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## Meeting Minutes TC 5.5 Air-to-Air Energy Recovery

New Hampshire Room, Boston Marriott  
3:30 p.m., July 1, 1997

1. Chairman Katherine Hammack opened the meeting with table introductions.
2. The minutes from the Philadelphia meeting were adopted as circulated. Passed (8,0,0)
3. Subcommittee Reports
  1. Membership - Bert Phillips
    - Current TC5.5 members include Hammack (Chair), Mescher (Vice), Elkin (secretary), Ambs, Besant, Buckley, Hanna, Martin (handbook), McGuinness, Rammien, Shipley, Vyavaharkar and McNab (international) for a total of 13 members.
    - After this meeting, Hammack completes her term as Committee Chair and Martin, McGuinness and Rammien cycle off as voting members. New appointees cycling on after this meeting for a four year term are Phillips and Damshala. After the 1998 summer meeting in Toronto, Hammack, Besant and McNab will cycle off. Persons wishing to become voting members on TC5.5 were asked to so advise Phillips prior to the January 1998 meeting in San Francisco.
    - Moved by Phillips, seconded by Martin, that Mescher be appointed TC5.5 Chair for a two year term, beginning immediately after this meeting. Passed (8,0,0)
    - Moved by Hammack, seconded by Mescher, that Vyavaharkar be appointed TC5.5 Vice-Chair for a two year term, beginning immediately after this meeting. Passed (8,0,0)
    - Moved by Hammack, seconded by Mescher, that Grinsberg be appointed TC5.5 Research Chairperson beginning immediately after this meeting. Passed (8,0,0)
    - Moved by Hammack, seconded by Mescher, that Wawryk be appointed TC5.5 Standards Chairperson beginning immediately after this meeting. Passed (8,0,0)
    - Moved by Mescher, seconded by Martin, that Hammack be appointed TC5.5 Programs Chairperson beginning immediately after this meeting. Passed (8,0,0)
  2. Program - Don Fisher
    - Boston, June 28 - July 2, 1997

- Don reported on a forum which he chaired on Sunday, June 29, titled "Do ASHRAE Engineers Have the Tools to Design "Acceptable" Smoking Areas in Restaurants and Bars?". The more than fifty participants discussed "acceptable air quality", "perceived acceptable air quality", "ventilation effectiveness", "effective distribution", airflow requirements, using air-to-air energy recovery and other means to mitigate high ventilation energy loads and ways to educate engineers to do good design. ASHRAE does not currently have a functional guideline for designing smoking areas. The conclusion of the forum was that TC5.5 should partner with other cognizant TCs to develop a design or applications guideline or toolbox to assist engineers with the task of providing "perceived acceptable air quality" for non-smokers that voluntarily enter spaces in which smoking is allowed. It was acknowledged that the acceptable exposure limit for non-voluntary exposure to tobacco smoke is 0. A summary is available on-line.
- San Francisco, Jan 17-21, 1998
  - Symposium "Air-to-Air Energy Exchanger Performance, Testing and Standards" - Chair Bert Phillips. Four papers based on research being done by the University of Saskatchewan have been received and reviewed.
  - Two Seminars "Designing Environmentally Friendly Bars and Restaurants" - Chair Don Fisher. Don had leads on or volunteers for seven to nine presentations.
- Toronto, June 1998
  - Symposium with titles like "Applications and Design in Commercial Buildings with Smoking" or "Design and Research Experience with Smoking in Commercial Buildings". Several potential papers/authors were identified.

### 3. Standards - Bert Phillips

- Kirk Mescher, Chairman of SPC84-91P, updated TC5.5 on revisions to Standard 84 "Method of Testing Air-to-Air Heat Exchangers". A proposed draft of the standard was prepared by Professor Besant, University of Saskatchewan, and is forming the basis of the update being done by SPC84-91P. The proposed draft focuses on testing heat exchange elements, and does not include packaged systems at this time. The draft incorporates recent research undertaken by the University of Saskatchewan and includes uncertainty and error analysis. Mescher plans to mail out a revised draft of the standard to SPC84-91P members prior to the Winter meeting in San Francisco.
- Mescher noted that AMCA and ARI are working on, or discussing production of, a test method for packaged energy recovery

ventilation equipment. If the timing and results of those efforts are satisfactory, SPC84-91P may not need to develop a test method for packaged equipment. Bede Wellford suggested that ASHRAE was the most appropriate organization to develop a test standard for the packaged equipment. There was limited discussion on ways of financing additional SPC meetings in order to accelerate development of the standard.

- The need for a liaison with SSPC 62 "Ventilation for Acceptable Indoor Air Quality" was discussed. Moved by Hammack, seconded by Shipley, that Bede Wellford act as liaison between TC5.5 and SSPC 62. Passed (8,0,0)
- Who was responsible for carrying this motion to ASHRAE standards management???

#### 4. Research - Kirk Mescher

- Professor Besant had provided a detailed report on TRP862 "Development of a Methodology to Accurately Design and Predict the Part Load Performance of an Energy Recovery Ventilator/ Energy Recovery Device" to the Research Sub-committee on Sunday. Work has begun on assembling the final report which is expected to be completed on schedule in August 1997.
- A work statement "Energy Efficient Methods to Maintain Good IAQ in Buildings" has been submitted to Chuck Coward, TC5.5 Research Liaison, for his review and comment. Mescher will revise the work statement based on the commentary and circulate it to committee members for a letter ballot, hopefully in time for the fall R&T meeting.
- Other topics for work statements include:
  - Effect of Leakage on Heat Recovery Effectiveness
  - Heat Recovery from Kitchen Exhaust Devices (in conjunction with TC10 - Kitchen Ventilation)
  - Applications Guideline (or a Designer's Toolbox) for Applications with Tobacco Smoke (to be prepared and circulated to committee members for a letter ballot)

#### 5. Handbook - Gerry Martin

- Martin reported on the Handbook Subcommittee meeting held on Monday, June 30. He requested reviewers for each topic in Chapter 42 "Air-to-Air Energy Recovery" in the 1996 Systems and Equipment Handbook. The following volunteers stepped forward: Hoagland (heat wheels), Grinsberg (flat plate), heat pipes (Wawryk), Brad Binning (run around loops). Volunteers were not identified for thermosiphons or twin tower systems.
- The section on twin towers has not been significantly reworked for several years now. The manufacturer of these systems will be advised that this section of the chapter will be dropped unless it is significantly revised for the next (2000) Systems and Equipment Handbook.

- Other proposed changes to the chapter include describing and referencing the revised Standard 84 (provided that it is completed in time) and adding the knowledge learned from recent research on the topic, especially TRP 862.
  - It was suggested that an applications section be prepared on air-to-air energy recovery. Dave Shipley volunteered to develop a plan for this section. Depending on the time it takes to develop material for the applications section, it may be submitted as a chapter for the 1999 HVAC Applications Handbook or a section in the Air-to-Air Energy Recovery chapter in the 2000 Systems and Equipment Handbook. Ultimately, it will be a stand-alone Chapter in the Applications Handbook.
6. Journal & Insights
- Professor Besant has submitted some papers to the ASHRAE HVAC&R Journal on his recent research. He is also planning to prepare a paper for the ASHRAE Journal.
  - Fisher will submit a summary of the forum (reported above) to ASHRAE for publication in the Journal or Insights.
7. Internet
- Dave Shipley has familiarized himself with the home page requirements for ASHRAE TCs. On the request of TC5.5, he volunteered to develop and maintain a home page for TC5.5. Reports to be posted on the TC5.5 website should be E-mailed to him at: [shipley@marbek.ca](mailto:shipley@marbek.ca)
4. New Business
- Wellford reported that reference to air-to-air energy recovery was voted out of Standard 62R, then voted back in.
  - TC 5.5 will meet in the same time slot in San Francisco. Handbook will move to Sunday, immediately after research, to avoid the conflict with the standards subcommittee.
  - Incoming TC Chair Kirk Mescher complimented outgoing Chair Katherine Hammack on a job well done.
5. Adjournment: The meeting adjourned at 5:35 p.m.