

AMERICAN SOCIETY OF HEATING REFRIGURATION 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. 6.10 DATE 7/2/12

TC/TG/MTG/TRG TITLE FUELS AND COMBUSTION

DATE OF MEETING 6/26/12 LOCATION San Antonio TX

MEMBERS PRESENT	MEMBERS ABSENT	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Bill Roy (VM – Chr)	Tom Butcher (CM – V.Chr, prg)	John Dunlap (L/Sec Head)
David Bixby (CM)	Shamel Kassab (VM)	Steve Hancock (L/Research)
Larry Brand (VM)	George Kusterer (VM)	Craig Grider (G)
Paul Glanville (CM)	Earl Rightmier (CM – rsch.)	Jennifer Guerrero-Feneira (G)
Thomas Neill (CM)	Hall Virgil (VM)	David Herrin (G – Rsch. Contractor)
Paul Sohler (VM-Sec.)		Limin Zhou (G – Rsch. Contractor)
Cory Weiss (VM-hb)		
Justin Westmoreland (CM)		
Aykut Yilmaz (CM)		

Key: CM = Corresponding Member, G = Guest, L = ASHRAE Liaison, IM = International Member

Distribution

ALL MEMBERS OF THE TC/TG/TRG

TECHNICAL ACTIVITIES COMMITTEE CHAIRMAN: Craig Wray (TACchair@ashrae.net)

TAC SECTION HEAD: John Dunlap (JDunLap@DunLappartners.com)

ASHRAE LIAISONS:

Program: Lane Jackins (PL6@ashrae.net)

Research: Lawrence Markel (RL6@ashrae.net)

MANAGER OF RESEARCH: Michael Vaughn (MORTS@ashrae.net)

ADDITIONAL DISTRIBUTION: TCStaff@ashrae.net

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

ASHRAE TC 6.10 Meeting Minutes

Date: June 26th, 2012

Location: San Antonio, TX

Chair: Bill Roy

- 1) Call to Order – Meeting was called to order at approximately 3:40PM
- 2) Quorum Determination – Four of seven voting members were present, however at the time of the meeting it was thought that there were 10 voting members. It was therefore believed that a quorum had not been established.
- 3) Review and Approval of Minutes – Due to the perceived lack of a quorum, it was agreed to letter ballot approval of the 1/24/12 Chicago meeting minutes.
- 4) Liaison Reports – The following reports from other committees were presented:
 - a. Section 6 – John Dunlap (Section 6 Leader) and Bill Roy reported on the following:
 - i. Mr. Dunlap suggested that since we were having difficulty meeting quorum, we should consider adding web participation. If this is done, at least 70% of voting members must still be physically present at the meeting and all web participants must be dropped from the meeting if it goes into closed session.
 - ii. Mr. Roy discussed the difficulties TC 6.10 has had getting programs accepted and noted that proposals should indicate that they have the support of the TC when they are submitted. He also reported that a set of programs which fills an entire track is more likely to be accepted than one which does not.
 - iii. Mr. Roy reported that the Section is still looking for volunteers to review papers and asked that anyone interested in doing so let him know.
 - iv. A “wiki” for definitions has been added to the ASHRAE website. Unlike a standard wiki, information at ASHRAEwiki can only be changed TC 1.6 (Terminology). Suggested changes to definitions can be directed to TC 1.6 at any time.
 - v. Speakers and Seminar chairs must now pay 25% of registration fees on the day/s of their programs (formerly these fees were waived).
 - b. Chair Meeting – Mr. Roy reported on the TC chair breakfast:
 - i. Mr. Roy reported that ASHRAE would like all subcommittees (i.e. Research, Handbook, Website, Programs) to hold at least one meeting between the semi-annual society meetings.
 - ii. Due dates for Dallas and Denver programs have been released.
 - c. Research - Steve Hancock (Research Liaison) provided the following updates:
 - i. Mike Vaughn is still looking for a project “Completion Form” to close out RP1388 (High Altitude Boiler and Water Heater Research Project). Mr. Roy promised to follow-up with Earl Rightmier (Research Chair) to make sure that this form is completed and sent to Mike Vaughn.
 - ii. Mr. Hancock noted that September 30th is end of the no cost extension period for RP1517 (Combustion Driven Oscillation in Boilers). Dr. Herrin, a representative of the contractor, indicated that the report would be completed in time for the PMS (and subsequently TC 6.10) to review and vote to accept the report by letter ballot before September 30th.

- 5) Handbook – Cory Weiss reported that he will send out proposed revisions to Chapter 28 (Combustion and Fuels) in *Fundamentals* next week for approval via letter ballot. He also reported that these changes are due on July 1. Mr. Weiss also suggested that a forum on the chapters covered by TC 6.10 might a good way to identify what information is needed in these chapters that is not already there. He noted that a similar forum held by TC 6.6 was very successful. Mr. Bixby pointed out the need for Bio-fuel coverage in Chapter 18 and also “neg. reg.” gas valve coverage in *Systems and Equipment*. Mr. Roy noted that Dr. Butcher has already agreed to draft bio-fuel coverage and also mentioned that he had asked Dr. Herrin to include draft handbook coverage for combustion driven oscillation in his paper for RP1517.

Mr. Weiss announced that he is stepping down as Handbook Chair effective immediately due to conflicting commitments. Mr. Roy asked for volunteers for Handbook Chair, but none came forward at the meeting.

- 6) Research – On behalf of Earl Rightmier, Bill Roy reported on the status of the following research projects:
- a. Dr Herrin of the University of Kentucky provided an update on the status of RP1517 (Combustion Driven Oscillations in Boilers). Dr Herrin reported that:
 - i. Flame transfer functions have been measured and/or calculated for both boilers. Some additional flame transfer function measurements may also be made, but the testing/measurement phase of this project is otherwise complete.
 - ii. The flame transfer functions, upstream/downstream impedances, and burner resistances obtained predict combustion driven oscillations at frequencies close to those actually observed on the subject boilers. This appears to validate the model used to predict such oscillations.
 - iii. The “vibrating wall” found on boiler #2 was successfully modeled and improved the accuracy of the predicted downstream impedance predicted for this boiler.

Several members of the TC asked if Dr. Herrin could use his research to create a set of practical guidelines that combustion engineers could use to avoid or solve combustion driven oscillations.

Dr. Herrin also invited members of the TC to attend a class on muffler design and impedance measurement to be held at the Southwest Research Institute the next day.

- b. Possible future research projects were discussed including:
 - i. A combustion driven oscillation project similar to RP1517, but focused on water heaters. Mr. Roy asked for volunteers to write a work statement for such a project.
 - ii. A research project to investigate the accuracy of portable combustion analyzers typically used in the field. It was noted that AHRI has a draft standard for such analyzers. Mr. Roy asked Aykut Yilmaz of AHRI to introduce him to the AHRI executive assistant responsible for this standard with the intention of seeing if there are any opportunities for a joint ASHRAE/AHRI joint research project on this topic.
 - iii. AHRI is developing the work statement for a research project with the working title “Field Combustion Evaluation Methods in Residences”. Mr. Roy agreed to approach Frank Stanonik, who is the AHRI staff member responsible for managing this project, to see if there are any opportunities for TC 6.10 to contribute to this project in some way.
 - iv. Mr. Roy discussed the possibility of doing research on the use and/or disposal of combustion condensate.
 - v. Mr. Bixby Reported that Taylor Engineering has received additional funding to perform evaluation testing of Standard 155P (*Method of Testing for Commercial Space Heating Boiler Systems*) and that they are looking for input on what tests should be performed.

Mr. Roy invited anyone who had interest in any of the above projects (or ideas for other projects) to develop a draft work statement.

- 7) Website (<http://tc610.ashraetcs.org/>). – On behalf of Tom Butcher, Bill Roy reported on the slides from Dr. Herrin's 1/24/12 presentation could not be posted in their entirety on the website because RP1517 is not yet complete.
- 8) Programs – Bill Roy reported the due dates for programs for Dallas (August 13th) and Denver and offered to go to the track chair that if necessary to advocate for the acceptance of TC 6.10 programs. Mr. Roy also said that he would follow up with Carl Suchovsky at Gas Consultants to see when he would be willing to do a program on RP1388 (High Altitude Boiler and Water Heater Research Project) in Denver.

Note: While not at the meeting, Dr. Butcher has indicated by email to Mr. Roy that he will resubmit the Forum on Combustion Analyzers for Dallas. In the same email, Dr. Butcher also expressed a desire to submit a Seminar for Dallas on advanced combustion.
- 9) Standards – Mr. Roy noted that TC 6.10 had an opening for a Standards Liaison. Mr. Bixby volunteered to fill this position.
- 10) Membership – Mr. Roy requested that everyone review their membership status as reported on the minutes and to let him know if they saw a problem. Jennifer Guerrero-Feneira requested to become a corresponding member. A current roster for the committee is shown in Attachment A.
- 11) Adjournment – Meeting was adjourned at approximately 6:10PM

Respectfully Submitted,

Paul Sohler
Secretary

Attachment A: TC 6.10 Roster (Effective 7/1/12)

Name	Employer	Appointed Year	End Year	Position
Mr William J Roy	Carrier	07/01/2011	06/30/2013	Chair (VM)
Dr Peter K Baade	Peter Baade Company	07/01/2011	06/30/2015	MEMBER NON QUORUM
Mr Thomas A Butcher, PhD	Brookhaven National Laboratory	07/01/2010		Vice Chair
Dr Peter Novak, PhD	Energotech Doo	07/01/2009	06/30/2013	MEMBER NON QUORUM
Mr Paul Sohler	Crown Boiler Co	07/01/2011	06/30/2014	Secretary (VM)
Mr Larry Brand	Westover Controls Corporation	07/01/2010	06/30/2014	Member
Mr Cory Weiss	Field Controls LLC	07/01/2011		Handbook Subcommittee Chair
Mr Shamel A Kassab		07/01/2010	06/30/2014	Member
Mr Earl J Rightmier	AERCO International	07/01/2011		Research Subcommittee Chair
Mr George M Kusterer	Bock Water Heaters	07/01/2009	06/30/2013	Member
Mr Hall Virgil, PE		07/01/2010	06/30/2014	Member
Mr. John E. Batey	Energy Research Center			Corresponding Member
Mr Raymond J Albrecht		07/01/2008		Corresponding Member
Ms Denise M Beach	National Fire Protection Association	07/01/2008		Corresponding Member
Dr John W Andrews	Brookhaven Natl Lab	07/01/2001		Corresponding Member
Mr Bruce Billedeaux, PE	Maverick Technologies	07/26/2011	07/25/2013	Provisional Corresponding Member
Ms Hollace S Bailey	Bailey Engineering Corporation	07/01/1998		Corresponding Member
Dr Ulrich Bonne	Honeywell Technology Center	07/01/1990		Corresponding Member
Mr Ronald B Bailey	Bailey Engineering Corp	07/01/2001		Corresponding Member
Mr John R Busse	Johnson Controls, Inc.	07/01/2002		Corresponding Member
Dr Kirby S Chapman, PhD	Kansas State University	07/01/1992		Corresponding Member
Mr Dieter R Goettling	University Stuttgartlke - Hlk	07/01/2007		Corresponding Member
Dr James Douglas Dale	University Of Alberta	07/01/1997		Corresponding Member
Mr Wilbur L Haag, Jr		07/01/2009		Corresponding Member
Mr Paul S Delaney	Southern California Edison	07/01/1994		Corresponding Member
Mr Cory L Hasiak, PE	Simplicity CED, LLC	07/01/2004		Corresponding Member
Mr Douglas W Dewerth		07/01/2003		Corresponding Member
Mr Laurence P Keelan	Keelan & Assoc Inc	07/01/1991		Corresponding Member
Mr Paul Eric Glanville	Gas Technology Institute	07/01/2009		Corresponding Member
Mr Richard F Krajewski	Brookhaven National Lab	07/01/1997		Corresponding Member
Mr Esher R Kweller	Kweller Mechanical Inc	07/01/2003		Corresponding Member
Mr Marc Duy-Minh Neufcourt		7/1/2012		Corresponding Member
Dr S Win Lee	Canmet Combustion Research Laboratory	07/01/2007		Corresponding Member
Mr Edwin A Nordstrom		07/01/2008		Corresponding Member
Mr James D Lutz	Lawrence Berkeley National Laboratory	07/01/1994		Corresponding Member
Mr William F Raleigh	Teknitherm Engineering	07/01/2004		Corresponding Member
Mr Roger J McDonald	Brookhaven Natl Laboratory	07/01/1991		Corresponding Member