

MEETING MINUTES

TC 1.2 Instruments and Measurements

Las Vegas, Nevada, February 1, 2011

Place: Las Vegas Convention Center, Room N215

These draft minutes have not been approved and are not the official, approved record until approved by this committee. Votes cast during this meeting are in the format #for-#against-#abstain-#absent.

1. MEETING:

1.1. The meeting was called to order at 1:02 p.m. by Chairman, Pat Collins. Introductions were made and a quorum was established with 8 of 8 voting members present.

2. AGENDA:

2.1. Pat Collins reviewed the items for the meeting. He also announced that research project RP1460 is complete including the submittal and approval of a 250 page report and a 35 page technical paper.

3. MEETING MINUTES:

3.1. The committee reviewed the Albuquerque minutes prepared by Ron Moncrief.

3.2. Frank Spevak moved that the committee accept the minutes of the Orlando meeting with one revision. John Scott seconded. The minutes were approved 8-0-0-0.

4. LIAISON REPORTS:

4.1. Victor Penar, TAC Section 1 Head, stated that the TC 1.2 website should be updated. He said that the roster should be emailed to him today and put a hard copy in the business office. The committee needs to have at least six voting members.

5. MEMBERSHIP

5.1. Pat Collins announced the following membership changes effective July 1, 2011. Three voting members (Pat Collins, Jose Perez-Galindo and Ron Moncrief) will become corresponding members and Steve Idem will become Committee Chair. After a lengthy discussion Terry Beck agreed to become Vice Chair. Other membership changes are David Yuill will become a voting member and Kyle Whitaker will become a corresponding member.

6. TC / TG CHAIRMAN'S BREAKFAST MEETING:

6.1. Steve Idem reported on the TC / TG Chairman's breakfast. He stated that Gary Phetteplace, a member of TC 6.2 and TC 6.8, was the 2010-2011 Hightower Award recipient. TC roster changes must be submitted before the end of the Las Vegas meeting. Attendees were encouraged to attend the TC Chair's Workshop, which Steve attended. Steve stated that it primarily was a reiteration of the procedure the TC chair's handling of the roster. A passport will be needed to travel to the meeting in Montreal in June. ASHRAE has established a requirement that the vote and name of the voter on all letter ballots must be reported to ASHRAE. This new requirement generated much discussion and those in attendance voted unanimously to reject this requirement. ASHRAE has a similar requirement that voters and their votes are required to submit a standard for public review.

7. HANDBOOK:

7.1. Terry Beck gave the handbook report and stated that he attended the handbook training session. The Handbook CD+ will be replaced by a version available online. This version will be updated each year. The 2013 Fundamentals chapter (Chapter 36) that TC 1.2 will update is due on May 31, 2012. ASHRAE continues to encourage TC's to add examples to the handbook chapters. The flow calculation procedure could be expanded and clarified. Simple spreadsheets could be used to improve understanding. Research projects should provide deliverables, which provide content for the online handbook. Terry stated that he will prepare a spreadsheet for this chapter revision which is similar to the one used for the 2009 revision. After a lengthy discussion on commercial links in the online handbook, Terry made the following motion: "Terry Beck will communicate to the handbook liaison that there should not be any links to product advertisements in the handbook." John Scott seconded. The motion passed 7-0-1-0 (Chair not voting).

8. RESEARCH:

8.1. Frank Spevak reported on the research breakfast meeting. He stated that Steve Taylor received the ASHRAE research award. There is a grant-in-aid, which is a student scholarship for graduate research, available from ASHRAE. There is a New Investigator Award, which goes to a new researcher. There is a Homer Adams Award, which goes to a former graduate student who worked on ASHRAE research projects. The 2011-2012 research budget is \$1.3M. There are 23 research

projects waiting for funding. Eighteen of these projects will be sent out for bids in the spring of 2011. A new group, called a Multi-Disciplinary Task Group, has been created by TAC to develop larger, more strategic research projects. These projects might cross TCs as well as Sections. Project RP 1596, *Indoor Air Quality in Retail Stores*, was cited as an example of a project, which is funded by outside research money. This project is funded by a \$1.5M grant from NIST and the investigator is the University of Texas-Austin. Deadlines for research are 2-15-2011 for the March RAC meeting; 5-15-2011 for the June RAC meeting; 9-15-2011 for the October RAC meeting.

8.2. RESEARCH-RP 1245: *Determine the Effect of Duct Fittings on Air Velocity Measurements.*

The RP1245 meeting was held on Monday with the principal investigator. A draft of the results of this research will be available in March, 2011. The project committee expects to vote on the report at the June meeting in Montreal.

8.3. RTAR 1636: *...High Accuracy Relative Humidity (RH) Sensors.*

TC 1.2 agreed to sponsor this RTAR, which James Schaefer prepared. It was forwarded to RAC, they reviewed it at an interim meeting and it was assigned RTAR 1636. At the Las Vegas Meeting it was reviewed as an RTAR, returned with comments and suggested resubmitting it. The main comment was that due to references in RTAR 1636 to RP 1460, RP 1460 should be complete before RTAR 1636 goes forward. They wanted to see the discussion of this proposal in the meeting minutes of the two sponsoring committees, TC 1.2 and SSPC 41. The RAC also commented that this is a low cost and low maintenance alternative for humidity measurements. James Schaefer has already revised the RTAR for resubmittal. This RTAR may be reviewed by the RAC at the March meeting or later at the Montreal meeting. If the revisions are acceptable, the RAC will request the submittal of a Work Statement.

8.4. RTAR (new): Building Pressure Control Methods

Len Damiano prepared this RTAR and Frank Spevak stated that support for this project was discussed in the TC 7.7 meeting and the committee voted against this request for support. Frank also stated that this is a huge project that proposes to test as many as twenty pressure control schemes. Currently, the project is not well defined. TC 1.2 discussed it and is willing to review it for co-sponsorship at a later date when the project is better defined. Pat Collins will communicate the committee decision to Len Damiano.

9. STANDARDS:

9.1. Jim Douglas reported that the SSPC 41 Standards Committee met on Sunday and attendance was good. Jim and others discussed the status of each 41 series standards subcommittee. For more details see the SSPC 41 minutes on the TC 1.2 website.

9.2. SSPC 41 Status Reports from Subcommittee Chairs

NOTE: The information in the sections below labeled “Update” documents the proceedings of the various SSPC 41 subcommittee meetings that met after the SSPC 41 meeting on January 30, 2011.

9.2.1. Subcommittee 41.1, Pat Collins, Chair, *Standard Methods for Temperature Measurement*: Will add new information on IR temperature sensors, and clarify the use of thermopiles. James Schaefer will perform the uncertainty analysis for this standard. The goal is to have 41.1 issued for public review by January 2012.

Update: The subcommittee responded to requests to include information in the standard that are not in the scope of the standard. James Schaefer has provided the uncertainty analysis. The addition of IR temperature sensor information is on schedule. The deadline for input from all participants is March 15, 2011. Pat Collins will distribute a draft of the standard to all participants by May 1, 2011.

9.2.2. Subcommittee 41.2, Terry Beck, Chair, *Standard Methods for Airflow Measurement*: Pat Collins reported in Terry Beck’s absence that the Subcommittee 41.2 met and discussed whether pitot tube traverses should be included in this standard. The goal is to have 41.2 issued for public review by January 2012.

Update: Terry Beck reported that he has not completed the draft of this standard. Some edits provided by two of the subcommittee members need to be merged into the draft standard. The subcommittee also discussed the different standards for air density (SI and IP). Some of the figures need to be updated. Pat Collins suggested that Terry use the updated symbol for manometers used in Standard 37.

9.2.3. Subcommittee 41.3, Frank Spevak, Chair, *Standard Methods for Pressure Measurement*:

Frank Spevak reported that the subcommittee met with seven attending. The subcommittee completed the body of text. The two tasks remaining are to verify references and obtain drawings from ASHRAE. This standard may be ready for SSPC vote in January, 2011.

Update: Frank Spevak reported that the subcommittee met with five attending. Decisions were made on updating some of the illustrations. Some formula issues need to be resolved. A draft is expected to be available for review at the subcommittee meeting in Montreal. This standard should be ready for SSPC vote in January, 2012.

9.2.4. Subcommittee 41.4, Jim Douglas, Chair, *Standard Methods for Proportion of Lubricant in Liquid Refrigerant Measurement*:

Jim Douglas reported that the subcommittee met with eight attending. The subcommittee reviewed the uncertainty analysis prepared by Mike Wegenka and new reference tables. A draft of this standard will be sent out to subcommittee members at the January, 2011 meeting.

Update: Jim Douglas reported that the subcommittee has completed the draft version of this standard. Some corrections were made including one in the uncertainty analysis section. Some density updates are needed in the refrigerant tables. When that information is revised, the draft will be sent to subcommittee members for approval. The standard should be ready to publish for public review by the Montreal meeting.

9.2.5. Subcommittee 41.6, Pat Collins, Chair, *Standard Methods for Humidity Measurement*:

Pat Collins reported that the subcommittee met and no major decisions were made. The RP 1460 research project was discussed. The goal is to complete 41.6 for public review by January 2012.

Update: Only two subcommittee members attended the meeting. The goal of the meeting was to reduce the information from the research project report into the standard. Six pages of information have been transferred from Standard 41.1 to Standard 41.6. The goal is to complete 41.6 for public review by January 2012.

9.2.6. Subcommittee 41.7, John Scott, Chair, *Standard Methods for Measurement of Gas Flow*, and Subcommittee 41.8, John Scott, Chair, *Standard Methods for Measurement of Liquid Flow*: The subcommittees met concurrently with six attending. Standard 41.7 is about fifty percent and is on schedule to be completed by January, 2013. John stated that Standard 41.8 is also on schedule to be completed by January, 2013.

Update: There was good attendance at the meeting. Several comments were reviewed and some changes were made. Input from one member has not been received. A member of 184P (Field Test of Liquid Package Chillers) visited the meeting. He was looking for information on what can be done when measurements must be taken in conditions that do not meet the specified number of pipe diameters of straight pipe. John requested input from TC 1.2 committee members on research that can provide a method for correcting flow measurements made in non-ideal locations. John stated that Standard 41.7 and 41.8 is also on schedule to be completed by January, 2013.

9.2.7. Subcommittee 41.9, Rick Hall, Chair, *Standard Methods for Volatile Refrigerant Mass Flow Measurement Using Calorimeters*:

Rick Hall reported that all action items are complete and all references have been checked. A revised draft standard will be sent to the subcommittee ASAP. This standard should be ready for public review on July 23, 2010 and should be published in the spring of 2011.

Update: This public review of this standard is complete and it should be published in the spring of 2011.

9.2.8. Subcommittee 41.10, John Scott, Chair, *Standard Methods for Volatile Refrigerant Mass Flow Measurement Using Flow Meters*:

This standard was published in 2008 and is not actively being revised.

9.2.9. Subcommittee 41.11, Rick Hall, Chair, *Standard Methods for Power Measurement*:

Rick Hall reported that a preliminary draft has been prepared but there are many voids. Action items have been assigned. Rick stated that the subcommittee is pushing to meet the public review deadline of the summer of 2012.

Update: Rick Hall has proposed that this standard be ready for public review by January, 2013. Many additional items that need to be added to the standard have been identified, such as shaft power and VFD stop drives.

9.2.10. Guideline 2: Has been published.

10. PROGRAMS SUBCOMMITTEE:

10.1. Steve Idem stated that the Las Vegas meeting request for the forum “Does ASHRAE need a velocity measurement standard to support the development of energy efficiency standards?” was rejected. He also stated that it is very difficult to schedule forums and seminars. Pat Collins stated that this topic was discussed in the SSPC 41 meeting and it was decided that an Advisory Public Review for this topic would be requested to obtain input and comments. Pat stated that after the SSPC 41 meeting Rick Hall told him that only a Standing Standards Project Committee could request an Advisory Public Review. However, Rick and Pat think that SSPC 41 should be able to request it. Frank Spevak will pursue that option.

10.2. Several topics for future programs were discussed including a future program on Building Pressure Control. However, that program is a long-term goal.

10.3. Terry Beck and Charlie Wright discussed a seminar that would discuss low velocity measurements with pitot tubes and the directional effects of airflow on flow measurements and what to do with negative velocity pressure readings in traverses. A preliminary presentation on the findings of RP1460 could also be included. Steve will contact Terry and Charlie about this seminar proposal. A preliminary presentation on RP1460 could also be included.

11. WEBSITE:

11.1. Frank Spevak stated that the website is almost up to date and promised to update it.

12. OLD BUSINESS:

12.1. None.

13. NEW/UNFINISHED BUSINESS:

13.1. Pat stated that the publication of the 41 Series standards should be communicated to all standards committees.

14. ADJOURN MEETING:

14.1. Jim Douglas moved that the meeting be adjourned, John Scott seconded, and the motion was approved 8-0-0-0. The meeting adjourned at 3:28 p.m.

ATTENDEES:

Terry Beck (VM), Patrick Collins (VM), James Douglas (VM), Ron Moncrief (VM), John Scott (VM),
Frank Spevak (VM), Mike Wegenka (VM), Charlie Wright (VM),
Steve Idem (CM), David Yuill (CM)