

TC 1.2 Instruments and Measurements
Meeting Minutes
Louisville, Kentucky, June 23, 2009
Place: Kentucky International Convention Center Room 205

These are the official, approved minutes of TC 1.2 meeting in Louisville, Kentucky. Votes cast during this meeting are in the format #for-#against-#abstain-#absent.

- I. Meeting called to order at 1:03 p.m. by Chairman, David Yuill. Introductions were made and a quorum was established with 8 voting members present.
- II. David Yuill reviewed the agenda items for the meeting.
- III. The committee reviewed the Chicago Meeting minutes prepared by Ron Moncrief. Frank Spevak moved that the committee accept the minutes of the Chicago meeting. John Scott seconded. The minutes were approved 7-0-0-1.

IV. Liaison Reports

Since no liaisons attended the meeting, there is no liaison report. However, since David Yuill attended the Handbook Committee meeting, he reviewed some information that the Handbook Liaison would have covered. The 2009 edition of the Fundamentals Handbook was published and was received by committee members. The deadline is February 1, 2010 for submitting additional information to be added to the 2010 CD Plus edition of the Handbook. It is scheduled to be published in September, 2010. Members are encouraged to submit examples utilizing spreadsheets for calculations, photos movies and other information which is not practical to include in the hardcopy version of the handbook.

- V. SSPC 41 Report – Pat Collins reported for Rick Hall, Chairperson of SSPC 41 Methods for Measurement Standards who could not stay for the meeting,

Pat Collins presented the report of the SSPC 41 meeting held on Sunday. The status of each TC 1.2 standard is listed below. SSPS 41 received a user question on the design of sample trees which Pat answered.

Standard 41.1-1986 (RA 2006) -- Standard Method for Temperature Measurement

The subcommittee is actively working on revision of this standard. Patrick Collins is Chairman and subcommittee work is very active and good progress has been made. Pat stated that Standard 41.1 will not be published until the research project on the wet bulb aspirator is complete and this information is added to the standard.

Standard 41.2-1987 (RA 92) -- Standard Methods for Laboratory Airflow Measurement

This is an active subcommittee. Terry Beck is chairman. The subcommittee is making good progress and no impediments are expected to delay the completion of this revision.

Standard 41.3-1989 -- Standard Method for Pressure Measurement

Subcommittee chair Frank Spevak lead a meeting on Sunday afternoon to continue the subcommittee's revision of this standard. The subcommittee completed its review of this standard. The last section was deleted because the information was outdated. It will be replaced with similar information in the handbook chapter. This revision is expected to be approved at the meeting in Orlando with public review in the spring of 2010.

Standard 41.4-1996 (RA 2006) -- Standard Method for Measurement of Proportion of Lubricant in Liquid Refrigerant

Jim Douglas is chairman of this subcommittee. The subcommittee has made excellent progress. A hardcopy of 75% of the standard was reviewed and approved. Three sections need to be reviewed. A web conference is scheduled for early July to complete the next two sections. Mike Wegenka has agreed to work on the uncertainty section.

Standard 41.6-1994 (RA 2006) -- Standard Method for Measurement of Moist Air Properties

Pat Collins is chairman of this subcommittee. No report was given on this standard.

Standard 41.7-1984 (RA 2006) -- Method of Test for Measurement of Flow of Gas

John Scott is chairman of this standard subcommittee. The Title, Purpose and Scope was approved by the Standards Committee on Tuesday morning. John is actively recruiting members for this subcommittee.

Standard 41.8-1989 -- Standard Methods of Measurement of Flow of Liquids in Pipes Using Orifice Flowmeter

John Scott is chairman of this standard subcommittee. The Title, Purpose and Scope was approved by the Standards Committee on Tuesday morning. Members are needed on this subcommittee.

Standard 41.9-2000 (RA 2006) -- Calorimeter Test Methods for Mass Flow Measurements of Volatile Refrigerants

This standard was issued in 2000 and reaffirmed in 2006. Rick Hall is the chairman of this subcommittee. Since references need to be revised, this standard must be revised rather than being reaffirmed.

Standard 41.10-2003 -- Flowmeter Test Methods for Mass Flow Measurement of Volatile Refrigerants

John Scott led this subcommittee. This revised standard was published in 2008. It is the first 41 series standard published since SSPC 41 was created.

Standard 41.11 -- Power Measurement

The Standards Committee approved the preparation of this new standard at its meeting in Long Beach. Eric Graham is subcommittee chair but could not attend the meeting. This subcommittee is very active in terms of new members with 10 to 12 new members added. Rick Hall conducted the meeting. Jim Douglas reported that Eric had submitted a basic agenda but most of it was incorrect because the Title, Purpose and Scope approved was different. The subcommittee spent a lot of time going over it and made work assignments. Progress should improve at the next meeting. Currently this standard is in between a laboratory standard and a standard for field measurements. Jim discussed the variety of measurements this standard must cover. Its scope has changed to the measurement of electrical power in HVAC systems. Jim expects that the Title, Purpose and Scope will eventually be revised to reflect this change in scope.

Pat Collins discussed an email he received from ASHRAE questioning the change in the designation of the cognizant technical committees for the 41 Series standards. After some discussion Pat Collins made the following motion:

TC 1.2 will concur with SSPC 41 that TC 1.2 be the cognizant TC for all 41 Series standards and TC 1.1 and 8.1 will be co-cognizant technical committees for these standards.

Frank Spevak seconded the motion. After Pat Collins and Jim Douglas discussed the motion, the committee approved the motion 7-0-0-1.

VI. Report from TC/TG chair's breakfast meeting on Sunday – David Yuill.

David stated that a new category of paper, the Conference Paper, has been created. Steve Idem added that the Conference Paper will have a slightly reduced level of scrutiny as compared to the Transactions Paper. The Conference Paper is shorter (3000 words minimum). Craig Wray discussed in detail the reasons why the CEC is adding conference papers. The Conference and Expositions Committee is trying to increase the number of documented presentation at ASHRAE meetings. Conference Papers will be presented for the first time at the meeting in Albuquerque.

David Yuill discussed an ASHRAE ruling that phone attendance cannot be used to reach a quorum for ASHRAE committee meetings. The International Member category of technical committee membership is being changed to Non-Quorum Member. A committee may designate two Non-Quorum Members which do not count against the quorum when they are absent. Seminar speakers who refuse to have their presentations recorded will be required to pay the conference fee. Thank you letters may be requested online. Hightower Awards are for ASHRAE service for the last four years instead of the last year. They are not lifetime achievement awards. ASHRAE considering notifying technical committee chairs of new international members who attend meetings. The goal is for technical committees to be more welcoming. The Chapter Technology Transfer Committee is looking for ways to help technical committees recruit new members, authors, reviewers, etc. Contact them if you need help.

VII. Handbook: Terry Beck

Terry Beck thanked all who contributed to the revision of the handbook chapter. February 1, 2010 is the deadline for submitting information for the CD Plus edition of the handbook. Visuals (photos, movies, etc.) and examples of solved problems in spreadsheets which may be used for other problems are recommended as additions to the CD Plus. Terry stated that example problems were added to the hard copy edition of the handbook chapter. ASHRAE is planning to make the handbook available on the web and will test it internally this summer. If these tests are successful, within a year it may be available on a subscription basis. Several members of the committee discussed ways to improve the CD Plus version of the handbook and make it a valuable tool that people will want to buy and use.

Terry Beck discussed e-mail questions on duct traverses

1. To calculate the average velocity pressure in a traverse test, it is recommended to use equation 7.7. Why should we take the square root of the velocity pressure before summing up the values?

The velocity pressure is proportional to the square of the velocity. The square root of the average of the squares is not equal to the average of the values themselves.

2. What do the negative values of Pitot tube traverse readings mean?

The short answer is that the values indicate reverse flow in a direction which probably is not 180 degrees from the direction of airflow in the duct and are meaningless because the Pitot tube cannot indicate airflow direction. To give zero values to reverse flow reading is not correct. The reverse airflow readings must be accounted for to obtain the correct airflow. There is no short answer as to what to do in this situation. The measurements are not going to be correct without a more thorough investigation is impractical for field technicians.

ACTION ITEM: Terry Beck will draft a response to email question 2 (the first question was directed to Standard 51) and will send it to the chair of TC 1.2. The chair will send the draft response to the committee for comments and then send the response to the person who submitted the question.

VIII. Research: Frank Spevak

Frank Spevak reported on the Research breakfast. ASHRAE has funding for research projects. Work Statements and RTARs must be submitted by September 15 for consideration. The research liaison needs a copy of Work Statements and RTARs. The Project Evaluation form should be used to inform ASHRAE of project progress. The strategic research plan is moving forward the number of goals has been reduced to ten.

--Technical committees are still encouraged to work on tactical research projects.

--RAC is preparing internal measures to help technical committees do literature searches for RTARs and work statements.

--Future Research: Determine if reverse flow problem has been investigated and documented. There were no additional research ideas.

RP 1571: Searchable Data Base of ASHRAE Standards

The research proposal to create a searchable database for standards was rejected by the RAC because it isn't research. Two ASHRAE directors at large are members of TC 7.7 and will investigate the issuance of an ASHRAE directive to create this database.

RP 1245: Determine the Effect of Duct Fittings on Air Velocity Measurements.

The RP1245 meeting was held Monday at 1:00 p.m. The technical problems with the duct work have been corrected. Data collection will be completed by the end of the summer of 2009. Data analysis and report will be complete by 4/1/10. Report on the project will be presented at the meeting in Albuquerque. Two transaction papers have been outlined and one will be presented at the meeting in Las Vegas.

Future Research: Determine if reverse flow problem has been investigated and documented. There were no additional research ideas.

IX. Standards Subcommittee: Jim Douglas.

See Section V for the SSPC 41 portion of the Standards Report.

Guideline 2 – Engineering Analysis of Experimental Data

David Yuill reported on the Guideline 2 meeting held on Sunday. Rick Heiden is the chairman, David Yuill is the vice chairman and the voting members are Lauren Ronsse, Bill Healey, and Ron Moncrief. Committee members reported on their work assignments and the recommended revisions to the guideline were reviewed and discussed by the committee. All planned revisions to the guideline are complete. Rick Heiden will prepare the final version of the revised guideline. The committee should vote on the final version of the guideline before the Orlando meeting.

X. Programs Subcommittee - Steve Idem

Steve Idem stated that the seminar on the Uncertainly Analysis of Experimental Data will be presented on Wednesday. He also stated that Rick Hall will be the new Program chair for TC 1.2.

Pat Collins discussed an Albuquerque seminar with one presentation on the design of sample trees.

Terry Beck could discuss the reverse flow problem but needs to know if there are research papers on topic. Frank Spevak suggested that someone from the Test and Balance technical committee could present ASHRAE's current guidance on handling reverse flow readings. Frank Spevak volunteered to chair seminar and made the motion to submit a program request for the Albuquerque meeting. Frank suggested that the title of the seminar be "Unresolved Issues of Duct Measurements related to Temperature, Humidity and Airflow". Ron Moncrief seconded the motion. It was approved 7-0-0-1.

Jim Douglas suggested that a seminar could be presented on standard 41.11 when it is complete possibly at the meeting in Chicago

XI. Membership: David Yuill

David stated that he received the committee roster on Thursday or Friday before the meeting in Louisville and found an error in it. Therefore, he did not send it to committee members.

ACTION ITEM: David Yuill will distribute the TC 1.2 roster to committee members.

XII. Website

Frank Spevak stated that he will update the website in accordance with the committee actions at the Louisville meeting.

XIII. New/Unfinished Business

Pat Collins stated that Jim Douglas will present the SSPC 41 Standards Committee report at future TC 1.2 meetings. .

XIV. Adjourn Meeting

Jim Douglas moved that the meeting be adjourned, all members seconded, and the motion was approved 8-0-0-0. The meeting adjourned at 3:30 p.m.

Attendees:

Terry Beck (VM)
Richard Hall
John Scott (VM)
David Yuill (VM)

Patrick Collins (VM)
Steve Idem (VM)
Frank Spevak (VM)

James Douglas (VM)
Ron Moncrief (VM)
Craig Wray