**T.C. 6.8 FULL COMMITTEE MEETING MINUTES - DRAFT**

Tuesday, June 25th, 2019

3:30-6:00PM

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Members Present | YearApptd | Members Absent | YearApptd | Ex-Officio MembersAndAdditional Attendance |
| Scott Hackel ChairSteve Hamstra Vice ChairDennis Koop Sec.Dr. Bill MurphyDr. Harrison SkyeKay Thrasher ALIEd Lohrenz MNQ(7 Voting) | 18-2018-2218-2216-2018-2116-2016-20 | Michel BirdwellMike FillerHugh HendersonDr. Piljae ImMichael KukCary SmithDr. Shaojie WangBruse Baccei MNQ(7 Voting, 1 Voting-NQ) | 18-2216-1918-2218-2218-1918-2116-2016-20 | Corresponding MembersDr. Jeffrey Spitler Chair Research Sub CommitteeBrendan HallCarl HuberDr. Xiaobing Liu Lance MacNevinTheodore B ReinhartRoshan RevankarGreg Tinker (8)GuestsDane ChristensenSean FaltermeierPaul KalinowskiDrew TurnerTed WayneRichard Weekley(6) |

TAC Section Head: Mr. Dawen Lu, PE

Handbook Liaison: Dr. Prakash R. Dahamshala / Ms. Suzanne LeViseur, PE

Research Liaison: Dr. Omar A. Abdelaziz

Standards Liaison: Mr. Erick A. Phelps

Staff Liaison: Mr. Michael R. Vaughn, PE

**1.** **Call to Order**

* Welcome, Introductions, and Sign-In
* Visitors Welcomed: 1st timers and YEA, 1 YEA member present
* Reviewed Voting Members & Determination of Quorum
	+ Quorum not achieved at 3:40.

**2.** **Announcements from ASHRAE**

* Section Head – Dawen Lu – no report
* Liaisons
	+ Staff – No report
	+ Standards – Erick Phelps- No report
	+ Research – Dr. Omar Abdelaziz – No report
	+ Handbook – Dhamshala (S)/ Werman (A) - No Report
	+ TAC – KellyCramm- No Report
	+ ALI/PDC – Bochat- No Report
	+ Codes: Steve Ferguson- No Report

**4. Announcements from the Chair**

* Topics from the Chair
	+ ASHRAE plans to reschedule the TC meeting is still being considered more in old business
	+ ASHRAE Google calendar is available for download.
	+ Paper reviewers are needed for Geothermal Systems
	+ Thank You Letter for Employers are available from ASHRAE for your attendance to the conference.
	+ The new ASHRAE 2019-2024 Strategic Plan is available. Please visit [ashrae.org/strategicplan](http://www.ashrae.org/strategicplan)
* Honors and Awards
	+ Distinguished Service Award
		- Gary Phetteplace, Ph.D., P.E., Fellow Life Member ASHRAE, president, GWA Research, LLC, Lyme, N.H.
	+ Exceptional Service Award
		- Jeffrey D. Spitler, Ph.D., P.E., Fellow ASHRAE, regents professor, school of mechanical and aerospace engineering, Oklahoma State University, Stillwater, Okla.,

**5.** **Subcommittee Reports:**

* KTM Award – Lisa Meline
	+ New 2019 Award applications and solicitation for candidates is available on the TC 6.8 Website.
* Handbook ­
	+ Geothermal – ASHRAE Handbook
		- Harrison Skye - Chair of Chapter 35 in the 2019 HVAC Applications has been published
		- The new Chair for the next cycle 2023 will be Mat Mitchell
	+ Report Energy Recovery Applications – Frank Pucciano / Stephen Hamstra
		- Frank volunteered to chair the next cycle 2024 Handbook
		- Please see attached subcommittee 6/25/19 meeting report.
		- Frank wants to work on a PTAR for a publication - Heat Pump Application Guide
* Standards – Cary Smith
	+ Nothing to report
* Programs ­ Harrison Skye: **Kansas City, Orlando, Austin**
	+ Meeting held Sunday June 23th. 10 in attendance
	+ Three Seminars at Kansas City meeting on Jun 23rd - 24th – 26th; Commissioning Geothermal Heat Pump Systems, Radiant Cooling and Heating, and Energy Conservations and Hybrid GSHP Systems.
	+ TC 6.8 Sponsored a Seminar about Ground-Source heat Pumps that had good attendance, and we thank Chair Mike Kuk, Stephan Hamstra, and Greg Tinker for outstanding presentations about using Ground Source Heat Pumps: Radiant Cooling and Heating.
	+ TC 6.8 Sponsored a Seminar about Geothermal Heat Pump and Energy Recovery Allications, and we thank Chair Harrison Skye, Ed Lohrenz, Brendan Hall, and Suhasini Pyarasani for presentations about Energy Conservation and Hybrid GSHP Systems.
	+ Lisa Meline presented a Technical Paper about Historical applications of Geothermal Heat Pumps: Simply Efficient on Jun 24th.

New Program Chair: Roshan Revankar

* + **2020 Orlando, FL – Winter Conference Dates: February 1 – 5, 2020**

Track: Systems and Equipment

 Advances in Ground Heat Exchanger Modeling – Chair Jeffery Spitler

 Presentations by S. Javed, M. Cimmino, and Michel Bernier

Track: Refrigeration and Refrigerants;

Refrigerants and Refrigeration with Ground Source Heat Pumps – Chair Brendan Hall

 Presentation by B Palm, Steve Kavanaugh, Ed Lohrenz, and Harrison Skye

Track: Cutting Edge Approaches

 Black, Grey and Almost Clean: Energy Recovery with GSHPs – Chair Roshan Revankar

 Presentation by Steve Hamstra, Xiaobing Liu, and Lisa Meline

* + **2020 Austin TX – Summer Conference Dates: June 27 – Jul 1, 2020**

Abstracts are due August 12, 2019 if you have a paper you want to submit

* Research ­ Dr. Jeff Spitler: **Work statements and RTARs**
	+ Sub meeting Monday June 24th 10 attendees
	+ Work statement 1817 “Long term temperature change of ground heat exchangers.
		- Approved
	+ Work statement 1812 “Detection and Diagnosis of Leakage for Ground Source Heat Pump Systems (GSHP)” developed by TC 7.5
		- RAC returned for revision
	+ Lisa Meline RTAR “Required flow velocities for flushing and purging of solids in ground-source heat pump and hydronic systems”:
		- Lisa’s feedback - that some in the industry want to use IGSHPA standard of 2.5 feet per second, however some installations uses a higher velocity.
		- TC 6.1 limited feedback - wants more participation from TC 6.2,6.3 & 6.4
		- Jeff suggested that other TC’s have had limited feedback and we are to waiting on their revisions may delay the process and Bill suggested based on a technical basis moving forward now to send the RTAR to RAC from this TC and perhaps incorporate other comments later.
		- Richard Weekley is doing a survey about installation to see what range of fps is normally used. Russell Buras of Loop Tech also may have documentation on the subject.

New Research Chair: Harrison Skye

* + Harrison reported from the Research Chair Breakfast - RAC has compiled a list of research projects concerning cost and time, so we can get an idea of what is normal for successful projects…average project is $131,000 and duration of 18 months.
	+ Bill Murphy also reported – there is another research designation known as a PTAR for the development of publication like the Blue Book that this committee sponsored. The research committee wants Pub. Ed to have input in the review process for the benefit of the proposed publication to ASHRAE, so a review process is being developed like the research review process.
* Membership ­ Chair and Vice Chair will discuss **Roll-on / Roll-off Members**
	+ Roll-on Steven Carlson, Steve Kavanaugh, and Roshan Revankar
	+ Roll-off Mike Filler and Mike Kuk
* Education and Special Publications/Journal ­ Vacant:
	+ Kay reported - ASHRAE now wants shorter articles for the ASHRAE Journal rather than technical papers
	+ ASHRAE Publication Committee is requesting a review of a 1998 publication about Operational Experience with Ground Source Heat Pump Systems, Steve said this may be a good place to start, perhaps it should be retained…Lisa Meline may have opinion about this publication.
* Webmaster ­ Craig Buschur
	+ No report
1. **Industry Liaison Reports:**
* IGSHPA, IAPMO, NGWA – Cary Smith/Roshan Revankar
	+ C448 is not being used by the industry and the update will eliminate several sections
	+ Geothermal pipe sales volumes are still in a down trend from previous years and current sales are about the same as last year
	+ Proposed drilling regulations in California may hurt geothermal heat pump projects
* Geo Exchange Organization
	+ Electric Beneficiation League has been established to promote geothermal heat pump projects.
1. **Old Business**
* Organizational Streamlining of ASHRAE Technical Committees
	+ Adjust meeting times
		- **We may see scheduling changes please check the TC 6.8 website for meeting times**
* The Chair discussed **Basecamp** internet software to the TC as a new way to share organization documents and information.
	+ - Scott will setup Basecamp for File Sharing, emails and digests.
		- TAC has a PowerPoint about Basecamp
* Remote meeting – Scott will try to have available for Orlando
	+ - Could be helpful for meeting quorum

1. **Adjourn**

Energy Recovery Applications Subcommittee Report

We held the Energy Recovery Applications Subcommittee meeting this morning (6/25/2019) with the following report:

* Four attendees: Frank Pucciano, Ted Reinhart, Nick Agopian and Steve Hamstra (Sign-in sheet attached)

Meeting was called to order and introductions made at 8:05 and Adjourned at 8:55

* Proposed Programs:
	+ Heat Recovery Heat Pump Applications (Prefer Orlando, FL but OK with Austin, TX) *Note: Title may be altered to fit specific tracks at conference.*
		- Yesterday’s Applications with Today’s Technology – Frank Pucciano (Confirmed)
		- Waste Water Heat Recovery Applications – Steve Hamstra (Confirmed)
		- Chilled Water System Heat Recovery Heat Pump Applications – Mike Filler (To BE Confirmed or another speaker to be found)
* Possible Research:
	+ A Design Guide for Applying Current HRHP Technology
	+ Research Paper Applying Heat Exchanger, Compressor Type and Refrigerant to Specific Applications
		- Research a 1990’s Research Project Sponsored by TC 9.4 that identified existing application in North America
		- Determine which of those application are still applicable and identify the technology (no manufacturer) that works
* Handbook:
	+ Assumed that the 2020 Handbook has been approved by committee, but Mike Filler was not present to confirm.  Please advise if this is not complete.
	+ Frank Pucciano volunteered to chair the 2024 rewrite if a chair has not been appointed and will assist if a chair has been assigned.

Thanks,

Frank

