

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING
ENGINEERS, INC.
1791 Tullie Circle, N.E./Atlanta, GA 30329
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TC/TG/MTG/TRG MINUTES COVER SHEET

(Minutes of all Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

TC/TG/MTG/TRG No. 8.5 DATE 02/03/2015

TC/TG/MTG/TRG TITLE Liquid-to-Refrigerant Heat Exchangers
DATE OF MEETING 01/26/2015 LOCATION Chicago, IL

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Ebrahim S. Al Hajri	2014	Satyam Bendapudi	2014	Chao Shen
Zahid H. Ayub	2014	Samuel F. Yana-Motta	2011	Yang Zou
Justin P. Kauffman	2014	Lorenzo Cremaschi	2011	Ben Schultz
Benjamin E. Dingel	2014			Satheesh Kulankara
Kaushik Oza	2012			Nataraj Hariharan
James T. Schaefer Jr.	2012			Icksoo Kung
Evraam Gorgy	2013			Sankar Padhmanabhan
Andreas Knoepfler	2013			Steve Eckels
Stanislav Perencevic	2012			Kashif Nawaz
				Andrew Sommers
				John Thome
				Tae Kwon
				Andrea Bigi
				Gustavo Pottker
				Joe Huber
				Justin Piggush
				Shenghan Jin
				Wenjian Wei
				Hongzhou Dong
				Panosg Papavizas
				Yinbo Rui

				Will Asher
				Pelletier
				Rahul Kolekar
				Pratik Deokar
				Jhiam Wong
				Lindsey King
				Achim Gotterbarm
				Florian Hadelmaren

DISTRIBUTION

All Members of TC/TG/MTG/TRG plus the following:

<i>All Members of TC/TG/MTG/TRG plus the following:</i>	
TAC Section Head:	Stephen W Duda
TAC Chair:	William F McQuade
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters:	Patrick C Marks David A Yashar James Dale Aswegan Michael R Vaughn
Manager Of Standards Manager Of Research & Technical Services	Stephanie Reiniche Mike Vaughn



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ASHRAE TC 8.5 Liquid – Refrigerant Heat Exchangers Winter Meeting, 26 January 2015 (Chicago, IL)

These draft minutes have not been approved and are not the official, approved record until approved by this committee.

1. Call to order and reading of TC 8.5 scope (E. Al Hajri)

TC 8.5 Chair, E. Al Hajri, called the meeting to order at 4:20pm. E. Al Hajri introduced the title, purpose and scope of TC 8.5.

All attendees introduced themselves and signed on the roster sheet.

2. Establish quorum requirements (Y. Zou)

9 of 12 voting members were present at quorum call; quorum was established.

Members present: E. Al Hajri, K. Oza, J. Kauffman, S. Perencevic, E. Gorgy, A. Knoepfler, B. Dingel, J. Schaefer, Jr, and Z. Ayub

Member absent: S. Bendapudi, L. Cremaschi, and S. Yana-Motta

3. Review/approve minutes from previous meeting (Y. Zou)

Meeting minutes of TC 8.5 in ASHRAE Annual Conference in Seattle were distributed and reviewed for approval. J. Kaufmann took the motion. E. Gorgy seconded. The minutes were passed with all in approval (9-0-0).

4. Section Head comments (S. Duda)

TAC 8 Section Head, S. Duda, announced this would be the last year for him as the Section Head. No new announcement from the board was made. S. Duda acknowledged the work and schedule of TC 8.5. Nothing significant needs to be changed for TC 8.5. S. Duda joined in the discussion helped on the roster of TC 8.5 for this year. B. Dingel proposed to respond to ASME VIII-Div. 1 scope changes from TC 8.5 and upper level of ASHRAE. S. Duda agreed to help take it up to the upper level of ASHRAE as long as there is a draft or report to ASME VIII-Div code changes.

5. Liaison Comments

No liaisons were present in this meeting.

6. Chairman's report/comments (E. Al Hajri)

E. Al Hajri updated TC 8.5 with the chair breakfast meeting. Three awards were presented by ASHRAE last year, which were related to TC 8.5: Hightower Award, Service to ASHRAE Research Award, Top TC Award. They were not awarded to TC 8.5 in 2014. E. Al Hajri introduced the description of these awards and the deadline to submit these awards for this year is Sep 1st, 2015.

A new MTG, Operations and Maintenance Activities That Impact Energy Efficiency, is established in this year.

CEC of 2016 in St. Louis are seeking ideas on other tracks for the program. These should be sent to the Chair E. Al Hajri (eahajri@ashrae.org) in June before the Atlanta meeting. The deadline for submitting the program and papers is Jan 30th, 2016. The notification of approval will be on Feb 13th, 2016. The deadline for the final conference paper will be on Feb 20th, 2016. The deadline for submitting workshop and seminar will be on Feb 9th, 2016, and the notifications will be in the last week of March, 2016.



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8 Tracks of 2016 ASHRAE Winter Conference in Orlando were introduced. They are: Systems and Equipment; Fundamental and Applications; Design Build; International Design; Standards, Guidelines and Codes; Cutting-Edge Technologies; The Great Debate; Modern Residential Systems. E. Al Hajri proposed to think of ideas for the program in this conference.

New item on the ASHRAE website is added to the bio: employee discipline. All members are encouraged by ASHRAE to update their bio.

Other upcoming workshops and conferences are listed in ASHRAE website.

7. Membership subcommittee report (K. Oza)

K. Oza introduces there are 59 members in TC 8.5. The voting members are announced. In this year, L. Cremaschi and S. Yana-Motta will roll out. Volunteers may contact K. Oza to become voting member. The current candidates of voting members are S. Padhmanabhan, A. Jokar, O. Abdelaziz and J. Thome.

8. Handbook subcommittee report (S. Padhmanabhan)

S. Padhmanabhan introduces two parts are relevant to TC 8.5: condenser and liquid cooler. Condenser due to fouling is concluded. One paragraph is added to the handbook. Liquid cooler is due in June 2015. E. Al Hajri discussed L. Cremaschi's previous research paper conclusion to be added into the handbook. This paragraph was passed for reviewing. Z. Ayub asked about the reference plane for the chevron angle. S. Padhmanabhan would check it with L. Cremaschi to make sure it was based on the vertical plane. J. Kauffman made the motion to approve to add this conclusion into the handbook. J. Schaefer, Jr seconded. This was approved with all in favor (9-0-0). Later, S. Kulankara identified a typo in the unit. S. Padhmanabhan would contact L. Cremaschi to correct the units.

9. Program subcommittee report (S. Eckels)

S. Eckels introduces 2 items for 2015 ASHRAE Annual Meeting in Atlanta. S. Eckle will try to get either one or both seminars for Atlanta. (1) Seminar: Fundamental application of liquid to liquid heat exchanger. A. Knoepfler and J. Schaefer, Jr will have two presentations, respectively. Another presentation is needed for the seminar. Volunteer should contact S. Eckels (eckels@ksu.edu). (2) Standard: TC 8.5 has put 2 new updates on the standards. It would be a good fit for this track. J. Huber and K. Schultz may have one presentation. J. Kauffmann mentioned about uncertainties calculation in the standard.

S. Eckels asks about ideas for conference paper session for Orlando. S Eckels volunteered to coordinate as session chair. E. Al Hajri and J. Kauffman mention the chances of conference papers got approved are more likely than seminars. E. Al Hajri proposes to submit jointly with other TC, for example TC 1.3 or TC 8.4. E. Al Hajri recommends talking to section head for his opinion on choosing the topics of the seminar before submitting; the chances of getting approved may be higher. S. Eckels recommends it would be a good chance for undergraduate students to publish their research as conference papers in ASHARE. Please contact S. Eckels for the ideas of conference papers (eckels@ksu.edu).

10. Standards subcommittee report (J. Huber)

J. Huber reviews the status of standards is good.

Standard 22: "*Methods of Testing for Rating Water-Cooled Refrigerant Condensers*" was re-written and published.

Standard 181P: "*Methods of Testing for Rating Liquid-to-Liquid Heat Exchangers*" is available in the electronic form, but the paper version was not out yet.



Standard 24 – “*Methods of Testing for Rating Liquid Coolers*” will meet for major revision in 2015.

11. Journal/Insights/Webmaster report (J. Huber)

Website is maintained and updated by J. Huber.

12. MTG Liaison (J. Kauffman)

J. Kauffman introduces the function of MTG. The objective of MTG for Low GWP Alternative Refrigerants is to organize research and programs and other activities of low GWP refrigerants between different TC and coordinate with other TC to apply it. The meeting of this MTG will be on Wednesday (Jan 28th, 2015). Both S. Eckels and J. Kauffman won't be present, so no voting members will be presented in this MTG.

Meeting of LCCP MTG would be on Tuesday (Jan 27th, 2015) from 3pm to 4pm, open session. 5 programs were submitted by this MTG, and 4 were accepted. J. Kauffman would send a list of ongoing research of this MTG.

13. Research subcommittee report (J. Piggush)

J. Piggush reviews the status of RTAR. TC 8.5 is in a good shape. Any RTAR being revised should be finished by July 2015. Note the changes of reward committee to reward people quickly, so the response should be made quickly. Note the changes of work statement. PMS has the right to revoke the payment if the work statement is not followed. ASHRAE is in a good shape on finances at the moment.

RP-1677 had a report on Jan 25th, 2015 by C. Shen. The literature review was completed. Three test shells were mounted. One of them was installed and tested. PMS had gone over the comments of the presentation before this meeting.

For the submitted RTAR, one was approved from Seattle. J. Kauffman will write the work statement and get it ready for the next deadline: May 15th, 2015. Several research topics were proposed in the last meeting. S. Eckels volunteers to work on the in-tube work statement.

Volunteer is needed as liaison to be on the list of research panel. Z. Ayub and K. Schultz described how the research panel works. This issue is not resolved. Interested person should contact TC 8.5 Chair, E. Al Hajri (ealhajri@ashraeuae.org).

14. TC8.5 committee response to proposed ASME VIII-Div.1 scope changes

B. Dingel describes ASME VIII-Div.1 scope changes and how would it affect TC 8.5. B. Dingel asks the support of TC 8.5 to respond to ASME VIII-Div.1 scope changes. These changes are not out for public review yet, and it is expected not to be effective until 2018. Following the discussion in TC 8.5, it is determined that there are enough interest in TC 8.5. B. Dingel made the motion to represent TC 8.5, write the draft of comment, and submit to Section Head for the support from ASHRAE committee. Z. Ayub seconded. It was passed unanimously (9-0-0). S. Kulankara, J. Huber and Z. Ayub volunteer to review the draft. This draft is intended to be voted by email before the Atlanta meeting.

15. New Business

Z. Ayub introduces the Editor in Chief of Journal of Heat Transfer Engineering starts a section of case studies. The goal is to learn from the mistakes and how to remedy it. The submitting and reviewing process will be simpler; it won't be like the process of peer review. Information from the industries and manufacturer's side are needed; field study information is highly recommended.



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16. Schedule Next meeting: Monday June 29, 4:15 PM to 6:30 PM

E. Al Hajri announced the time for next meeting.

17. Adjourn

Z. Ayub moved the motion to adjourn. S. Perencevic seconded. The meeting adjourned at 5:36pm with a unanimous vote.