



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. 3.4 DATE February 14, 2020

TC/TG/MTG/TRG TITLE Lubrication

DATE OF MEETING February 4, 2020 LOCATION Orlando, FL

MEMBERS PRESENT	YEAR APPTD ENDS	MEMBERS ABSENT	YEAR APPTD ENDS	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Scott Wujek	2020	Steve Spletzer	2020	
Greg Smith	2020	Danny Halel	2021	
Ivan Rydkin	2020	Sarah Kim	2022	
John Senediak	2020			
Joe Nigro	2021			
Steve Kujak	2022			
Rosine Rohatgi	2022			
Julie Majurin	2023			
Ed Hessell	2023			
Rob Yost	2023			

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

TAC Section Head: Barbara Minor	SH3@ashrae.net
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters (Research, Standards, ALI, etc.)	Steve Kujak – Research Vinod Gupta – Standards Frederick Betz - Handbook
Mike Vaughn, Manager of Research & Technical Services	MORTS@ashrae.net

Note: These draft minutes have not been approved and not the official, approved record until approved by the TC.

Call to Order – Scott Wujek

Scott Wujek called TC 3.4 meeting to order at 1:30 pm on February 4, 2020 in Orlando at the Hilton Orlando Lake Florence A. Members and guests introduced themselves. A sign-up sheet was circulated. The Chair reviewed the ASHRAE Ethics Statement.

A quorum was established with 10 of 13 members present.

A quick review of the agenda was made.

Approval of 2020 Orlando Meeting Agenda and 2019 Kansas City Meeting Minutes

A motion was made by Steve Kujak to approve the Orlando agenda as written, the motion was seconded by Rosine Rohatgi, the motion carried 9-0-0(CNV).

A motion was made by Steve Kujak to approve the Kansas City minutes as written, the motioned was seconded by Ed Hessell, the motion carried 8-0-1(CNV). John Senediak abstained due to not being at the meeting.

A review of the roster was made.

Voting Members:

Scott Wujek	Rosine Rohatgi
Greg Smith	Ivan Rydkin
Joe Nigro	John Sendiak
Danny Halel	Steve Spletzer
Sarah Kim	Ed Hessell
Steve Kujak	Julie Majurin
Rob Yost	

Management Team:

Scott Wujek – Chair
Greg Smith – Vice Chair
Joe Karnaz – Secretary
Greg Smith – Research
Joe Nigro – Program
Casey Scruggs - Handbook
Sheli Porter – Standards
Dave Vincent – Webmaster
Joe Karnaz – Low GWP TC Liaison

The Chair and Vice-Chair will be working on the rollover roster for voting members and management team that will be in place starting July 1, 2020.

TC Chair Breakfast – Scott Wujek

- **New Collaborative Meeting Space at ASHRAE Headquarters**
 - **TC Collaboration Area** (Hilton Orlando LL, Orange D)
- **MTGs that have been formed since Kansas City Meeting**
 - **MTG.CEA** (Controlled Environment Agriculture)
 - **MTG.RAC** (Refrigeration and Air Conditioning)
- **20-21 Roster Update & Schedule**
 - Please make sure that the completed workbook is submitted on or before Tuesday night, February 4th, of the Winter Meeting.

- 2020-2021 Hightower Award Nominations by Tuesday, September 1st

TAC wishes to encourage TCs to make nominations for the 2020-2021 *George B. Hightower Technical Achievement Award*. Nominations are due to Section Heads by September 1, 2020 or sooner. The award recognizes outstanding technical leadership and contributions on a TC/TG/TRG during the past four years, excluding research and standards activities. Please go to the Technical Committee page of the ASHRAE website at the following link under the “Procedures, Forms...” heading:
<http://www.ashrae.org/tcs>

- TC 2019-2020 Master Calendar – Now Available through Google - The Technical Committee Master Calendar is now available through Google. In order to access this calendar, you need to have a Google account.

- CEC Standing Request for Future Society Meeting Program Track Suggestions,
- CEC Always Seeks TC Volunteers willing to Support Content Development and Quality Control for Society Technical Program at Society Meeting

- The Professional Development Committee (PDC) is seeking ideas for new ASHRAE Learning Institute (ALI) courses.

Future ASHRAE meetings:

Austin Annual Conference - June 27 – July 1, 2020

Seminar and Forum proposals for Austin are due by **February 10, 2020.**

Austin Annual Conference - June 27 – July 1, 2020

Program Focus at Austin Annual Conference:

- i. Track 1: Fundamentals and Applications
- ii. Track 2: HVAC&R Systems and Equipment
- iii. Track 3: Research Summit
- iv. Track 4: Professional Development
- v. Track 5: Grid-Interactive Efficient Built Environment
- vi. Track 6: Multifamily and Residential Buildings
- vii. Track 7: Resilient Buildings and Communities
- viii. Track 8: Zero Energy Buildings and Communities: Opportunities and Challenges
- ix. Track 9: Building Myths

Purdue conference: July 13-16, 2020

Chicago Winter Conference – January 23-27, 2021

Seminar and Forum proposals for Chicago are due by **July 8, 2020**.

Possible Track ideas at Chicago Winter Conference:

- HVAC&R Fundamentals and Applications
- Systems and Equipment
- Refrigeration and Refrigerants
- Environmental Health through IEQ
- Building Performance and Commissioning for Operation and Management
- Energy Conservation
- International Design
- Standards, Guidelines and Codes

Liaisons

Steve Kujak (Research) – RAC reviewed 11 projects at this meeting to select bidders. RAC is balanced on funding and projects coming in, being review and accepted. RTAR 1891 was accepted with comment and more discussion on this will take place during the research sub-committee section. RAC will be migrating to an on-line way of electronic communication, form submission along with storage and review of documents. When considering the bidder evaluation form the working committee does not have to stick to the boiler plate categories and ranking, it is recommended that they adjust to fit the research project. PMS training is available to understand how to work with the contractor. RAC is also looking at implementing a PES training session, more details to come. Steve thanked all on the TC for their commitment and involvement in research.

Subcommittee Reports

Research – Greg Smith

“Foaming Properties of Low GWP Refrigerant and Oil Mixtures” had been assigned as RTAR 1830 but it was found that this was duplicated on the research project list and **should be listed as RP 1879 going forward**. The chair is Ivan Rydkin and he said that he had not received communication back from MORTS regarding bidders after submission of the WS, Steve Kujak felt that this should have already happen and he will get with Mike Vaughn on the status.

RP 1721 “Oil Return and Retention in Unitary Split Gas Lines with HFC and HFO Refrigerants”. This is sponsored by TC 8.11 Unitary and Room Air Conditioners and Heat Pumps, with TC 3.4 as a co-sponsor. The PI is Purdue University and due to the large matrix the project is delayed. Chris Seeton is the chair and commented work is less than 25% completed and no estimated timetable was provided.

RTAR 1891 “Tribological interaction data with lubricants and refrigerants”. Elyse Sorenson is the chair. The RTAR has been approved with changes. Volunteers were asked for the committee and consists of Scott Wujek, Brad Boggess, Tony Barthel and Wasim Akram.

Other research ideas discussed.

- Preferential solubility of high glide refrigerant blends and lubricants – system effect of fractionation. This is still under consideration for development and will remain in the list.

Program – Joe Nigro

TC 3.4 sponsored or co-sponsored several programs in Orlando.

Orlando –

Seminar 54 “Lubricants and Lubrication – What is Important of Lower GWP Refrigerants” was sponsored by TC 3.4 along with TC 8.1. The meeting had 3 speakers, Ed Hessel, Joe Karnaz representing TC 3.4 and Kevin Hughes representing TC 8.1. The seminar was Tuesday morning and was well attended. A comment was made and supported by others in the group that the diversity in this program with TC 8.1 collaboration was good and should be considered in the future.

TC 3.4 also was a co-sponsor on a few other Section 3 sponsored programs or are programs of interest to Section 3 members including; Seminar 22 focused on YEA members, Seminar 29 on system chemistry around process fluids, AHR Expo Sessions 3 on service practices and contaminant control, AHR Expo Session 6 and Seminar 29 on emerging refrigerants.

The floor was opened for suggestions for upcoming ASHRAE programs.

The group came to a consensus that since we put a lot of work into the Orlando programs, and not having a refrigeration track in Austin, we would focus on programs for Chicago January 2021.

It was pointed out that TC 3.1 and TC 3.2 were already considering programs for Chicago so maybe we should look at another Section joint proposal or some type of mini-track. After some discussion it was decided that a person would be identified to lead the 3.4 effort, organize people and come up with a title for Austin meeting based on the potential presenter’s topics. Kristen Sullivan volunteered to chair and organize and will be finding speakers. It was noted that one potential source for ideas would be from Purdue papers once they are accepted. Everything will be set to discuss in Austin.

A list of future ideas generated from current and past discussions was reviewed and will remain on the list.

- Estimating Accelerated Chemical Stability Using Equipment Operation
- Thermal, Chemical and Materials Compatibility of Refrigerants and Lubricants Through the Years

- A future program around Lubricants for Natural Refrigerants was suggested.
- Current State of Lubricant and Refrigerant Properties

Handbook – Casey Scruggs

A few individuals volunteered to review the handbook chapter and provide feedback to the chair which has been compiled. The handbook committee is also soliciting ideas for the next revision which should be directed to Casey. Based on the current review it does not appear to need major revision, there is some research that is occurring but might not be done in time to be placed in this revision.

Standards – Sheli Porter

Standard 86 “Methods of Testing the Floc Points of Refrigeration Grade Oils” – A revision has been worked on and submitted for review.

GPC 40 “Refrigeration Oil Description” – Standards recommends revision to be the next course of action due to updates needed on references. After some discussion the committee also felt this was needed and this would provide an opportunity to update with SPC 218 reference.

A motion was made by Rosine Rohatgi to revise GPC40 with Scott Wujek as the chair, the motion was seconded by Julie Majurin, the motion carried 8-0-0(CNV).

Standard 172 “Method of Test for Insoluble Materials in Synthetic Lubricants and HFC Refrigerant Systems”. Due to some errors found after the standard was published it was decided to form a committee to make the change, but it was also pointed out that this standard is nearing its 5-year cycle which might be a better approach to making changes. Ed Hessel will try to find out the best approach and mentioned that the committee has already been identified so once decisions have been made should move forward quickly.

SPC 218 “Method of Test for Lubricant and Refrigerant Miscibility Determination” – chaired by Brad Boggess. The standard has been published and no action is needed at this time.

MTG Update –Low GWP Lower Alternative Refrigerants – TC 3.4 Represented by Joe Karnaz

Joe updated the group on the activities of the MTG main committee which meets both Sunday and Wednesday along with the Research, Standards/Codes and Programs subcommittee meetings. A few of the smaller research projects have been completed and larger projects are moving into other phases. The MTG was a co-sponsor on the TC 3.4 sponsored program in Orlando.

Webmaster – Dave Vincent

The website is current, and the Orlando meeting minutes will be posted when received. There was some discussion on posting the TC 3.4 seminar presentations to the website and if this is allowed, Scott Wujek said he would find out if this is acceptable with ASHRAE.

Old Business – Scott Wujek

The committee was updated on the recent ASHRAE TAC efforts to streamline TCs potentially through merger. Though TC 3.4 has no plans to merge there are two Section 3 groups TC 3.2 and TC 3.3 that are, some update on where that stands was provided. A potential impact to TC 3.4, with the 3.2/3.3 merger, is that they are looking at taking the current 3.3 timeslot which meets right after 3.4 and typically in the same room. This might allow for some time to have mini presentations during the meeting times by slotting between the meeting, ending 3.4 early and starting 3.3 after the presentations.

A suggestion was made regarding making the TC meetings of more technical interest instead of business like informative by opening time to discussion research efforts and provide more detailed updates. This will be considered but it was also noted that Section 3 has a separate research meeting which could also handle this.

New business – Scott Wujek

It was suggested to provided better audio/visual aids especially when the meeting takes place in larger rooms.

Make sure we educate some of the younger attendees by pointing them to attending the research and program subcommittee meetings.

Sonny Sundaresan who passed away in Sepember of 2019 was recognized by the committee. It was pointed out that Sonny serviced on several Section 3 groups and was very active in ASHRAE.

Next meeting

2020 ASHRAE Annual Meeting in June 27 – July 1.

Adjourn – Scott Wujek

The chair closed the meeting at 2:40 pm through a motion by Steve Kujak to adjourn.