in Long Beach, CA.
* Members also recommended having a program related to technical presentations related to Learning Objectives.
* Mr. Shoemaker announced that the deadline for conference papers for Chicago is August 28, 2017.
* Mr. Shoemaker also announced that the deadline for Seminar/forum paper submissions were due in 2 weeks of the Long Beach, CA meeting.
  + Member recommended that the TC should consider the topic of application of low capacity systems and hold discussions on design guidelines, applications guidelines and sizing.
* Members finally discussed the possibility of conducting seminar on a contractor based discussion on best practices for gas furnaces and heat pumps. A member clarified that the discussion should be based on ducted equipment only because the TC 6.3 is a forced air heating and cooling TC. Some topics that can be covered are:
  + What will and should qualify as a good installation and at what cost?
  + What can be done to ensure quality installations?

1. Research (Roy Crawford)

There was no discussion related to research activities.

1. Standards (Olsen)

Standards Subcommittee Chairman Olsen reported on the standards activities related to TC 6.3. The standards included are ASHRAE 103, ASHRAE 152 and ASHRAE 193.

Mr. Olsen reported that ASHRAE 193 and ASHRAE 152 are up for reaffirmation. Members voted to reaffirm the ASHRAE 152 standard during the Las Vegas TC meeting.

Mr. Olsen reported that the Mr. Mark Webber had contacted Standards Subcommittee Chairs to announce that all standards need to be written in mandatory language. Mr. Olsen found that ASHRAE 193 has non-mandatory language that needs to be addressed.

Mr. Olsen also announced that a Standards Reaffirmation Subcommittee needs to be formed to review the standards for reaffirmation and potentially correct any issues with those standards. The following members volunteered to participate:

SRS volunteers:

* + Mark Olsen
  + Diane Jakobs
  + Roy Crawford
  + Anuj Mistry
  + Kevin Mercer

ACTION: Mr. Olsen will circulate proposed edits to the SRS committee and schedule a meeting before the next TC 6.3 meeting in Chicago.

The other standards that were discussed are as follows:

* ASHRAE 62.2 update: Ventilation and IAQ in residential building
  + A member reported that the there was a change in the scope of the standard. The scope now includes multi-family dwelling unit (including high rise buildings)
  + There were about six (6) additional changes that will be letter balloted. The changes will also be sent out for a public review prior to the letter ballot.
  + Mr. Roy Crawford announced that future meetings, he will be will be providing ASHRAE 62.2 updates to the TC 6.3.
* ASHRAE 103
  + Mr. Paul Haydock shared issues related to the ASHRAE 103 via an email to Chairman Mercer. Mr. Paul Haydock identified a need to conduct research on cycling and flue losses. These are very small part of the losses and do not have a significant impact on the efficiency of a furnace. Cycling and flue losses presents a significant testing burden none-the-less. It is important to understand whether the cycling test can be removed from the test procedure and rationalized using a research study. An RTAR Working Group was established to draft an initial RTAR. Following people volunteered:
    - * Paul Haydock
      * Diane Jakobs
      * Roy Crawford
      * Larry Brand
      * Anuj Mistry

Chairman Mercer requested that the RTAR be developed before the next ASHRAE conference.

ACTION: Draft RTAR by Chicago 2018.

* Members also discussed a potential research topic related to compact units that sense temp and humidity in rooms that can be installed in every room, connected wirelessly to central controller. These units can learn how the house behaves and adds proportional heat to the rooms as needed. Members discussed that a COP metric can be used to determine the efficiency of this equipment, but an RTAR needs to be developed to research the metric: A RTAR working group was established and the following people volunteered:
  + - * Chuck Gaston
      * Roy Crawford
      * Jon Winkler
      * Harvey Sachs

Chairman Mercer requested that the RTAR be developed before the next ASHRAE conference.

ACTION: Draft RTAR by Chicago 2018.

1. Web Site (Singla)

Chairman Mercer reported he did not receive any updates from the previous Webmaster, Mrs. Singla.

1. ASHRAE Learning Institute (Chuck) AKA Professional Development Committee

Mr. Chuck reported that anyone willing to volunteer for the ASHRAE Learning Institute should approach ASHRAE.

1. Low GWP – MTG report (Siva G.)

* A member reported that the Low GWP MTG meeting was held on June 25, 2017. The committee discussed 3 projects and decided to co-sponsor with ASHRAE:
  + Post ignition reassessment
    - It will assess the severity of ignition of flammable refrigerants
    - Results are expected by winter meeting 2018
  + Handling of flammable refrigerants
    - The expected completion of the project is December 2017
  + Assessment of field made mechanical joints
    - The scope includes A2, A2l, A3 refrigerants
    - The project will consider the assessment of multiple types of fittings and human factors in making joints in the field.

1. Operations and Maintenance Activities – MTG report (Bryan Rocky)

Mr. Rocky reported that no meetings of the subcommittee have occurred.

1. Old Business

No old business was discussed.

1. New Business

* Mrs. Diane Jakobs mentioned that the CSA standard P.8 for measuring thermal efficiency of 3-phase furnaces, upto 10million BTUH, expanded its scope to include:
  + Cold climate performance
  + Weatherized, non-weatherized and ventilation units.
    - Members discussed that the heat exchangers can rust very quickly at very cold climate. Also, weatherized equipment need to be reconsidered. The additional requirements for weatherized furnaces will present additional testing burden to the industry.
  + Mrs. Diane Jakobs reminded everyone to join the standards developing committee and provide input on these issues.

1. Adjourn

Meeting was adjourned at 3:30 p.m.