

TC Cover Sheet
TC 6.3, Central Heating and Cooling

January 24, 2006

Attendance (ending year of membership)

Members Present

John Andrews (06)
Paul Francisco (08)
Michael Lubliner (09)
Keith Temple (09)
James Cummings (07)
Mark Olsen (06)
William Rittelmann (07)
Bryan Rocky (07)
Jeff Siegel (07)
Iain Walker (08)
Steven Tice (07)
Mark Modera (08)

Members Absent

Evelyn Baskin (08)
Gary Nelson (07)
Martin Petchul (06)
Arun Vohra (07)

Distribution

All entries shown on committee roster

Corresponding Members Present

Chuck Gaston
Dianne Griffiths
Harvey Sachs
Jim Crawford
Frank Jakob
Sunil Nanjundaram

Guests

Bert Phillips
Collin Olson
Byron Horak
Dave Delaquila
George Yaeger
Siva Gopalnarayanan
Don Schuster
Brian Videto
Glenn Friedman

ASHRAE TC6.3
Central Forced Air Heating and Cooling

Minutes of Meeting
June 27, 2006
Quebec City, Quebec

Call to Order

The meeting began at 1:03 p.m. in room 204B of the Convention Center. A quorum was not present. Copies of the Agenda and the Chicago minutes were distributed and introductions were made. The list of current voting members was reviewed.

Announcements

Chair John Andrews discussed various items from the TC Chair's breakfast. He reviewed the program submission deadlines and work statement submission deadlines. Anyone interested in being on an ad hoc committee for updating ASHRAE's position on energy should contact Mike Vaughn. TC rosters are due in a couple of weeks. There is an interest in new subjects for the Handbook.

After the TC Chairs meeting, there was a meeting of the chairs of TC which are concerned with residential buildings. These included 8.11, 9.5, 6.3 and some others in Section 6. There was further discussion on a potential "standard house" similar to how ASHRAE considers the headquarters building the "standard commercial building." There was discussion of handling multiple house types and climates, coordinating with Building America, and whether to account for existing as well as new construction. There was also discussion of coordinating research objectives, with TC6.3 having some success on this front with TCs 8.11 and 9.5 on our current RTARs. The need to tie research objectives to the strategic plan was identified. The group will continue to meet in the future, and anyone who is interested is invited to attend.

Minutes of Last Meeting

Minutes of the Denver meeting were discussed. A quorum was achieved at 1:10. Moved by Mike Lubliner, seconded by Keith Temple to accept the minutes. Motion passed 10-0-2.

Subcommittee Reports

Handbook

John Andrews commented that Chapter 9 was extensively revised last time around. The main issues to look at in this chapter are 1) to incorporate a more complete description of Standard 152, which was not published last time; 2) include any new research results; and 3) include any new references. John will look at these issues and provide recommendations by July 31.

Bryan Rocky discussed Chapter 28, and commented that it should undergo significant revision. He stated that he would have an outline of the revised chapter by July 31, with a full revision ready for review by the Dallas meeting. Revisions are due in March.

Programs

Keith Temple distributed a program plan (Attachment 1). The TC has continued its streak of having at least one program at every meeting for at least the last 7 years. There were 2 programs in Chicago and 1 program in Quebec City. Bryan Rocky discussed the forum from Chicago, which took place after the TC meeting. He considered it a success. Jeff Siegel discussed the Quebec City forum which had about 30 people. He felt that the discussion was interesting but without a lot of direction. The evaluations looked good. He will look at the guideline on extraordinary events to see whether it includes residential buildings.

Keith Temple discussed the program plan. There is a back-to-back pair of Transactions sessions planned for Dallas on HVAC System Improvements in Manufactured Housing, chaired by Iain Walker. Five papers are planned, which would get a 3-paper and a 2-paper pairing at the meeting. This was already approved, and Iain Walker stated that it was good to go.

For non-Transactions sessions, Keith Temple mentioned that a seminar that had been approved for the Quebec City meeting titled “Forced Air Heat Pump Systems – Past, Present and Future” and chaired by Mike Lubliner was bumped. Mike Lubliner expressed a preference to delay rescheduling of this session until Long Beach.

There were two sessions proposed for the Dallas meeting. The first was a seminar to be chaired by Bill Rittelmann, titled “Design Considerations for Multi-Zone Residential Forced-Air Systems”, to be followed by a forum of the same name chaired by Keith Temple. Bill Rittelmann stated that the seminar would have three parts: equipment, applications, and performance. He has two speakers in mind, could speak himself, and would like to get a manufacturer involved. Keith Temple stated that the forum would be for additional discussion, and to discuss what we don’t know and what future programs and research should be done.

Jeff Siegel motioned that the seminar be priority 1, the forum be priority 2, and that this program plan be approved. Mike Lubliner seconded. Motion passed 12-0-0.

Paul Francisco discussed a potential seminar that would be a discussion of ASHRAE’s impacts on weatherization. This would include a discussion of Standard 62.2, and duct and other diagnostics. SSPC 62.2 has agreed to co-sponsor the seminar if it can be pulled together. Bryan Rocky motioned to approve the seminar, Jeff Siegel seconded. Motion passed 12-0-0.

Paul Francisco discussed a proposed Transactions session for Long Beach, titled “Field Degradation of HVAC System Performance.” Possible topics could include fan power, attic impacts of ducts, and rooftop units. Paul is shooting for 3-5 speakers. Keith Temple motioned to approve the session, seconded by Steve Tice. Jim Crawford expressed a desire to have a paper from a manufacturer, especially on the topic of fan power. Paul Francisco agreed that could be included if someone would write it, and at least he would make sure to have a manufacturer review a paper on the subject. Jim Cummings suggested possibly getting a paper that would discuss Standard 180P. Paul Francisco questioned whether this was worth a published peer-reviewed paper or was more suitable for a seminar. The motion to approve the session passed 12-0-0.

The other programs shown on the program plan were discussed in subcommittee.

Research

Mike Lubliner discussed the TC coordination meeting. This meeting included discussion of both the overall and research strategic plans.

Mike Lubliner commented that there was a new form for closing out projects.

Mike Lubliner discussed the Research Subcommittee meeting. At the Chicago meeting there had been a core dump of research topic ideas. He would like a paragraph on each one.

The RTAR on latent cooling options was discussed in the subcommittee. This RTAR has been approved by RAC, and has the support of 9.5 and 8.11. Mike Lubliner attended an ARTI progress meeting at which several new issues were identified, including one pertaining to this RTAR. He will try to coordinate with them. We need to write a work statement. John Andrews will help with this. Then a PES and a PMS will need to be formed.

Mike Lubliner discussed the 2nd RTAR, on heat pumps. 8.11 thought that this RTAR was duplicative of research that was already being done. However, that research is cooling only, whereas this RTAR is heating. We now have their support as well as that of 9.5. 8.11 would like us to include impacts of coil matching/mismatching. Mike Lubliner expressed that we want to avoid mission creep but also be responsive to different needs. Harvey Sachs mentioned that the impact of ICM motors would have to be looked at if there was to be a field assessment. Mike Lubliner commented that the focus was lab measurements. Mark Olsen commented that adding mismatched coils takes us out of the project scope. Jim Crawford pointed out that half of the market is replacement. The incoming chair of 8.11 stated that 8.11 approved support for the project subject to a change of scope. Mike Lubliner will coordinate with the research chair of 8.11. Jim Cummings expressed a desire to include the effect of the cycling rate of the thermostat. Mike Lubliner stated that this will be evaluated in a STAC project in the Northwest on heat pumps, but is not a part of the current RTAR. The STAC project will also look at items related to “cold blow”. Jim Crawford mentioned research that had been done 20 years ago on these issues that should be reviewed.

It was mentioned that Energy Star ratings will no longer be given to thermostats starting this fall.

Liaisons

Larry Markel – research liaison was introduced. Larry Markel commented that Section 6 is the most coordinated section for research.

Don Brundage is the incoming Section 6 head.

Cindy Calloway is the new handbook liaison.

Standards

Mark Modera reported on the Standards Subcommittee meeting. There was discussion of several different potential standards actions, including a new standard on leakage of air handlers; an update of Standard 152; expansion of Standard 152 to light commercial; a new standard on thermal distribution efficacy; a flow hood accuracy standard; and an update of Standard 103. The majority of the discussion centered on the first two of these, air handler leakage and updating Standard 152.

Mark Modera stated that the air handler leakage standard would address how much the equipment itself leaks without the ducts, both for energy and for entrainment of pollutants. Mark Modera discussed the potential standard with TC4.3, which agreed to be co-cognizant. Mark Modera read the draft title, purpose, and scope, and commented that this was for laboratory/factory measurement, not in-field.

Dianne Griffiths asked whether it would include HRV/ERVs. Mark Modera replied that it would not at this time.

Glenn Friedmann asked whether it would include VAV. Mark Modera replied that it potentially could. Keith Temple commented that VAV is pressurized, whereas the discussion from the subcommittee focused on primarily depressurization. Mark Modera stated that there was discussion of doing both pressurization and depressurization. Jim Cummings suggested that the standard could potentially address everything other than the plenums and ducts.

Mike Lubliner commented that ASHRAE Standard 62.2 could use a yardstick for air handler leakage, and that what others might use it for could depend on location. He also mentioned that Florida has a standard on air handler cabinet leakage.

Mark Modera asked whether it should include ventilation systems. Mike Lubliner expressed a preference that it not. Mike Lubliner asked whether TC9.5 would support it. Glenn Friedmann stated that he was confident that they would.

Mike Lubliner motioned to accept the title, purpose, and scope as was currently written, and to recommend to ASHRAE to start an SPC on this standard. Mark Modera seconded. There was discussion regarding ventilation systems, with the decision of whether to include them left for the SPC to decide. The motion passed 9-0-3. Mark Modera motioned to recommend Mike Lubliner as chair of the SPC, Jeff Siegel seconded. Motion passed 10-0-2.

Mark discussed a potential SPC to revise ASHRAE Standard 152. We are 2 of 5 years into the cycle until reaffirmation is required. The Standards Subcommittee recommended to approve constituting a new SPC for revising Standard 152, with John Proctor as chair. Mark Modera commented that there were enough potential members who had agreed to participate. Mark Modera motioned that the TC approve this recommendation, Jim Cummings seconded. It was affirmed that it was to be kept to residential buildings at this time. The motion passed 12-0-0.

Web Site

John Andrews commented that Steve Kowalski is doing a good job with the web site, and that it is up and running. Mike Lubliner commented that the interim web site can still be accessed, and that this should be addressed.

ASHRAE Learning Institute

Chuck Gaston stated that the bookstore shows on-line ALI courses. Chuck Gaston will assist anyone who wants to make a course.

Old Business

No old business.

New Business

Harvey Sachs commented that sustainability is a hot topic, and stated that it is time for ASHRAE to do a Special Publication on what has been learned on best practices regarding small unitary equipment. Jim Cummings suggested that ASHRAE could do a handbook on airflow control, similar to the moisture control handbook. Mark Modera suggested that the TC chair should assign an ad hoc committee to look at doing a Special Publication.

Mike Lubliner commented that he was recently appointed to a consensus committee on manufactured homes, and stated that this committee will be sending out for comment issues in NFPA, many of which will be on conditioning systems. He hopes that we and ASHRAE will look at it and comment as appropriate.

The last item of the meeting was a general expression of appreciation for the work that John Andrews has done as chair of TC6.3 for the past 2 years.

Adjournment

The meeting adjourned at 3:12 p.m.

**TC 6.3 – Program Plan
June 2006**

Meeting	Symposium	Seminar	Forum
Quebec City June 2006			The Role of Forced-Air Systems During Extraordinary Events (Siegel)
Dallas January 2007 Energy Conservation program due 8/4/06	HVAC System Improvements in Manufactured Housing (Walker) 5 papers	3. <i>Lessons about Small Forced-Air Systems from Weatherization Programs (Francisco) 3 speakers</i>	
		1. <i>Design Considerations for Multi-zone Residential Forced-Air Systems (Rittelmann) 3</i>	2. <i>Design Considerations for Multi-zone Residential Forced-Air Systems (Temple)</i>
Long Beach June 2007 Natural Resource papers due 9/29/06 program due 2/9/07	<i>Field Degradation of HVAC System Performance (Francisco)</i>	Heating with Forced Air Heat Pump Systems – Past, Present and Future (Lubliner) approved for Quebec City	<i>Energy Tax Credits for Residential HVAC – Is It Working and What Does It Cost? (Rocky)</i>
New York January 2008 papers due 4/6/07 program due 8/10/07	<i>Small Commercial Forced-Air System Performance</i>	<i>Forced-Air Distribution Systems in the Conditioned Space (Lubliner)</i>	<i>Leaky Air-handlers and Furnaces</i>
June 2008 Salt Lake City papers due 9/07 program due 2/08		<i>High Altitude Applications and System Performance</i>	

Other Potential Topics:

Consequences of Oversizing Forced Air Heating and Cooling Systems (Proctor)

Advanced Air Distribution Systems (Vohra)

HVAC System Improvements in Modular Homes

Results of ARTI research projects

Changes to Standard 152

TC 6.3 – Past Programs

Meeting	Symposium	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 (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	
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) 28 attendees		A look forward to 2020 for small forced-air H and C systems (Rocky) 21 attendees