AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.
1791 Tullie Circle, N.E.
Atlanta, GA 30329

404-636-8400

TC MINUTES COVER SHEET

TC/TG/TRG NO TC 5.2 DATE August 26, 2011

TC/TG/TRG TITLE Duct Design

DATE OF MEETING June 28, 2011 LOCATION Montreal, Canada

MEMBERS PRESENT	TERM TO	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Kevin Gebke	6/30/09	Johnny Andersson	6/30/13	Wes Davis (CM)
Bass Abushakra	6/30/12	Bill Elosh	6/30/12	Ralph Koerber (CM)
Herman Behls	6/30/12	Richard Evans	6/30/13	Gary Miller (PCM)
Pat Brooks	6/30/13	Chris Van Rite	6/30/13	Vikram Murthy (Urivae Environment Systems)- (PCM)
John Hamilton	6/30/13			Tom Ponder (CM)
Steve Idem	6/30/11			Larry Smith (CM)
Bob Reid	6/30/14			Craig Wray (CM)
Mark Terzigni	6/30/13			Glen Brower (Knauf)
				Tim Eorgan (Carlisle HVAC)
				John Gierzak (Metal Industries}
				Robert Hassler (United McGill)
				Mark Hooks (Suretape Technologies)
				Peter McDonnell (McClure Engineering)
				Bruce Meyer (DBSM)
				Mark Modera (LBNL)
				Tim Orris (AMCA)
				Mark Smith (Ductmate)
				James Aswegan (2013 Handbook Liaison)
				Cindy Callaway (2012 Handbook Liaison)
				Piotr Domanski (RAC Liaison)
				Giustino Mastro (TAC Scetion Head)

DISTRIBUTION

All Members of TC plus the following:	
TAC Section Head	Giustino Mastro
TAC Chair	Chuck Wilkins
2012 Handbook Liaison	Cindy Callaway
2013 Handbook Liaison	James Aswegan
RAC Liaison	Piotr Domanski
Standards Liaison	Gowri Krishnan
Special Pubs	Stanley Mumma
ALI/PDC	Florentino Mendez
Manager of Research & Technical Services	Mike Vaughn

ASHRAE Summer Meeting, Montreal, Canada

TC 5.2, Duct Design

Meeting Minutes

Tuesday, June 28, 2011

Fairmont Hotel – The Queen Elizabeth
Room: St. Maurice (Convention Floor)

Time: 3:30 – 6:30 pm

2010 – 2011 Roster:

a. **Voting Members (12):** Kevin Gebke, Bass Abushakra, Johnny Andersson (non-quorum), Herman Behls, Patrick Brooks, William Elosh, Richard Evans, John Hamilton (non-quorum), Steve Idem, Bob Reid, Mark Terzigni, Chris Van Rite

b. **Corresponding Members (CM):** Marcus Bianchi, Charles Culp, Wesley Davis, Eli Howard, Ralph Koerber, Bruce Meyer, Vernon Peppers, Tom Ponder, Michael Resetar, Donald Seibert, Larry Smith, Bill Stout, Craig Wray

c. **Provisional Members (PCM):** Gary Miller, Vikram Murthy

1. **Call to Order –** Kevin Gebke called the meeting to order at 3:30 pm.

2. **Introduction/Attendance**
   - See Cover Sheet for attendees.

3. **Agenda Change ---**
   - An addition needs to be made to the agenda for TC5.2 to select two members to the SMACNA System Leakage Standard Committee. Mark Terzigni made the motion to make the agenda change, Bob Reid seconded. The motion passed 8-0-0.

4. **Albuquerque (June 2010) Meeting Minutes**
   - LasVegas meeting minutes approved by electronic ballot 9-0-1 (12). Mark Terzigni abstained because not in attendance; Johnny Andersson and Bill Elosh did not respond.
   - Meeting minutes are posted on the TC Web site (http://tc5.2.ashraetcs.org/meetings.html).

5. **Section Head Report (Gus Mastro- Section Head, Kevin Gebke TC 5.2 Chair)**
   - The upcoming roster will be in effect Friday, July 1st, 2011.
   - Please keep TC websites up to date --- *TC5.2 has done a good job on this*
   - There will be a webinar this fall to assist the TC webmaster
   - The Conference and Exhibition Committee is looking for reviewers for conference papers.

6. **Subcommittee Reports**
   a. **Handbook (Bob Reid, Chair)**
   a1. Chapter without Leakage section was approved 9-0-0 (12) with 4 substantive comments by voting members (Table 1). Three non-voting members (Howard, Miller, and Larry Smith) provided an additional 10 substantive comments.

   Of the 14 substantive comments 8 were approved 8-0-0 (12) (Table 2) and 6 had a split vote. Of the 6 split votes 5 failed and 1 passed (Table 3).

Table 1 Approval of Duct Construction Chapter (Leakage Section Not Included) – Voting Members															
	Abushakra	Behls	Brooks	Evans	Gebke	Hamilton	Idem	Reid	Van Rite	Andersson	Elosh	Terzigni	Vote Summary		
													Y	N	A
Approved w/o Comments	Y	Y		Y	Y	Y	Y		Y	Did Not Respond	Did Not Respond	Did Not Respond	7	0	0
Approved with Comments			Y					Y					2	0	0
Total	- -												**9**	**0**	**0**

Table 2 Substantive Comment Voting																
Substantive Comment	Abushakra	Andersson	Behls	Brooks	Evans	Gebke	Idem	Reid	Hamilton	Elosh	Terzigni	Van Rite	Vote Summary			Motion
													Y	N	A	
#1	Y	Y	Y	Y	Y	Y	Y	Y	Did Not Respond	Did Not Respond	Did Not Respond	Did Not Respond	8	0	0	**Passed**
#4	Y	Y	Y	Y	Y	Y	Y	Y					8	0	0	**Passed**
#6	Y	Y	Y	Y	Y	Y	Y	Y					8	0	0	**Passed**
#7	Y	Y	Y	Y	Y	Y	Y	Y					8	0	0	**Passed**
#8	Y	Y	Y	Y	Y	Y	Y	Y					8	0	0	**Passed**
#10	Y	Y	Y	Y	Y	Y	Y	Y					8	0	0	**Passed**
#11	Y	Y	Y	Y	Y	Y	Y	Y					8	0	0	**Passed**
#13	Y	Y	Y	Y	Y	Y	Y	Y					8	0	0	**Passed**

Table 3 Substantive Comment Voting																
Substantive Comment	Abushakra	Andersson	Behls	Brooks	Evans	Gebke	Hamilton	Idem	Reid	Elosh	Terzigni	Van Rite	Vote Summary			Motion
													Y	N	A	
#2	Y	N	N	N	N	N	N	Y	N	Did Not Respond	Did Not Respond	Did Not Respond	2	7	0	**Failed**
#3	N	N	N	N	A	Y	N	N	N				1	7	1	**Failed**
#5	N	N	N	N	N	N	N	N	N				0	9	0	**Failed**
#9	N	N	N	N	N	N	N	N	N				0	9	0	**Failed**
#12	N	N	Y	N	N	N	N	N	N				1	8	0	**Failed**
#14	N	Y[1]	Y[1]	Y[1]	Y[1]	Y[1]	N	Y[1]	Y[1]				7	2	0	**Passed**

Y[1]: Yes with changes noted.

a2. The Leakage section of the 2012 Duct Construction was approved to date by electronic vote 7-0-0 (12) with 1 substantive comment. The voting closes July 11, 2011. Andersson, Elosh, Hamilton and VanRite did not respond.

One responsive comment with respect to tapes for sheet metal ducts was approved 7-1-0 at this meeting. The negative vote was by Mark Terzigni. The reason given was that UL 181A or UL 181B does not specifically cover sheet metal ducts. It was noted that the International Mechanical Code (2012), the International Residential Code (IRC 2012), and the International Energy Conservation Code (IECC 2012) permit the use of UL 181A and UL 181B tapes on sheet metal ducts.

a3. The 2013 Duct Design chapter with known changes will be sent to TC member prior to the San Antonio meeting for review and comments at the next meeting. Scheduled draft completion date is June 7th, 2012.

b. Membership (Kevin Gebke, Chair)

b1. See the TC 5.2 Web Site (http://tc5.2.ashraetcs.org/meetings.html) for the official 2011-2012 roster.

b2 Mark Modera and Jeff Boldt have expressed a desire to join TC 5.2 as Corresponding Members. Because their requests came between roster updates they will be added by ASHRAE staff as Provisional Corresponding Members (PCM). PCMs are temporary additions to the TC made by ASHRAE staff between roster update cycles. Note: Mark Modera and Jeff Boldt officially have been added to the 2011-2012 TC roster.

b3. Membership changes are as follows:

- Mark Terzigni will become TC5.2 Chair
- Larry Smith will become TC5.2 Vice-Chair and a voting member
- Bob Reid will be the TC5.2 Secretary
- John Hamilton will be changed from a non-quorum voting member to a voting member (quorum)
- Rich Evans will be changed from a voting member to a non-quorum voting member
- Herman Behls will remain the TC5.2 Research Chair
- Kevin Gebke and Steve Idem will roll off as voting members and will continue as corresponding members
- Kevin Gebke (CM) will become the Handbook Chair
- Tom Ponder (CM) will remain the Standards Chair
- Steve Idem (CM) will remain the Programs Chair and the Honors and Awards Chair
- Mark Smith (CM) will become Webmaster
- Mark Smith and Gary Miller will be added as Corresponding Members

c. Programs (Steve Idem, Chair)

c1. Chicago (January 21-25, 2012):

Title: Air-Handling System Leakage: Benefits and Costs of Field Tests

Overview: SMACNA together with ASHRAE is developing a new standard that will contain test procedures and requirements for total HVAC system air leakage in commercial buildings. This activity is needed because as much as one third of a system's airflow can leak through the air distribution system, which in turn causes a loss of comfort and heating or cooling capacity. System air leakage also significantly increases air conditioning and heating bills, and can contribute to indoor air quality problems. This seminar focuses on the benefits and costs of performing system leakage tests from the perspective of a TAB contractor, an association of sheet metal contractors, and researchers. Steps needed to achieve widespread reductions in leakage and improved air-handling system efficiency is also presented.

Learning Objectives:

1. Understand the need to determine leakage flows for the entire air-handling system, and to understand the impacts of leakage flows on zone heating and cooling loads and on whole-building energy use in commercial buildings.
2. Estimate the energy impacts of system leakage downstream of VAV boxes, and in toilet/kitchen exhaust systems.
3. Become familiar with the necessary specifications for system leakage using industry accepted terminology.
4. Understand how various codes and standards address system air leakage.
5. Understand test protocols for cost-effectively measuring system leakage.
6. Recognize that it is the responsibility of the design engineer to specify the maximum allowable system leakage percentage.

Presentation	Speakers
Testing for Duct Leakage	**Gaylon Richardson, Member**, Engineered Air Balance Co., Inc., Houston, TX
Energy Impacts of Air-Handling System Leakage in Large Commercial Buildings: Measurements and Simulation	**Craig Wray, P.E., Member**, Lawrence Berkeley National Laboratory, Berkeley, CA
The Need for Field Ductwork Leakage Tests	**Mark Terzigni, Member,** SMACNA, Chantilly, VA
Duct Leakage: Measured Magnitudes and Calculated Impacts	**Mark Modera, Ph.D., Member**, University of California, Davis, Davis, CA

C2. Chicago (January 21-25, 2012):

Title: Performance of Metal and Fabric Air Dispersion Systems

Overview: Traditional metal duct systems discharge air through side-mounted metal diffusers usually spaced 10 to 30 feet apart. Since the air is directed to specific zones, this results in less efficient mixing of air in the occupied space, and often causes drafting and local hot or cold spots. Air dispersion systems are designed to continuously convey and discharge air within the space being conditioned, thus providing consistent and uniform air dispersion in the occupied space and resulting in reduced energy usage. An air dispersion system is typically made of fabric, but they can also be constructed from sheet metal or plastic film. Porous and non-porous options are available. Extremely high entrainment ratios result in consistent throw performance for orifices or linear vents and contribute to higher energy efficiency. This seminar compares the performance of traditional metal duct systems with metal and fabric air dispersion systems. Advantages and limitations of air dispersion systems are discussed.

Learning Objectives:

1. Become familiar with air dispersion systems.
2. Understand the advantages of air dispersion systems relative to traditional metal duct systems.
3. Learn basic design principles of air dispersion systems.
4. Learn applications where fabric or metal air dispersion systems are commonly employed.
5. Compare the performance of fabric and metal air dispersion systems.
6. Learn of new fabric and metal air dispersion system products that are becoming available commercially.

Presentation	Speakers
Fabric Air Dispersion System Performance - Results of An Energy Study	**Kevin J. Gebke, Member**, DuctSox Corporation, Peosta, IA
Metal Air Dispersion Systems - An Overview	**Gerry Iacouzze, Member**, McGill Airflow, Columbus, OH
Design and Construction of Metal Air Dispersion Systems	**Bob Reid, Member**, Tangible Products, The Woodlands, TX

C3. Chicago (January 21-25, 2012):

Title: Pressure Loss Measurements in Air Duct Junctions

Overview: The first paper in this session reports results from RP-1488. The purpose of that study was to obtain experimental loss coefficient data for various diverging flow flat oval tees and laterals. The results for branch loss coefficient data for tee and lateral fittings were shown to fit a power law correlation developed previously. The main loss coefficient data could not be correlated by power law. The average value for the main loss coefficient for straight-body tees was found to be -0.167. Likewise the main loss coefficient for straight-body laterals was found to be -0.216. This session also presents a method of correlating main and branch loss coefficients for saddle tap tees operated in the diverging and converging flow modes. The goal of that test program was to determine if the saddle tap tee is an efficient air moving junction, and if so to include the resulting loss coefficient data in the ASHRAE Duct Fitting Database (DFDB).

Learning Objectives:

1. A power law model was successful in correlating diverging flow flat oval tee and lateral branch loss coefficient data as a function of branch-to-common flow rate and area ratios.
2. Diverging flow flat oval tee and lateral main loss coefficient data did not vary with flow rate ratio, and in general were found to be < 0.02.
3. For diverging flow in straight-body flat oval junctions, the average value for the main loss coefficient was found to be -0.167, and the main loss coefficient for was found to be -0.216.
4. For saddle tap tees a power law curve-fit was used for diverging flow tees to correlate branch loss coefficients as a function of branch-to-common flow rate and area ratios. Likewise a logarithmic curve-fit model was used to correlate branch loss coefficients for converging flow tees as a function of branch-to-common flow rate ratio.
5. For diverging and converging flows in saddle tap tees, main loss coefficients were correlated in terms of an inverse linear relationship with the straight-to-common flow rate ratio, and were largely independent of branch-to-common area ratio.
6. Sheet metal contractors may elect to incorporate saddle tap field fabricated tees into their duct systems as an alternative to factory (shop) fabricated tees with a conical branch tapered into the body, due to their ease of fabrication and consequent lower initial costs.

Presentation	Speakers
8040 - Laboratory Testing of Saddle Tap Tees to Determine Loss Coefficients	**Ananth Nalla**[1] and Stephen Idem[1], (1)Mechanical Engineering, Tennessee Tech University, Cookeville, TN
8051 - Measurements of Flat Oval Diverging Flow Fitting Loss Coefficients (RP-1488)	**Daniel Gibbs, Associate Member**[1] and Stephen Idem, Ph.D., Member[2], (1)Barge Waggoner Sumner & Cannon, Inc., Nashville, TN, (2)Tennessee Tech University, Cookeville, TN

C4. San Antonio (June 23-28, 2012): Conference Papers: CFD Shootout Contest Results (1493-RP) – One or more papers will be submitted by each of the three contest winners and presented in a Technical Session, pending the completion of the review process.

d. Special Publications

d1. **ASHRAE Duct Fitting Database (DFDB)** – Herman Behls, Administrator; Pat Brooks, Associate Administrator; John Downey, Programmer

- Version 5.00.10 issued 4/1/10.
  a. Need to resolve converging flow interpolation issues. Symmetrical fittings are not giving the same results for the same conditions on both branches. Pat Brooks will send Steve Idem the data to see if he can develop power equations for the data.
  b. An application has been written for the I-Pad, I-Pod and I-Phone to run the ASHRAE Duct Fitting Database program. Cost is $19.99.
- Next Update:
  a. Licensing agreement to be revised (Network).
  b. Add flat oval converging and diverging junctions.
  c. Update drawings to match input and output.
- Mark Terzigni and Herman Behls to obtain from duct fabricating machine manufacturers what fittings are programmed to be fabricated by their machines. From this they will determine (1) what fittings are not in the ASHRAE Duct Fitting Database (DFDB), and (2) fittings in the DFDB not fabricated by their machines. 221 items are currently in the duct fitting database.
- Mark Smith will work with Herman Behls on getting a survey on how consultants design systems.

d2. **Duct Design Guide** – Pat Brooks, Chair

- Work proceeding in subcommittee. Refer to Table 4 for the ASHRAE Duct Design Guide table of contents.

Table 4 ASHRAE Duct Design Guide – Table of Contents				
Chapter	**Title**	**Rev**	**Sub-Sections**	**Remarks**
	Table of Contents	0 (7-21-2011)		
1	Introduction	0		
2	HVAC/Duct System Design Process	0 (7-21-2011)		Include "Commissioning" with a sample problem
3	Room Air Distribution	0 (7-21-2011)		
4	Equipment Room Location & Duct Layout	0		
5	Fundamentals and Design Tools	0		
6	Duct Design Methods	0	Text	
		0	Equal Friction Text & Example	
		0	Static Regain Text & Example	
7	Duct Design	0		
8	Duct System Acoustics	0		
9	Specialty Topics	0	1. Leakage 2. Materials 3. TAB	
10	Industrial Local Exhaust Systems	0	Text	
11	Air Dispersion Systems	0		
12	Residential Systems	0	Rigid Duct Systems	
		0	Flexible Duct Systems	

Sub-Committee:

Pat Brooks, Chair
Herman Behls
Wes Davis
Richard Evans
Kevin Gebke
Bob Reid

Reviewers:

TC Voting Member
TC Corresponding Members & Provisional Corresponding Members
Any Interested Reviewer (Charles Culp, Gerry Iacouzze)

e. Research (Herman Behls, Chair)

e1. 1333-RP: HVAC Duct Pressure Loss Measurements

- Project Director: Dr. Charles Culp
- PMS: Behls (Chair), Evans, Idem, Ponder
- Technical Papers: Three Transactions papers published.
- Final Report, Rev. 20, approved 9-0-0 (12) by email ballot. No response from Andersson, Elosh, and Terzigni.
- Project is **complete**.

e2. 1488-RP: Laboratory Testing of Flat Oval Tees and Laterals to Determine Loss Coefficients

- Principle Investigator: Dr. Steve Idem
- PMS: Behls (Chair), Brooks, Evans, Reid
- Two technical papers have been approved for publication.
- Project is **complete**. Publication of the papers will take place after the 1493-RP CFD Shootout submittals are received.

e3. 1493-RP: CFD Shootout Contest – Prediction of Duct Fitting Losses

- Project Completion Date: December 2011
- Cost: $85,000
- PMS: Steve Idem (Chair), Bass Abushakra, Yan Chen (TC 4.10), Vernon Peppers, and the following two contractors:

  Dr. John Zhai
  University of Colorado at Boulder
  UCB 428, ECOT 441
  Boulder, CO 80309
  Phone: 303-492-4699
  E-mail: john.zhai@colorado.edu

  Dr. Ahmad Sleiti
  University of North Carolina Charlotte
  College of Engineering, Smith 206
  Charlotte, NC 28223
  Phone: 704-687-2931
  E-mail: asleiti@uncc.edu

- Drs. Zhai and Sleiti reported that 28 letters of intent have been received. Of these Zhai and Sleiti expect to receive at least 15 CFD submittals. CFD models are due July 31st, 2011 and they are awaiting submissions.
- Note: Ten submissions have been received (submission date closed 17 August 2011).

e4. 1606-RFP: Laboratory Testing of Flat Oval Transitions to Determine Loss Coefficients

- PMS: Behls (Chair), Brooks, Evans, Reid
- Three proposals received: Air Movement and Control Association (AMCA), Tennessee Technological University (TTU), and University of Illinois
- Recommended contractor selected by the PMS approved 7-0-0 by the TC. Steve Idem from TTU was not in the room.
- Selected contractor given to Michael Vaughn, ASHRAE Manager of Research.

- Herman Behls made the motion that the work statement be amended to produce "equations" instead of "tables". Bob Reid seconded. Motion passed 6-0-0.

e5. RTAR - Tees with Balancing Dampers

- Proposer: John Hamilton
- PMS: Hamilton, Behls, Gebke, Terzigni
- At the LasVegas meeting the topic was discussed. The consensus of attendees was to proceed with a Work Statement (WS).
- Hamilton to prepare WS and Behls to review.

e6. RTAR - Vane Rectangular Elbows

- Proposer: John Hamilton
- At Albuquerque the vote to reject the RTAR was 5-0-2. John Hamilton was not present at the TC 5.2 meeting. The discussion center on locating the turning vanes tight to the heel (not the location of the first vane at the throat).
- Hamilton discussed with the research subcommittee at the Sunday LasVegas meeting and the members present discovered they had misunderstood the intent. Hamilton stated that with poor placement of vanes in the throat of the elbow, the lowest vane (at the throat) may not see and turn air, allowing it to converge with air flowing around the vanes, thus creating turbulence and a higher pressure loss
- The member present at the TC meeting agreed that a Work Statement should be prepared for approval. The scope is to evaluate vane placement for the following ASHRAE Duct Fitting Database fittings.
  (1) CR3-14: Double-Thickness Vanes, 1 1/2 in, vane spacing
  (2) CR3-15: Double-Thickness Vanes, 2 1/8 in, vane spacing
  (3) CR3-14: Double-Thickness Vanes, 3 1/4 in, vane spacing
  (4) CR3-9: Single-Thickness Vanes, 1 1/2 in, vane spacing
  (5) CR3-12: Single-Thickness Vanes, 3 1/4 in, vane spacing
- Duct velocity shall be 2000 to 2500 fpm.
- Hamilton to prepare WS and Behls to review.

e7. WS – Terminal Unit and Access Door Leakage

- The need for a Work Statement (WS) to determine the leakage of terminal unit and access doors was discussed to support our activities with Standard 90.1's Mechanical Working Group. Members present recommend the TC proceed to write a WS.
- The purpose is (1) to determine if the Terminal Unit leakage values proposed for Standard 90.1 are realistic, and (2) have a basis for access door allowable leakage.
- Terminal Units and access doors leakage will be determined in compliance with ASHRAE Standards 130 and 126,
- No action taken since LasVegas meeting.
- Behls recommended that the WS be withdrawn (not written). TC members agreed by voice vote.

e8. WS – Tapered Body Lateral in Diverging Condition

- The need for a work statement was discussed

7. Standards (Tom Ponder, Chair)

a. ANSI/ASHRAE Standard 120-2008 (Method of Testing to Determine Flow Resistance of HVAC Ducts and Fittings) is in its 3rd year of a 5-year review cycle.

- TC recommended to SRS 10-0-0 (12) by email ballot to revise Standard 120-2008. Andersson and Elosh did not respond.
- Kevin Gebke was recommended to be chair.

b. ANSI/ASHRAE/SMACNA Standard 126-2008 (Method of Testing HVAC Air Ducts) is in its 3rd year of a 5-year review cycle.

- TC recommended to SRS 9-0-1 (12) by email ballot to revise Standard 126-2008. Mark Terzigni abstained because he is the designated SMACNA member; Andersson and Elosh did not respond.
- Kevin Gebke was recommended to be chair.

c. ANSI/ASHRAE/IESNA Standard 90.1-2010 (Energy Standard for Buildings Except Low-Rise Residential Buildings)

- An addendum covering the allowable leakage for single duct and dual duct terminal boxes was approved for public review by the SSPC 90.1 committee at this meeting.

d. SMACNA HVAC Air Duct Leakage Test Manual

- SMACNA's updated 1985 "HVAC Air Duct Leakage Test Manual" has been submitted to ANSI for public review. Public review period closed 6 June 2011.

e. SMACNA/ASHRAE Cosponsored "Total System Air Leakage Manual"

- **ASHRAE BOD Approved 2/3/2010**
- **BACKGROUND:** This proposed SMACNA standard was announced in the September 4, 2010 ANSI Standards Action. After the project initiation notification system announcement was made in the ANSI Standards Action ASHRAE sent a duplication/conflict of interest letter to SMACNA. ASHRAE staff and SMACNA staff had a conference call to discuss the issues. Subsequently, ASHRAE President-Elect Ron Jarnagin met with SMACNA staff and leadership in October 2010. The parties discussed cosponsoring. SMACNA's Executive Committee and Board of Directors have approved this co-sponsorship. SMACNA's procedures will be followed and ASHRAE will have representation on the development committee (which is outside of SMACNA's normal procedures). It is not anticipated that there will be any fiscal impact from this arrangement beyond normal publishing costs. This will be determined when the sponsorship and publication agreement are sent by SMACNA. This standard contains HVAC air distribution leakage classification methodology, test procedures, quantification and requirements for total HVAC air-distribution system air leakage performance in commercial building applications. This proposed standard will establish air leakage performance for the total HVAC system. The Title, Purpose and Scope are included below for informational purposes.
- **TITLE:** HVAC Total System Air Leakage Manual
- **PURPOSE/SCOPE:** This Standard will contain HVAC air distribution system leakage classification methodology, test procedures, quantification and requirements for total HVAC air distribution system air leakage performance for commercial building applications.
- **ASHRAE Representation:** Herman Behls made motion that Mark Modera with voting right and Jeff Bold represent ASHRAE on this proposed ANSI/SMACNA/ASHRAE standard. Jeff Bold would be a non-voting member. Pat Brooks seconded the motion. The motion passed 8-0-0.

8. Duct System Leakage Subcommittee (Herman Behls, Chair)

a. To date activities of this committee were involvement with the 90.1 Mechanical Working Group. Primary activities to date were an update of Standard 90.1-2010 that requires sealing all ductwork.

b. Next activity. Drafting "Technical Bulletin" on HVAC System Leakage.

c. Committee consists of TC 5.2 members (voting, corresponding, and provisional corresponding), and interested active parties that participate in discussion and are responsive to emails

9. Website (Mark Terzigni, Webmaster)

- See TC 5.2 Website (http://tc5.2.ashraetcs.org/meetings.html). The website has the 2010-2011 and roster and all TC meeting minutes. The 2011-2012 roster will be posted as soon as it is finalized. Please submit any changes to the webmaster.
- Mark Smith (Ductmate Industries) will be the Webmaster for 2011-2012.

10. **Awards (Steve Idem)**

- Kevin Gebke earned the Distinguished Service Award.

11. Deadlines: No new deadlines.

12. Unfinished Business: No unfinished business to discuss**.**

13. New Business: No new business discussed.

14. **Adjournment:** Meeting adjourned 5:30 PM. Bob Reid made motion to adjourn, Pat Brooks seconded. Passed by voice vote unanimously.