

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

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

TC/TG/TRG NO TC 10.3 DATE Jan. 21, 2014

TC/TG/TRG TITLE Refrigerant Piping, Controls and Accessories
DATE OF MEETING June 25, 2013 LOCATION Denver, CO

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Bruce Griffith, Chair	2012	Lane Loyko (Non-Quorum)	2010	Charles Stout (Webmaster)
Gordon Struder, Vice Chair	2012	Andy Shoen	2009	Willis "Bill" Brayman
Kent Anderson, Secretary	2010			Ken Cooper
				Dan Dettmers
Robert Alan Neeley	2010			Caleb Nelson
John Sluga	2012			Don Fenton
Eric Smith	2010			Dave Rule
Wayne Borrowman	2012			Dustin Lilya
				Jim Young
				Eric Adams (Section 10 Chair)
				Ramon Pons (Handbook Liaison)
				Ken Collier
				Gordon Hart

DISTRIBUTION

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

TAC Section Head: Eric Adams – outgoing; Ken Cooper - incoming	
TAC Chair: Walter T. Grondzik	
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	Gerald D. Hartford, CTTC Liaison John A Shonder, RAC Liaison Cecily M Grzywacz, STDS Liaison
Manager of Standards Manager of Research & Technical Services	Stephanie Reiniche Mike Vaughn

Note: These draft minutes have not been approved and are not the official approved record until voted on by the committee.

Meeting Minutes

Meeting of the
ASHRAE Technical Committee (TC) 10.3, Refrigerant Piping, Controls, and Accessories
Sheraton Denver Hotel

Denver, CO
Meeting Room: Plaza Court 7
Tuesday, June 6, 2013; 1:00 – 3:30 pm

I. CALL TO ORDER/INTRODUCTIONS

Chair Bruce Griffith called the meeting to order at 1:05 pm. Members and guests introduced themselves. There were 7 voting members present before Kent Anderson left early by necessity: Bruce Griffith, Gordon Struder, Kent Anderson, Alan Neeley, John Sluga, Wayne Borrowman and Eric Smith. A quorum was established. An attendance sheet was circulated.

II. ADDITIONS/CHANGES TO AGENDA

There was a need to discuss and vote upon the RP-1327 and vote on an extension. See section III below.

Because Kent Anderson had to leave early, and two liaisons did not need to stay for the entire meeting, the following was discussed out of order with the published agenda:

Kent Anderson: reported on REF committee discussions and actions. See liaison reports below.

Ramon Pons (Handbook Liaison): submit approved chapters to Ramon and he will forward to the Handbook committee. He reminded TC 10.3 about the deadlines.

Ken Cooper (Incoming Section Head): appreciation all around from Eric Adams and himself. ASHRAE code of ethics applies to all. Amended recently, and all members are encouraged to review this code of ethics, and update their bio information on the ASHRAE website.

III. MEETING MINUTES APPROVAL

Draft minutes for the January 2013 (Dallas) TC 10.3 meeting were distributed.

Correction: Fiberglass should be cellular glass – correction by Jim Young

Motion to approve the draft TC 10.3 minutes of the January 2013 meeting in Dallas: Motion by John Sluga, 2nd by Gordon Struder, with correction above. Motion approved 6-0-0 (CNV).

IV. WEBSITE

Griffith reported that the TC 10.3 website is current when we get current minutes published.

V. LIAISON REPORTS

REF committee report by Anderson:

Refrigeration Commissioning document at 95% completion.

Ammonia position document was re-affirmed.

Sustainable refrigeration guide is not yet started. ASHRAE is working with UNEP, Massey University and University of Wisconsin.

VI. CHAIR'S REPORT

Chair Griffith reported on the Section 10 breakfast (see attached).

VII. MEMBERSHIP

Bruce Griffith reported on membership. The 2013-14 Roster has been published and will be located on the ASHRAE website.

VIII. HANDBOOK

Gordon Struder noted that Chapter 1 and 2 have been reviewed. Bruce Griffith will compile comments and get out for letter ballot. Need a plan for chapter 3.

There was some discussion around the thermal conductivity and relative humidity values used in the revised insulation tables for chapter 10. Jim Young presented the committee with revised tables for cellular glass based on the current ASTM C552 standard. The insulation thicknesses were calculated using the thermal conductivity values for flat block. This was consistent with the insulation tables for the other materials within the chapter. **Motion: Use the thermal conductivity values from the current version of ASTM C552 for flat block and the revised tables 3 and 4 for cellular glass insulation thickness in chapter 10 for the 2014 Refrigeration Handbook. Vote: 6/0/0 CNV.**

Bill Brayman had concern that the 94% relative humidity applied in the cellular glass tables is not relevant, or appropriate. Jim Young replied that the goal was to include accurate values for emittance and conductivity but that the committee's direction was to keep the tables from changing dramatically. Therefore, a higher RH was used.

Debate ensued regarding the standards and software used to calculate the tables. Young stated that we should reference the methodology from the current version of ASTM C680. Dettmers stated that the handbook committee's preference is not to reference software within the text of the chapter; however, this can be noted at the end of a chapter. Therefore, Young will adjust to say "see references" and also check if references are current. **Motion: Include the following words within chapter 10: "Using appropriate design conditions and insulation properties, computer programs using the ASTM C680-10 calculation methodology may be helpful in calculating the required insulation thickness (see references). Motion by Kent Anderson, 2nd by Gordon Struder: Vote: 6/0/0 CNV.**

A subcommittee was formed to start working on a revised chapter 10 for the next Refrigeration Handbook version. Subcommittee volunteers: Jim Young - Chair, Bill Brayman, Gordon Hart, Ken Collier, Allan Neely, Wayne Borrowman. Jim Young will send materials out for comment.

For chapter 1, three new sections were developed by Caleb Nelson: Temperature Glide, Refrigerant Retrofits, and Minimizing Refrigerant Charge. Info needs to get put into an appropriate place if it is applicable. Bruce Griffith agrees that topics should be addressed but there is so much variety in system type. This will need to be studied. Bruce Griffith will take Nelson's and Dettmers' comments and collate them, and will send these out for another review by the committee. Will put it out for vote after comments are received.

Smith reports that IIAR CO2 tables should be ready by August 2013.

Dettmers (as handbook liaison) asks for the chapters to be completed and submitted by October, 2013.

IX. RESEARCH

Bruce Griffith reported for Todd Jekel (Research Chair) on the following:

1327-RP – “Two Phase Flow in vertical risers”

- The PMS for 1327-RP recommends that TC10.3 approve a one-year no-cost extension to the contractor, DTI. The PMS vote was 5-0-0-2 (yes-no-abstain-ballot not returned). The proposed new project end-date would be June 30, 2014.
- 4" riser study has commenced with interesting results. However, progress is slow and a request for a no cost extension was made.
- A vote to approve a no cost extension was conducted during this meeting:
Motion by Gordon Struder, 2nd by Kent Anderson, Motion approved 7-0-0. Discussion: Even though Badger has resigned, there are still enough qualified persons to supervise the project.

1513-WS – “Liquid/Vapor Separating Velocities”

- Dropped by RAC. Can resubmit. Resolving RAC's CFD concerns the main issue.
- Jekel has contacted Yunho Hwang, University of Maryland, to help resolve comments on the applicability of CFD to this project. He is using CFD to model a smaller separator.
- Action item: Jekel to contact the potential bidders for the 1569-WS CFD Study of Hydraulic Shock in Two-phase Anhydrous Ammonia project to ask about applicability of CFD.
- Don Fenton volunteered to work with Jekel to work on re-submission of liquid vapor separation RTAR.

Kent Anderson: Report for Layne Loyco on 1569-WS – “CFD Study of Hydraulic Shock in Two-phase Anhydrous Ammonia”

- Conditionally accepted WS. Pradeep Bansal indicated that it is close, and just needs a little work to resolve the RAC issues.
- Co-sponsored with TC 10.1.
- Approval of work statement from RAC: approved with conditions that must be responded to by Aug 15. Layne Loyco will work on this and we can approve by letter ballot. Challenge: Must handle 3 phase (compressibility too). Not many people can do this. A couple of private companies from the aerospace industry can do this.

Future research priorities and volunteers for RTAR development needed. Anyone with research ideas should contact Todd Jekel.

TC 8.11 developed an RTAR and requested TC 10.3 to cosponsor: Oil return and retention in split system gas lines. Griffith distributed RTAR.

Motion to co-sponsor the RTAR: Gordon Struder, Allen Neely 2nd, 5/0/1 CNV. Discussion about the scope... will it include larger piping? Gordon Struder volunteered to serve on the PM Subcommittee. Griffith will get back to Ray Rite, TC 8.11 chair.

RP-1646 (Pipe Insulation): Jim Young reported the project is continuing at OSU. They expect to be done with testing in about a year. Project is on-budget and on-time.

X. PROGRAM

John Sluga, TC Program Chair, provided an update on committee program activities:

- 10.1 proposed great ideas for the program – back to basics, targeted to YEA. Can 10.3 co-sponsor? General Consensus is to work with W. Borrowman and Dan Dettmers on a program for Washington that could involve a brewery tour.

Griffith reported on the CEC statistics. Conference paper submissions are decreasing, but seminars going up.

XI. STANDARDS ACTIVITIES

Griffith provided an update to SSPC 15 and SSPC 34. SSPC 15 will undertake a re-write. The 2013 version of both Standard 15 and Standard 34 will be published this Fall.

XII. OLD BUSINESS

Bruce Griffith reviewed his MBO's for the year:

- MBO #1 - Increase programs for New York, Seattle.
- MBO #2 – Update the TC 10.3 web site: this is in progress.
- MBO #3 – Review/update Handbook chapters for 2014: this is in progress.

XIII. NEW BUSINESS

There was no new business.

XIV. ADJOURNMENT

The meeting was adjourned at 2:25 pm