

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.: T.C. 6.7

DATE: January 16, 2004

TC/TG/TRG TITLE: Solar Energy Utilization

DATE OF MEETING: July 1, 2003

LOCATION: Kansas City, Missouri

MEMBERS PRESENT	YEAR APPTD*	MEMBERS ABSENT	YEAR APPTD*	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
S. Morner (C/Web)	01	R. Foster	99	Doug Tucker (ASHRAE Staff)
T. Merrigan (VC/Std)	02	J. Huggins	00	Nance Lovvorn (RAC Liaison)
B. Dougherty (Sec)	00	H. Stenger	02	Cenk Yavuzturk (G)
D. Menicucci	02	A. Helmy Malek (Int'l)	00	Andrew Chiassom (G)
M. Todorovic	CM	M. Hertel (Handbook)	CM	R. Wood (G)
S. Mumma	CM	H. Healey (Program)	CM	Andrew Lowenstein (G)
S. Klein	CM	P. Zeigler (Research)	CM	Russ Johnson (G)
		R. Aresty	CM	Simon Rees (G)
		E. Bales	CM	Timothy Moss (G)
		B. Black	CM	
		N. Buckley	CM	
		M. Butler	CM	
		A. Chalifoux	CM	
		C. Cromer	CM	
		W. Fleming	CM	
		D. Goswami	CM	
		R. Hayter	CM	
		H. Henderson	CM	
		B. Howard	CM	
		L. Lister	CM	
		F. Mahjouri	CM	
		E. Olsen	CM	
		R. O'Neil	CM	
		H. Peebles	CM	
		E. Rush	CM	
		D. Schieman	CM	
		E. Seiler	CM	
		D. Tompkins	CM	
		R. Turner	CM	
		M. Wildin	CM	
		B. Wood	CM	

*Starting month as a voting member is July of the year shown.

DISTRIBUTION

ALL MEMBERS OF TC/TG/TRG

TAC COMMITTEE CHAIRMEN: W. E. Murphy

TAC SECTION HEAD: W. P. Bahnfleth

LIAISONS:

Program: F. W. Betz Journal: J. A. Pietsch

Handbook: R. L. Davis RAC: N. C. Lovvorn

Standards: D. E. Knebel

MANAGER OF TECHNICAL SERVICES: M. R. Vaughn

MANAGER OF RESEARCH: W. W. Seaton

MANAGER OF STANDARDS: C. B. Ramspeck



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MEETING MINUTES ASHRAE TC 6.7 – SOLAR ENERGY UTILIZATION Annual Meeting – July 1, 2003 Kansas City, Missouri

I. CALL TO ORDER, MEETING AGENDA, AND MEETING MINUTES

Chairman Svein Morner called the meeting to order at 1:10pm. The attendees made self-introductions and a sign-in sheet was circulated. Four of seven voting members were present, thus constituting a quorum. (Absent international member Malek did not count against the quorum as per Sections 2.2.3 and 5.1 of the *ASHRAE Manual of Procedures for Technical Committees, Task Groups, and Technical Resource Groups*). The agenda was reviewed and accepted. Minutes for the January 2003 TC 6.7 meeting in Chicago were approved (4-0-0-3, CV).

II. LIAISON REPORTS FROM OTHER COMMITTEES

Nance Lovvorn, our liaison from the Research Administration Committee (RAC), provided insight into what types of research – which start with a research topic acceptance request (RTAR) – are viewed favorably by RAC. Mr. Lovvorn noted that the RTAR needs to differentiate itself, be appealing, and provide value to the handbook and/or the greater membership. The RTAR should address where the research will lead. TCs are encouraged to broaden their perspective (e.g., TC 6.7 RTARs may be able to factor in environmental issues). RAC is working on a formal evaluation guide to bring more consistency to the RTAR review process. RTARs are only reviewed and ranked one time per year, in early October at the Technology Weekend meeting that is held at ASHRAE headquarters. The RTAR should use 10 point font, have a maximum length of 2 pages, and be easy to read. Certainly, any sources of potential co-funding should be stated.

III. ANNOUNCEMENTS

Chairman Morner recognized ASHRAE's Assistant Manager for Standards – International, Doug Tucker. Mr. Tucker summarized ASHRAE's participation within the International Organization for Standardization (ISO). ASHRAE holds the ISO secretariat duties for subcommittees within three technical committees: TC 86 (Refrigeration and Air-Conditioning), TC 205 (Building Environment Design) and TC 180 (Solar Energy). With regard to ISO TC180, Australia is the secretariat. ASHRAE holds the secretariat for Subcommittee 4 within TC 180, Systems – Thermal Performance, Reliability and Durability. TC 180 and its subcommittees have been dormant in recent years but an effort is being made to restart activities.

Within TC 180/SC 4, two new work items were circulated in the Spring of 2003. Both proposals (N216 and N218) passed. One new work item is to restart work on ISO/DIS 9459-5, "Solar heating – Domestic water heating systems – Part 5: System performance characterization by means of whole-system tests and computer simulation." The second new work item is to restart work on ISO/DIS 11924, "Solar heating – Domestic water heating systems – Test methods for the assessment of protection from extreme temperatures and pressures." Work on these two, well-developed, publicly reviewed ISO/DIS documents stalled in the late 1990's. Both proposals also included a vote of acceptance of a new CEN-lead (CEN/TC 312) parallel development process.

ASHRAE is seeking individuals who will review, comment, and help form the US position on these two documents and on other forthcoming ISO TC 180 standards activities. Ideally, ASHAE would like to see interested individuals join the US Technical Advisory Group (TAG) for ISO TC 180. On behalf of TC 180, Mr. Tucker is also seeking someone to assume the SC 4 chairman position and may need to recruit conveners for the eventually re-instated working groups for ISO/DIS 9459-5 and 11924. If you can volunteer, please contact Doug Tucker at ASHRAE headquarters (404-636-8400). The first meeting of TC 180 since 1997 is planned for November 2003 in Dublin, Ireland. Mr. Tucker plans to attend.



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Mr. Tucker then addressed the issue of ASHRAE adoption of international standards, which is the goal of ASHRAE Standards Project Committee (SPC) 95 and possibly SPC 96. Because of changes implemented by ANSI on this subject, ASHRAE is in the process of changing its rules and procedures to be consistent. Only after ASHRAE's new ANSI-compatible procedures for adopting ISO/IEC standards are approved, can SPCs like 95 move forward. More on the status of these new procedures should be known at the ASHRAE Winter 2004 meeting in Anaheim.

IV. CHAIRMAN'S REPORT

Chairman Morner reported on matters presented at the TC Chairs meeting/breakfast. Both the TC chair and the vice chair are recommended to attend the chairman training session. The program committee is considering having a program subcommittee chair meeting/breakfast. TCs, including ours, have moved their web pages to the ASHRAE server. ASHRAE provides 20 MB of space to each TC. These TC websites may have links to other ASHRAE web pages and non-commercial sites. A printer is available at the ASHRAE headquarters room during the bi-annual meetings. Nominations for the technical achievement award are due by October 1.

V. SUBCOMMITTEE REPORTS

A. HANDBOOK SUBCOMMITTEE – SVEIN MORNER FOR MARK HERTEL

TC 6.7 is responsible for two handbook chapters: Chapter 33 of the HVAC Systems and Equipment Handbook, "Solar Energy Equipment," and Chapter 32 of the HVAC Applications Handbook, "Solar Energy Use." TC 6.7 plans to conduct a major rewrite of these two chapters. Immediately prior to the Kansas City meeting, Handbook Subcommittee Chair Mark Hertel sent out the proposed overall outline for these two chapters for a second review. Mr. Hertel asked that members email him comments (kanela@java.net) on the proposed outline and requested volunteers to write one or more sections.

Dave Menicucci reported on the extent that the Sandia National Laboratories, via DOE sponsorship, can help with this handbook effort. Sandia is obligated to come up with a plan for DOE on developing solar design and installation guidelines, with specific intention of a final product that could be posted on a web site and contain links to quality, existing web resources. The eventual electronic design guide is expected to focus on the more popular, well-established system designs and applications. If the plan is funded, work will begin in FY04. Sandia's Timothy Moss is the principal investigator. Sandia may hold an open meeting later in the year in order to solicit input.

Sandy Klein commented that the conversion to an electronic handbook as the member benefit has been pushed back. Members have voiced their preference for the hard copy of the handbook. This policy change may play a role in how TC 6.7 moves forward with its revision.

B. RESEARCH SUBCOMMITTEE – SVEIN MORNER FOR PAUL ZEIGLER

TC 6.7 has two RTARs: (1) Solar Radiant Heating and Cooling and (2) Optimization and Testing of a Double Effect Solar Driven Absorption Chiller and Dual Fired Generator. The RTARs are due at ASHRAE headquarters by August 1. Priorization and acceptance of the RTARs by the TC should be completed by the third week in July. Andy Lowenstein was asked to review and make suggested changes to the RTAR on the double effect chiller. Feedback provided previously from RAC was to expand the scope. Tim Merrigan will send Mr. Lowenstein the RTAR electronically so that he can modify it by July 15. Mr. Merrigan will then conduct an email letter ballot of the TC members to rank the two RTARs.

As for possible RTARs for the next year, Mr. Merrigan plans to write up one on unglazed collectors. Members noted that an RTAR with an energy security tie may get more consideration from RAC given the focus on Homeland security issues. Sandy Klein suggested writing an RTAR that puts solar thermal water heating back on the table. Dave Menicucci suggested work in the area of copper corrosion and the related reliability issues of solar thermal components.



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The committee briefly revisited the issue of the unfinished research project of Solar Energy Design Associates. The researcher has never met one requirement of the research project, the publishing of the work in an ASHRAE technical paper. Tim Merrigan offered to contact ASHRAE headquarter to determine if the researcher has received final payment.

C. PROGRAM SUBCOMMITTEE – CENK YAVUZTURK FOR HENRY HEALEY

TC 6.7 sponsored two seminars at this meeting. Seminar 6, “Solar Domestic Hot Water Applications,” included four speakers and Seminar 38, “RES Integrated Sustainable Buildings,” provided 5 speakers. Both seminars were well attended and the evaluations were favorable.

For the next meeting in Anaheim, a symposium and a seminar are planned. Marija Todorovic reported that she has 3 papers for the symposium that will build on the Seminar 38 topic of sustainability. Dr. Todorovic was hopeful of getting one more paper submitted before the August 8 deadline. Tim Merrigan noted that he had reviewed a technical paper that may be applicable for the symposium. Mr. Yavuzturk will contact ASHRAE’s Mary McGee to see if she has any technical papers that could be considered for the symposium. Dr. Todorovic will chair the symposium and Mr. Yavuzturk will work on its title.

As for a seminar in Anaheim, the two leading candidate are (1) new applications for unglazed solar collectors and (2) distributed generation as a mechanism for energy/homeland security. Jay Burch was mentioned as a potential speaker for the first option. Seeking co-sponsorship from another TC that addresses co-generation or distributed power generation was suggested when discussing the second option.

For the 2004 Annual meeting in Nashville, Dave Menicucci and Mr. Yavuzturk will work on organizing a seminar on reliability issues of solar thermal systems. The need for a test standard that addresses reliability, a talk on reliability survey work, and a presentation on the copper corrosion issue, especially for potable water above 140F, were mentioned as potential components of this seminar.

D. STANDARDS SUBCOMMITTEE – TIM MERRIGAN

ASHRAE Standard 93, “MOT to Determine the Thermal Performance of Solar Collectors,” and Standard 109, “MOT to Determine the Thermal Performance of Flat-Plate Solar Collectors Containing a Boiling Liquid,” were reaffirmed and were submitted by ASHRAE staff for ANSI approval.

ASHRAE Standard 96, “MOT to Determine the Thermal Performance of Unglazed Flat-Plate Liquid-Type Solar Collectors,” remains in a holding pattern. The Standards Project Committee (SPC) lacks the necessary number of members. Jim Huggins chairs SPC 96P. The SPC plans to look at a full or partial adoption of ISO Standard 9806-3.

ASHRAE Standard 95, “MOT to Determine the Thermal Performance of Solar Domestic Water Heating Systems,” also remains in limbo. Tim Merrigan is the chair of the SPC. The SPC voted in August 1995 to adopt ISO Standard 9459-1 to replace Standard 95 while changing two normative annexes into informative annexes. ANSI has introduced new and more comprehensive procedures that cover options on adopting ISO Standards as ANSI standards. Identical adoptions and modified adoptions, as would apply to SPC 95, are now covered. ASHRAE is in the process of updating its adoption procedures to be consistent with ANSI. These updated procedures must be in place before SPC 95 can reinitiate its work.

E. WEBMASTER – SVEIN MORNER

Webmaster Morner encouraged members to visit the TC web page and provide any feedback. The URL is:

<http://xp20.ashrae.org/>

Once there, click on, in order: (1) Technology, (2) Technical Committees, and (3) TC 6.7 Solar Energy Utilization.



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VI. OLD BUSINESS - None

VII. NEW BUSINESS - None

VIII. ADJOURNMENT

The meeting was adjourned at 3:50 PM

ASHRAE TC/TG/TRG ACTIVITIES SHEET

DATE: July 1, 2003

TC/TG/TRG NO.: 6.7 TC/TG/TRG TITLE: Solar Energy Utilization

CHAIRMAN : S. O. Morner VICE CHAIRMAN: T. J. Merrigan

SECRETARY: B. Dougherty

TC/TG/TRG MEETING SCHEDULE			
Location – Past 36 Months	Date	Location - Planned Next 18 Months	Date
Atlanta, GA Washington, D.C (ASES) Cincinnati, OH Atlantic City, NJ Honolulu, HI Chicago, IL Kansas City, MO	01/01 01/04 01/06 02/01 02/06 03/01 03/06	Anaheim, CA Nashville, TN Orlando, FL	04/01 04/06 05/02
TC/TG/TRG SUBCOMMITTEES			
Function		Chairman	
Program Handbook Standards Research		H. H. Healey M. A. Hertel T. J. Merrigan P. M. Zeigler	

RESEARCH PROJECTS – CURRENT			
Project Title	Contractor	Monitoring Comm. Chairperson	Report Made At Mtg.
URP-1109 – Optimization of Hybrid PV / Thermal Solar Collector	Solar Design Associates	P. Zeigler	Project complete except for ASHRAE paper

LONG RANGE RESEARCH PLAN				
Rank	/ Title	W/S Written	Approved	To RAC
1.	Solar radiant heating and cooling	RTAR Submitted 03/08	Ranked #1	
2.	Optimization and Testing of a Double Effect Solar Driven Absorption Chiller and Dual Fired Generator	RTAR Submitted 03/08	Ranked #2	
3.	Optimization of solar thermal storage for ground source heat pump applications	RTAR to be written by Yavuzturk		

HANDBOOK RESPONSIBILITIES					
Year & Volume	Chapter	Title	No.	Deadline	Handbook Liaison
07 HVAC Applications	32	Solar Energy Use		05/02	R. Davis
08 HVAC Systems & Equipment	33	Solar Energy Equipment			

STANDARDS ACTIVITIES - List and Describe Subjects
<p>STD 93-2003 MOT to Determine the Thermal Performance of Solar Collectors. Reaffirmation of the 1986 standard. Awaiting ANSI approval.</p> <p>STD 95-1987P* MOT to Determine the Thermal Performance of Solar Domestic Water Heating Systems. SPC 95P recommended adopting ISO Standard 9459-1 (with annexes marked informative rather than normative) as the next revision of Standard 95. SPC 95P cannot move forward until the Standards Committee updates its adoption procedures to be consistent with those mandated by ANSI on how to adopt an ISO standard. TC 6.6 is co-cognizant; TC 6.7 is the cognizant (lead) technical committee.</p> <p>STD 96-1980P* MOT to Determine the Thermal Performance of Unglazed Flat-Plate Liquid-Type Solar Collectors. SPC 96R has a chairman, Jim Huggins; a call for members was issued on 02/12/13. The SPC plans to review ISO Standard 9806-3. The SPC will have difficulty moving forward until the Standards Committee updates its adoption procedures to be consistent with those mandated by ANSI on how to conducted an identical versus a modified adoption of an ISO standard.</p> <p>STD 109-2003 MOT to Determine the Thermal Performance of Flat-Plate Solar Collectors Containing a Boiling Liquid. Reaffirmation of the 1986 standard. Awaiting ANSI approval.</p> <p>STD 125-1992 (RA2000) MOT Thermal Energy Meters for Liquid Streams in HVAC Systems. Reaffirmed in 2000. The cognizant (lead) technical committee is TC 6.1; TC 6.7 is co-cognizant.</p> <p>*NOTE: Standards 95, and 96 are designated as “Proposed” rather than as a “Reaffirmation” or as a “Revision” due to exceeding the maximum time frame in which a standard may retain the ANSI designation. These standards will be sent to ANSI for their approval once they are reaffirmed/ revised.</p>

<p>TECHNICAL PAPERS from Sponsored Research – Title, when presented (past 3 yrs. present & planned)</p> <p>None</p> <p>TC/TG Sponsored Symposia – Title, when presented (past 3 yrs. present & planned)</p> <p>None</p> <p>TC/TG Sponsored Seminars – Title when presented (past 3 years, present, & planned)</p> <ol style="list-style-type: none"> Solar Domestic Hot Water Applications, June 2003, Kansas City RES Integrated Sustainable Buildings, June 2003, Kansas City The Solar Decathlon: Results of the 2002 Competition, Jan. 2003, Chicago Applications in Solar Buildings: Combining Renewables with Energy Efficiency and Sustainability, Jan. 2001, Atlanta <p>TC/TG SPONSORED FORUMS - Title, when presented (past 3 years, present, & planned)</p> <ol style="list-style-type: none"> What Can ASHRAE and Its Members Do to Increase the Use of Solar Energy?, Jan. 2003, Chicago <p>JOURNAL PUBLICATIONS, when published (past 3 years, present, & planned)</p> <p>None</p>
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Submitted By: _____
 B. Dougherty