

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS,
INC.
1791 Tullie Circle, N.E./Atlanta, GA 30329
404-636-8400**

TC/TG/TRG MINUTES COVER SHEET

(Minutes of all TC/TG/TRG Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

TC/TG/TRG NO 5.1 DATE 7 Feb 2011

TC/TG/TRG TITLE Fans

DATE OF MEETING 31 January 2011 LOCATION Las Vegas, NV

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
John Murphy	2010	Asesh Raychaudhuri	2007	Josh Eddy
Mike Brendel	2007			Christian Taber
Joe Brooks	2010			Jenny Abney
John Cermak	2008			Dustin Meredith
Patrick Chinoda	2008			Susanna Hanson
Franco Cincotti	2007			Ed Koop
Chuck Coward	2008			Gus Mastro
Brent Fullerton	2010			Tim Kuski
Tim Mathson	2010			Bob Valbracht
Kim Osborn	2010			Erroll Eaton
Brian Reynolds	2010			Bob Smith
Greg Sanchez	2010			Bertrand Poirier
Tom Sobieski	2007			Tim Burgos
Zhiping Wang	2008			Ned Heminger

DISTRIBUTION

All Members of TC/TG/TRG plus the following:

TAC Section Head: Gus Mastro	
TAC Chair: Charles Wilkin	
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	Krishnan Gowri (Standard Liaison)
Manager Of Standards Manager Of Research & Technical Services	Claire Ramspeck Mike Vaughn

Additional attendees at 1/31/2011 Meeting of ASHRAE TC 5.1:

Charissa Garcia
Blake Erb
Tim Orris
Larry Hopkins
Michael Keating
George Gamble
Rad Ganesh
Jay Eldridge
David Rasmussen
Kim Rasmussen
David Carroll
Michael MacGowan



**ASHRAE TC 5.1 Meeting
Monday 31 January 2011**

Las Vegas, Nevada

Minutes

- 1. Call to Order – 4:15 pm**
- 2. Roll Call**

The following voting members of this committee were present:

John Murphy – Chair, Standards S/C Chair
Mike Brendel
Joe Brooks, Secretary
John Cermak, Long Range Planning S/C Chair
Patrick Chinoda
Franco Cincotti
Chuck Coward
Brent Fullerton, Webmaster
Tim Mathson
Kim Osborn
Brian Reynolds – Handbook S/C Chair
Greg Sanchez, Vice Chair
J. Thomas Sobieski
Zhiping Wang

Asesh Raychaudhuri, Program S/C Chair, was not able to attend. Corresponding members and guests that attended the meeting are listed in the cover sheet.

- 3. Adoption of Agenda**

Motion ASHRAE TC 5.1 01-2011

Moved by: Tim Mathson
Seconded: Greg Sanchez

“To approve the agenda as provided.”

Passed unanimously

- 4. Approval of the minutes**

The last meeting of this TC was 28 June 2010.

Motion ASHRAE TC 5.1 02-2011

Moved by: Tom Sobieski
Seconded: Franco Cincotti

“To approve the minutes of the last meeting of this TC, held on 28 June 2010.”

Passed unanimously

5. Items of business

5.1 TC 5.0 Section Head Report

The ASHRAE Section 5 Section Head, Gus Maestro, reported and reminded the TC that:

- The website should be kept up to date,
- The Roster update is due to him by 10 February,
- Heads up for Montreal meeting, that all required credentials will be required to cross the Canadian border, and
- The Multi-discipline Technical Group was formed to encourage multi-TCs in working on the same project.

5.2 TC 5.1 Liaison Reports

Other than the section head, no other liaisons were present.

5.3 Chairman's report

The TC 5.1 chair remarked on the section meeting. Highlights include:

- MTG is based on multi-discipline Technical Committees working together from the bottom up.
- The Conference and Exhibitions Committee, which controls the technical program of the semi-annual ASHRAE meetings, will include a "Fundamentals and Application" and "System and Equipment" track in all future programs.
- A mentor should be assigned to all new young members of the committee.

6. Subcommittee reports

6.1 Standards subcommittee

The chair of the Standards Subcommittee reported the status of standards under the cognizance of TC 5.1:

6.1.1 ASHRAE Standard 149

This standard was reaffirmed in 2009.

6.1.2 ASHRAE 68/AMCA 330

The identical adoption of ISO 5136 is underway. It may be completed by the June meeting.

6.1.3 ASHRAE 51/AMCA 210

Motion TC5.1 03-2011

Moved by: Joe Brooks
Seconded: Greg Sanchez

“Move that an ASHRAE 51/AMCA 210 Review Committee be formed.”

Passed unanimously

6.2 Handbook Subcommittee

Brian Reynolds reported on the status of the 2012 Handbook changes. The 2012 Fan Chapter is due May 30, 2011. There is no deadline on electronic content. Since content is due May 30, a TC 5.1 letter ballot must be made. All voting members were encouraged to vote when the ballot is sent.

6.3 Research subcommittee – David Carroll

David Carroll reported on the information he received at the Research Chair meeting

6.3.1 Current projects

RP 1126 Optimization of Sampling Tube for Induct Sound Testing: Probably will not be completed. This project no longer appeared on report.

RP 1216 Inlet Installation Effects on BI/Airfoil Centrifugal Fans, Air & Sound: Final report submitted by PI. PMS, chaired by Rad Ganesh, recommends approval of final report.

Motion TC5.1 04-2011

Moved by: John Cermak
Seconded: Zhiping Wand

“Move to approve PMS 1216 recommendation.”

Passed 14-0-0

RP 1420, Installation Effects on Plenum Fans: The chair, Franco Cincotti, reported on the mornings PMS meeting. Questions were answered and the laboratory has started testing.

6.3.2 Future projects

Revised RTAR for a project on fan inlet effects pulling together five RPs on inlet system effects, both air and sound: Brian Reynolds drafted RTAR and the TC may be asked for approval by June.

TC (motors) may be interested in a Research Project that would look at VFD usage at slow speeds when used with pumps and motors. Chuck Coward volunteered to follow up on this proposal.

Parallel and Series operation of fans: Patrick Chinoda drafted an RTAR.

6.4. Program subcommittee

George Gamble reported on the programs scheduled for Las Vegas and Montreal meetings. A forum is scheduled for the Las Vegas meeting and a Seminar and Transaction Paper may be scheduled for Montreal. The TC discussed the possibility of adding the BI System Effect paper to the FC System Effect paper in Chicago (Air and sound installation effects on BI and FC fans). A seminar is planned for Montreal on fan selection: Using total vs. static pressure. Abstracts for Montreal need to be submitted by 14 February (speakers, topics, abstract and chair).

6.5. Long Term Planning Subcommittee

John Cermak discussed some of his long term ideas. The TC desired the following reminders recorded in the minutes:

- Need to talk about how to define the performance of an Induced Flow Fan
- Suggestion to discuss in a future meeting an idea that the TC develop best practices guidelines for different fan areas.

7. FAQ

The FAQ chair, John Murphy, reported that he did receive a question regarding fans operating in series where one fan was redundant and not operating. It was noted that the answer was, yes it can be done, but with a performance penalty.

8. Website Report – Brent Fullerton

The TC 5.1 webmaster reported that the TC website continues to be updated.

9. Old Business**9.1 Fan Efficiency Task Force Report – Joe Brooks****Motion ASHRAE TC 5.1 05-2011**

Moved by: Joe Brooks
Seconded: John Cermak

“To approve the straw man CMP [for ASHRAE 90.1-210] that was attached to the agenda.”

Passed 11-2-0
[chair did not vote.]

During the discussion, the chair of SSPC 90.1 MSC recommended that the TC submit the recommendation as a CMP (not a straw man).

Kim Osborn left the meeting and gave his proxy to John Cermak.

Motion ASHRAE TC 5.1 06-2011

Moved by: Joe Brooks
Seconded: John Cermak

“To approve the recommendation from the Fan Efficiency Task Force regarding exceptions to the ASHRAE 90.1 FEG recommendation.”

Passed 12-1-0
[chair did not vote.]

The two recommendations as presented in the agenda are attached to these minutes.

9.2 AMCA International Fan Committee Recommendation – John Cermak

AMCA International’s recommendation for SSPC 90.1 Mechanical Subcommittee were not discussed explicitly but were included in the discussion for item 9.1.

10. New Business

It was reported that an enquiry regarding the definition of fan static pressure was made to ASHRAE TC 5.2 and they wanted TC 5.1 recommendation. The chair reported that the question/comment stemmed from a misunderstanding of the term “fan static pressure”. This was discussed in the TC 5.2 reply to the enquiry. The reply was that the definition of Fan Static Pressure in the ASHRAE Handbook is correct.

11. Time and Place of Next Meeting

The next meeting will be on June 27, 2011 in Montreal, Quebec, Canada at 4:15 pm (local).

12. Adjournment

The meeting adjourned at 6:22 pm.

Minutes recorded by:

Joseph A. Brooks
TC 5.1 Secretary

Attachments: Approved Fan Efficiency Task Force Material
Reply to MK Plastics

Fan Efficiency Task Force Recommendations (approved by TC 5.1)

1. Recommend approval of the following straw man Continuous Maintenance Proposal (CMP) for ASHRAE SSPC 90.1-2010:

Proposed definition to be added to ASHRAE 90.1-2010:

FAN EFFICIENCY GRADE (FEG) – The fan efficiency grades are based on the fan peak (optimum) energy efficiency, and are defined in AMCA 205-2010. The efficiency grade is the characteristic that defines the quality of the fan energy usage and indicates the potential for minimizing the fan energy usage.

This Proposed CMP revises section 6.5.3, inserts a new section 6.5.3.1, and renumbers the remaining section under Section 6.5.3.

6.5.3 Air System Design and Control. The fans for HVAC systems having a motor nameplate equal or exceeding 1 hp shall meet the provisions of Section 6.5.3.1. In addition, each HVAC system having a total fan system motor horsepower nameplate hp exceeding 5 hp shall meet the provisions of Sections 6.5.3.2 through 6.5.3.6.

6.5.3.1. Minimum Fan Efficiency. The fans shall have at least a Fan Efficiency Grade of FEG67 based on manufacturers' certified fan data, as defined by AMCA 205-10*. The total efficiency of the fan at the design point of operation shall be within 10 percentage points of the maximum total efficiency of the fan. Alternatively, the 10 percentage point requirement may be applied to the static efficiency.

These requirements apply to supply fans, return fans, and exhaust fans, either as standalone fans or contained in other equipment (e.g. a packaged air conditioning unit, etc), but not to the equipment that contains the fan.

6.5.3.2~~4~~ Fan System Power Limitation

6.5.3.2.1 Each HVAC System ...

6.5.3.2.2 Motor Nameplate Horsepower ...

6.5.3.3~~2~~ VAV Fan Control (Including Systems Using Series Fan Power Boxes)

6.5.3.3.1 Part-Load ...

6.5.3.3.2 Static Pressure Sensor Location. ...

6.5.3.3.3 Setpoint Reset. ...

Etc.

2. "The TC 5.1 Fan Efficiency Task Force recommends that equipment which includes a fan and other devices that affect fan efficiency, such as Induced Flow Fans, Energy Recovery Ventilators, Evaporative Coolers, and Air Conditioning Units, be excluded from the TC 5.1 recommendation to SSPC 90.1 MSC."



John Murphy

Jeff Roberts
Vice President
M.K. Plastics

Dear Mr. Roberts,

On May 13, 2010 you wrote to Mr. George Gamble concerning the recommendation being made to the ASHRAE 90.1 Mechanical Subcommittee regarding minimum FEG levels. I have replaced Mr. Gamble as Chair of ASHRAE TC 5.1, and since the recommendation has been made by that committee, I am responding to your concerns.

TC 5.1 formed a task force to study all aspect of the recommendation and recommend a course of action. This task force conducted several meetings and made, among others, the following recommendation:

“The TC 5.1 Fan Efficiency Task Force recommends that equipment which includes a fan and other devices that affect fan efficiency, such as Induced Flow Fans, Energy Recovery Ventilators, Evaporative Coolers, and Air Conditioning Units, be excluded from the TC 5.1 recommendation to SSPC 90.1 MSC”

TC 5.1, at the meeting held in Las Vegas on January 31, 2011, approved a Continuous Maintenance Proposal to ASHRAE 90.1. which incorporated the above recommendation.

If you have any further questions, do not hesitate to contact me.

John Murphy
Chair
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