M I N U T E S

DRAFT

TC8.03 Absorption and Heat Operated Machines

2020 ASHRAE SUMMER MEETING
Virtual

Tuesday, June 16, 2020: 3:30 – 6:00 PM
Location: Zoom

TC8.03 Subcommittee Meeting (Research/Handbook) – Tuesday, June 16, 2020 2:00-3:30 PM
Location: Zoom

Note: These draft minutes have not been approved and are not the official, approved record until approved by the Technical Committee.
Minutes

1. Call to order

   Meeting was called to order at 3:35 p.m.

2. Review Scope

   Technical Committee 8.03 is concerned with the design, performance and application of equipment energized by a heat source and using a thermodynamic cycle to provide an air-conditioning, refrigerating or heating function; with the properties of absorbent solutions or special working fluids used in these cycles; and with components of the cycle requiring specific design characteristics.

3. ASHRAE Code of Ethics Commitment

   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

   a. Determination of a Quorum

      | VOTING MEMBERS FOR THIS MEETING (Need 5 for a Quorum) |
      |-------------------------------------------------------|
      | Patrick Goeghegan-2020 (Absent)  Eric Smith-2020 (Absent) |
      | Douglas Davis-2020 (Present)     Timothy Wagner-2021 (Absent) |
      | William Ryan-2021 (Present)      Reinhard Radermacher-2022 (Absent) |
      | Uwe Rockenfeller-2020 (Absent)  Kumar Sivagnanam-2021 (Absent) |

   b. Quorum was not met. 2 of 8 voting members present.

      i. Srinivas Garimella suggested that there should be some mechanism to call members to meet the quorum and it was informed that an emergency roster change was done in the Orlando meeting confirmation on the acknowledgement from ASHRAE was received but the roster has not been changed yet.

      ii. Revised roster will be available from August 1, 2020.

      iii. Motion to take non-quorum votes.

      iv. Action item: electronic votes for Orlando and Virtual Conference

   c. Total Attendees: 20; 1 new member.

5. Agenda additions

   a. Emergency change of roster filed by Davide Ziviani during Winter meeting in Orlando

6. Chair’s Report

   a. It was informed that ASHRAE has approved 4 TC mergers and the names were shared on the slide. Later it was asked by the chair if our committee also wants to merge with any other TC on which comments were asked with none in response.

   b. After the TC chair’s breakfast agenda was discussed, it was shared that the ASHRAE George B Hightower’s technical achievement award is open for nominations and it was discussed about eligibility within the TC. We are seeking feedback on potential nominees.

   c. New REF-CPCC subcommittees was discussed.

   d. ASHRAE’s strategic plan development – mission/vision and values were discussed. It’s derived 7 initiatives were discussed and the fiscal impact due to COVID 19 was shared with the members.

7. Liaison reports (as they arrive)

   a. Chris Seaton (Shrieve) RAC Liaison for Section 8

      i. ASHRAE Research will be funded and as a reminder an RTAR takes 12-18 months to get approved. However, during this pandemic, the funding will be limited, and things will be slow.
ii. Research Subcommittee Chairs Section 8 will take place on July 16 at 10am ET

8. Approval of minutes from Kansas City and Orlando

Draft minutes are posted, and will be sent for electronic vote shortly

9. Membership/Roster

- the matter of adding new roaster memberships was discussed with Doug Davis who said that the old emails when followed up bounces back and so an individual follow up would be required. Then the chair shared the various positions of the TC leadership ‘rolling off’ and ‘by June 2020 and Aug 2020, respectively
- Currently have 7 voting members plus 2 MNQ
- Rolling off this June: Uwe Rockenfeller, Patrick Geoghegan, Doug Davis
- Kumar should be rolled off since he will no longer be able to attend
- Rolling on will be Davide as chair
- To roll on in July: Chris Keinath, Brian Fronk, and Kyle Gluesenkamp
- Jay Kohler has informed his inability to attend the TC meeting physically. It was discussed that as Tim Wagner and Kumar would also be rolling off with minimum 5 voting members essentially required in the TC for voting, we would require more new people now and names to be suggested. Some member suggested the name of Rajesh Dixit from JCI to check if he would be interested to give his name for voting member.
  i. The chair Davide will check with Rajesh for his concurrence

10. Subcommittee reports

a. Programs

i. 2020 Summer Austin
  • No programs sponsored

ii. 2021 Chicago (Programs due August 3)
  1. HVAC Fundamentals & Applications
  2. Systems and Equipment
  3. Refrigeration and Refrigerants
  4. Environmental Health through IEQ
  5. Building Performance and Commissioning for Operation and Management
  6. Energy Conservation
  7. International Design

  • a Forum and Seminar both have been proposed for the Chicago 2021 conference. For making the panelist of the Forum, GTI’s Paul Glanville name was shared and while Michael was suggested to be the chair of it
  • For the Seminar part it was shared by Bill Ryan that would be done separately for which 3 presentation offers are already in place while for the 4th one he will send the Call Ins by email to everyone
  • Further it was suggested by the vice chair (Davide Ziviani) that we should request ASHRAE for better quality of Audio Video and projectors for better discussions on the topics. It was also informed that a voting would be required for Seminar & Forum.
  • The Seminar’s topic, as decided in the Orlando meeting was put up to the members to suggest changes in the name, if any. As there were no comments, the name of the Seminar topic remained same as “Thermally Driven Heat Pumps and Cooling System in the age of electrification”.
  • Chris Keinath, the corresponding member suggested that instead of having some presentations of specific design of an equipment, it would be a better idea to have an Open Forum is more welcome for a broader conversation on thermally driven systems.
  • Bill Ryan suggested that for an Open Forum, a Panel shall be required, and, in that case, we should suggest potential names for the panelists and submit by the August 3 2020.
  • The VC concurred to this suggestion as then a debate on the topic could also be done in the end of the Panel Forum. It was also suggested by Bill that the name of the Panel Forum be suggested and after deliberation the name was finalized as “Role of Thermally Driven Heat Pumps and Cooling Systems to Reduce Carbon Emissions”.
It was discussed that Votes would be needed in the Main committee meeting to have both Seminar and Panel Forum. There were few potential panelists name suggested by Davide and Chris Keinath which could be from GTI, HGA, YANMAR, SMTI and Georgia Tech Institute. The chair of Forum would be Kyle while Chris and Bill will present in the Forum. The topic of presentation by Bill shall be “Marginal Carbon Analysis”.

It was finally suggested by Bill that Seminar schedule should be kept before the Forum and decided that Chris will give a short description to Bill to put it up to ASHRAE for the approval of having a Forum along with Seminar. For the Seminar, Bill will send out emails calling out for presentation to all the members.

iii. 2022 Phoenix Summer

- Brian Fronk shall reach out to Melanie Derby to check for Phoenix session details as a new track called Research Summit has been added for this session. He also suggested if some local companies can be contacted to share their experience and case studies on thermal system/research submit for the program. It was suggested that Prof. Patrick Phelan to be contacted by Kyle at ASU and copy shared with Bill and Davide. The extended substracts for this has the deadline of Feb 2021 hence it was decided it be deferred till Chicago 2021 meeting.

b. Research

i. Current 8.03 RPs

- WS-1842
  - This was discussed in Chicago 2018. The topic was Design and Build of CHP Buildings. It was decided that Chris Seaton will find the comments receive don the above topic and Kyle will investigate the status of comments and approval.

- WS-1796
  - we Kyle discussed the minutes of Orlando per which the work statement is to be submitted by July. It was suggested that Kyle will submit it to Chris Seaton for a review.

ii. On the research section on the website published, Kyle will check with Uwe list of research projects to have some more ideas towards it.

iii. Ideas

- Davide suggested that the members should do brainstorming to find out some new research material which could be tabled as next. To which Kyle suggested it could be barriers in Heat Mass Transfer and Chris Keinath suggested that Sodium Chromate is a very old inhibitor used in the absorption industry so developing alternate corrosion inhibitor for Ammonia Water and LiBr Water absorption chillers could also be a research topic.

- Doug Davis suggested that as corrosion inhibitor is used in Absorption chillers relatively in a small quantity, it may not justify the cost of research. Bill shared that chromate-based inhibitor are treated by the industry per prevailing law before discarding it.

- The VC asked the members if this topic could be taken as a short-term action to which Amit suggested from a manufacturer view that Sodium Chromate is specifically used in Ammonia Water cycle and Molybdate based inhibitor is already been used as an alternate inhibitor for the LiBr cycle Absorption machines for many years and since the quantity used is very small, the research for this topic may not be justified.

- Chris Keinath suggested to have previews from the past on type of research papers submitted in the past to which Kyle offered his help in finding those old material to discuss in the next meeting.

- Srinivas requested if this topic can be expanded and research could be focused on using a different liquid in Absorption machines than Ammonia and LiBr as Ammonia cycle can’t be used in space cooling and prohibited for Aluminum material while LiBr machines cannot be used for smaller capacities.
• Doug Davis referred to Chicago 2018 presentation and suggested that it becomes manufacturers prerogative finally and they are very discreet in discussing the pros and cons. Kyle suggested that gravity fed system may be explored as has not been seen yet in those technologies to which Amit suggested if the topic can be instead the metallurgy of tubes or usage of Thermic Fluid as the heat source for LiBr Absorption machines.
• The discussion led to usage of Thermal storage and Absorption technology used together. The members agreed that Energy Storage could be the research topic for which may be the Cogen committee 1.10 or Thermal Storage committee 6.9 can be contacted for a joint statement. Davide will approach other TCs to check this possibility

c. Handbook  
   Ziviani (Juergen Sharfe was absent)
   i. Davide will find out what chapter is due next and when
   ii. Further, on the Handbook update and publishing, the members in attendance were asked to volunteer for this section. Eventually, Doug Davis, Brian and Kyle were suggested to nominate industry people to volunteer for the handbook section

d. Standards  
   Jay Kohler
   i. the method of testing absorption chillers under SPC 182 were already commented upon through public preview process and have been already replied to around 2 weeks ago. As no substantial change has been seen in the document so will get approved sooner and will be posted soon.
   ii. Ahmad Abu-Heiba, chair of SPC40: we will follow up.

e. Website  
   Chris Keinath
   - Orlando draft minutes uploaded. Follow up on KC minutes
   - Davide notes that we need to update the website with Program activities, need to update research activities with.
   - Research Projects was said to be taken up by Kyle and he confirmed to investigate it.

11. Old Business
   a. Doug Davis requested if ASHRAE still does the anniversary issue on Absorption to which Davide informed to check back and update the committee.

12. New Business
   a. Use Basecamp for TC8.3
   b. Davide brought up the possible need for a subcommittee chair for YEA/Awards to grow the committee.
   c. A suggestion was provided by members that for Chicago 2021 conference as well remote access should be permitted by ASHRAE. To which it was informed by the vice chair that ASHRAE will be requested for this as it was presumed to be in a hybrid format in 2021. Bill Ryan suggested that we may have to request ASHRAE for better audio quality for that virtual meeting if some other internet-based system is picked for facilitating 2021 virtual meeting

13. Adjournment
   a. Motion to adjourn.
      i. Meeting was adjourned at 5:30 p.m.