

TC Cover Sheet  
TC 6.3, Central Heating and Cooling

June 23, 2009

Attendance (ending year of membership)

**Members Present**

Mark Olsen (11)  
Dianne Griffiths (10)  
Jim Cummings (12)  
Chuck Gaston (10)  
Paul Haydock (12)

**Members Absent**

Keith Temple (09)  
Michael Lubliner (09)  
Gary Nelson (12)  
Jeff Siegel (12)  
David Delaquila (11)  
Harvey Sachs (10)  
Jonathan Douglas (11)  
Roger Hedrick (10)  
William Rittleman (12)

**Distribution**

All entries shown on committee roster

**Corresponding Members Present**

Paul Francisco  
Iain Walker  
Roy Crawford  
Jim Ranfone

**Guests**

Greg Phetteplaer, Section Head  
Collin Olson  
Byron Horak  
George Yaeger  
Larry Brand  
Thembi Tillman  
Sunil Nanjundaram  
Brent Stephens  
Mike Blanford

ASHRAE TC6.3  
Central Forced Air Heating and Cooling

Minutes of Meeting  
June 23, 2009  
Louisville, KY

**Call to Order**

The meeting began at 1:15 p.m. in Carroll/Ford of the Galt House with introductions. Copies of the agenda and the Chicago minutes were previously distributed.

A quorum was not present.

Chair Olsen reviewed the roster and voting member status. 3 voting members rolling off and 4 rolling on (Roy Crawford, Byron Horak, Paul Francisco, Iain Walker)

**Minutes of Last Meeting**

No review. No quorum for vote of approval.

**Announcements**

Chair Olsen discussed various items from the TC Chair's breakfast.

- 1) Difficulty in getting WS and RTARs through process and approved. Suggestion to use Section Research Chairs to help with the review process.
- 2) Introducing a new paper format to take affect at Albuquerque - "Conference" paper. Intent is to shorten and simplify the review process compared to Transactions papers, 12 months instead of 18+. Single blind and review stays within the TC without going to headquarters.
  - a. Francisco commented that a barrier to getting papers currently is that they are not recognized in academia. Conference papers would be even more difficult to argue. Planning to put in Transactions Volume will negatively impact legitimacy of true Transactions papers. Francisco is willing to draft a letter for CEC. It will be circulated for support via a letter ballot.
- 3) Seminar proposals due July 10<sup>th</sup>. Need to move quickly on the seminar proposal to be prepared by Cummings. Will wait until July 1 to include new voting roster.
- 4) Training on website management coming up
- 5) Ian Walker and Dale Dickerhoff given best conference paper award for 2007
- 6) Jim Cummings recieved best Journal paper award in 2007 (Jan. 2008)
- 7) Outcome of earlier electronic ballot on co-sponsoring of RTAR with TC 8.11 was 6 for and 0 against, but not a quorum for official vote. WS is going forward and TC 8.11 would still like our co-sponsorship. Will send out for electronic ballot again.

## **Subcommittee Reports**

### *Handbook (Gaston)*

Gave a brief presentation. We should have a Handbook Committee. We have a year to revise two chapters for the next Applications Handbook, Chapters 9 and 32. Many chapters have been renumbered so chapter references will need to be checked throughout.

Andrews has submitted a draft revision for Chapter 32.

Will be seeking approval by quorum at next summer's meeting.

Gaston requesting volunteers to help with revisions.

### *Programs (Olsen, Temple not present)*

A draft Program Plan is attached to these minutes.

Programs proposed include Seminar for Orlando and Transactions for Albuquerque. Will be sending out for approval via electronic ballot.

Seminar - Should building cavities be used for HVAC distribution (Cummings, Withers, Francisco?, others?) Residential or commercial

Advances to Duct Leakage Measurement (Stoops to chair) 3 papers lined up? Vote requested now to encourage authors to write papers

Walker suggested a Seminar in Albuquerque on Std. 193

### *Research (Francisco for Lubliner)*

Well attended subcommittee meeting.

Ecotope presented research on ductless mini-splits. Believed to be a useful and valuable discussion even though this committee is about forced-air systems.

Armin Rudd of Building Science Corp. reported on RP 1449, Residential Humidity Control. CDH Energy and Don Shirey of FSEC are subcontractors. The project is currently behind schedule, but they plan to catch up and there is no concern about status. There was no PMS meeting at this conference.

A long list of research topics was reviewed. Identified some for tentative deletion. Identified others to be aggregated into umbrella topics. Optimal Air Distribution System Design. 17 down to 6 to 8 topics for RTAR drafting. Francisco will send to Lubliner.

RTAR 1563 that was approved, "*Impacts of Duct Leakage on Residential Indoor Air Quality*." Approved and needs to have WS developed. No progress because Siegel had a baby.

### *Web Site*

Eric Wilson has volunteered to be our new webmaster. Olsen noted that our website is currently very out of date.

*ASHRAE Learning Institute (Gaston)*

Always looking for new courses.

*Standards*

Walker reported that much progress was made on Std. 193. Hope to have another draft for letter ballot within the next couple months.

Francisco discussed SPC 152R. They met from 8-10 on Sunday, two hours late due to problems achieving a quorum because members have conflicts with other Standard committees. Reviewed and prioritized action items list. Added someone on committee to cover refrigerant distribution, Need to work on committee balance. There are too many producers currently. Francisco is really hopeful a new version will be available for public review for Albuquerque. 5-year reaffirmation is due now. ASHRAE's patience is not limitless.

**Old Business**

No old business.

**New Business**

No new business.

**Adjournment**

The meeting adjourned at 2:00 p.m.

TC 6.3 – Program Plan

June 2009

Meeting	Transactions	Seminar	Forum
Louisville June 2009  Optimal Air Quality		Wednesday 11:00  Should There be Regional Energy Efficiency Standards for Residential and Light Commercial AC and HP (cosponsor with 8.11)	
Orlando January 2010  Humidity and Sustainable Indoor program due 8/7/09		<i>Should Building Cavities be allowed to be used as part of the HVAC Distribution System? (Cummings)</i>	
Albuquerque June 2010  Energy Efficient System Design for High Elevations and Dry Climates  papers due 9/27/09 program due 2/7/10	<i>Advances in Duct Leakage Measurement (Stoops)</i>	<i>Perspectives on Standard 193 (Lubliner)</i>	
Las Vegas January 2011 Zero Energy Design	<i>Measured Performance of Small Forced-Air HVAC Systems (Francisco)</i>		
Montreal June 2011 Net-Zero Buildings	<i>Energy Efficient Approaches to Humidity Control (Cummings)</i>		
January 2012			

Forum: Duct and HVAC Insulation: sweating, noise, energy etc. (Stoops) *Program approved for Louisville by TC but not accepted in Program*

## ATTACHMENT 1

Transactions: Moving Forced-Air Distribution Systems into the Conditioned Space (Lubliner)  
*Approved for Orlando by TC, but only one paper completed review process*

Forum: Air-tight Air-Handlers and Furnaces – Issues for Standard 193P (Lubliner) *Program approved for NYC, SLC, and Chicago by TC but not accepted in Program*

### Other Potential Program Topics:

HVAC System Improvements in Modular Homes

Results of ARTI research projects

Changes to Standard 152

Energy Tax Credits for Residential HVAC – Is It Working and What Does It Cost? (Rocky)  
approved for Long Beach

Performance of Wall-mounted Residential Supply Air Outlets for Forced-air Systems

Measured Performance of Small Forced-Air HVAC Systems (Francisco) –Las Vegas

Heating and Cooling Issues for Hot and Dry Climates – Seminar

Residential Systems Repair, Field Data

Air System Design to Facilitate use of Renewable Energy

TC 6.3 – Past Programs

Meeting	Symposium / Transactions	Seminar	Forum
Minneapolis June 2000	Field Validation of ASHRAE Standard 152P (Andrews) 21 attendees	Depressurization and Venting Issues for Residences (Hemphill) 44	Residential HVAC in Cold Climates (Jakob) 11 attendees
Atlanta January 2001		Exploring Alternative Energy Efficiency Factors (Temple) 30 attendees	Residential Cooling and Dehumidification in Hot and Humid Climates (Jakob) 35
Cincinnati June 2001		Update on Standards for Residential and Light Commercial Central Systems (Haydock) 50	Experiences with Residential HVAC in HUD-Code Manufactured Homes (Lubliner) 22 attendees
Atlantic City January 2002	Depressurization and Venting Issues for Residences (Jakob) 37		
Honolulu June 2002		Uncontrolled Airflows in Small Commercial Buildings (Kweller) 50	
Chicago January 2003	Advances and Issues in Residential Thermal Distribution System Efficiency (5 speakers - Andrews) 35		What should the “Design of Small Forced Air Systems” Chapter of the Handbook include on Duct Design? (Temple) 7 attendees
Kansas City June 2003	Advances and Issues in Residential Thermal Distribution Efficiency (5 speakers - Temple) 35	Impacts of Duct Systems on Indoor Air Quality (5 speakers - Siegel) 50 attendees	
Anaheim January 2004	Factors Influencing the Energy Performance of Forced-Air Systems		

# ATTACHMENT 1

Meeting	Symposium / Transactions	Seminar	Forum
	(3 speakers -Lubliner) 60		
Nashville June 2004	Forced Air Distribution System Performance (5 speakers - Andrews) 60 attendees	Best Choice Cooling System Airflow Rates for Different Climates (5 speakers - Cummings)	
Orlando February 2005		What can ASHRAE Standard 152 Tell Us About Conditioning Our Houses? (4 speakers - Francisco) 20 attendees	
Denver June 2005	HVAC Systems and Performance in Building America Homes (Vohra) 50 attendees	How Should Thermal Distribution Efficacy be Defined? (Rittelmann) 40 attendees	What Often Ignored Factors Affect Performance of Residential Forced-Air Systems (Gaston) 15 attendees
Chicago January 2006	Managing Return Air in Residential and Small Commercial Buildings (3 authors - Francisco) 50 attendees		A look forward to 2020 for small forced-air H and C systems (Rocky) 21 attendees
Quebec City June 2006			The Role of Forced-Air Systems During Extraordinary Events (Siegel) 30 attendees
Dallas January 2007		Design Considerations for Multi-zone Residential Forced-Air Systems (Rittelmann) 50 attendees	
Long Beach June 2007	HVAC System Improvements in Manufactured Housing (4 papers - Walker) 25 attendees	Heating with Forced Air Heat Pump Systems – Past, Present and Future (4 speakers -Lubliner)	What is Needed to Commission Air Distribution Systems for Small Commercial Buildings (Wray) 35 attendees
New York January 2008	Ability of Ratings to Identify Better Performance: Do We Know		



## ATTACHMENT 1

Meeting	Symposium / Transactions	Seminar	Forum
	What to Expect? (2 papers - Francisco) 40 attendees		
Salt Lake City June 2008		Climate Optimized Cooling: Improved Energy Efficiency and Better Rating Standards (3 speakers - Cherniack) __ attendees  ASHRAE's Impact and Potential for Weatherization (3 speakers - Francisco) __ attendees	
Chicago January 2009		Flow Measurement for Small Forced-Air Systems (3 speakers – Siegel) __ attendees	

### Research Subcommittee Meeting Summary:

- 1) The presentation on mini-splits by Ben and David from Ecotope went well. Ben led the presentation and there was significant discussion.
- 2) Armin and Hugh discussed the research project, that they were behind but expected to catch up quickly. They talked about the direction they were going. They expressed a lot of interest in the Ecotope work because it could really help to inform their work. In my mind, this synergy justified the discussion of the Ecotope work even if it wasn't "forced-air".
- 3) The rest of the time focused on what research topics we should be targeting. I commented that anyone who comes with an RTAR gets their pick first. We reviewed the list of ideas and suggested substantial modifications (see attached). The modifications took two forms: a) removal of items that might be important for someone to do but are not forced-air; b) collection of items that could come under a larger-scope heading. The larger-scope headings are below the list in the document, which has changes tracked.

Despite the good discussion regarding the Ecotope work, there was still a fair bit of discussion about why we have so much talk about non-forced-air issues. I stated that I thought that the discussion of Ecotope's work was appropriate and reasonable, especially given the synergy with the research that TC 6.3 is sponsoring, but that I agreed that there were items appearing on our research list that didn't belong in TC 6.3. There was some dissatisfaction that the top item on the list, in bold, was not forced-air. I pointed out that there is no true priority list anymore, and so we shouldn't take too much stock in where it showed up, but there seemed to be general agreement that it shouldn't be on our list.