



1791 Tullie Circle, N.E./Atlanta, GA 30329
404-636-8400

TC/TG/MTG/TRG MINUTES COVER SHEET

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

TC/TG/MTG/TRG No.: TC 6.2

DATE: January 30, 2017

TC/TG/MTG/TRG TITLE: District Energy

DATE OF MEETING: January 29, 2017

LOCATION: Las Vegas, NV

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Jay Eldridge	6/30/2014	Lawrence Markel	6/30/2015	Steve Tredinnick
Drew Overmiller	6/30/2013	Chris Paraskevacos	6/30/2013	Tim Anderson
Steve Severini	6/30/2013			Gary Phetteplace
John Andrepont	6/30/2013			Art Giesler
Geoffrey Bares	6/30/2016			David Wade
Jessica Mangler	6/30/2016			Dan Pyewell
Alan Neely	6/30/2016			John Molnar
				Nemat Lotfi
				Rich Sweetser
				Jim Young
				Mike Case
				Verle Williams
				Daryl Stauffer
				Joe Brillhart
				Dragos Paraschiv
				Joe Hofstetter
				Scott Murray
				Amar Farjo
				Abdallah Mahmoud



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MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
				Fariborz Haghighat
				Carsen Banister
				Dustin Jackson

DISTRIBUTION: *All Members of TC/TG/MTG/TRG plus the following:*

TAC Section Head:	SHx@ashrae.net Where x is the section number
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters (Research, Standards, ALI, etc.)	See ASHRAE email alias list for needed addresses.
Mike Vaughn, Manager Of Research & Technical Services	MORTS@ashrae.net



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ACTIVITIES SHEET
ASHRAE TC 6.2 DISTRICT ENERGY
Sunday, January 29, 2017 Las Vegas, NV

Chairman: Drew Overmiller
Vice-Chair: Alan Neely
Secretary: Steve Severini

TC 6.2 Meeting Schedule:

Location Past 3 Meetings	Location Next 3 Meetings
Las Vegas, NV January 2017	Long Beach, CA June 2017
St Louis, MO June 2016	Chicago, IL January 2018
Orlando, FL January 2016	Houston, TX June 2018

TC 6.2 Sub-Committees:

Committee	Chair
Handbook	Steve Tredinnick
Membership	John Andrepont
Program	Tim Anderson
Research	Jay Eldridge
Standards	(open)
ALI Coordinator	Chris Paraskevakos
Webmaster	Jessica Mangler

Research Projects

None current.

Technical Papers from Sponsored Research:

None current



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ACTIVITIES SHEET (Continued)
ASHRAE TC 6.2 DISTRICT ENERGY
Sunday, January 29, 2017 Las Vegas, NV

TC 6.2 SPONSORED SEMINARS, FORUMS, AND WORKSHOPS (Past three years and this meeting)

Year	Location	Topic
2014, January	New York	<i>Seminars 6, 16, and 17:</i> Efficient Technologies That Are Also Economically Sustainable, Parts 1, 2 and 3: District Energy and Complementary Options. (co-sponsored with TC 1.10 Cogeneration Systems and TC 6.9 Thermal Storage)
2014, June	Seattle	<i>Workshop 11:</i> Achieving High Delta-T: Keys to High Performance District Energy Systems
2015, January	Chicago	None
2015, June	Atlanta	None
2016, January	Orlando	<i>Seminar 47:</i> The Campus Planning Question: To Centralize Energy or Decentralize?
2016, June	St. Louis	<i>Forum 4:</i> To Centralize or Decentralize a Thermal Energy System: The Great Debate Continues
2017, January	Las Vegas	<i>Seminar 22:</i> The Past Present and Future of Combined Heat and Power in Mission Critical Facilities

TC 6.2 SPONSORED TECHNICAL PAPER SESSIONS AND CONFERENCE PAPER SESSIONS

(Past three years and this meeting)

Year	Location	Topic
2014, June	Seattle	<i>Technical Paper Session 5:</i> Theoretical and Real World Application of Energy Saving Techniques (co-sponsored with TC 6.05 Radiant Heating and Cooling)
2015, January	Chicago	None
2015, June	Atlanta	None
2016, January	Orlando	None
2016, June	St. Louis	None
2017, January	Las Vegas	None



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Journal Publications: (Past three years)

1. Tredinnick, S., Wade, D., Phetteplace, G. July 2015. "District Energy Enters the 21st Century".



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Voting is recorded in a format (In Favor – Against – Abstentions) and is based on voting members present.

1. Call to Order:

Chair Drew Overmiller called the meeting to order at 3:00 PM. Drew opened the meeting by stating the scope of TC 6.2 District Energy:

Technical Committee 6.2 is concerned with district energy technology and integrated systems that provide one or more forms of thermal energy or a combination of thermal energy and electric power from a central plant(s) to meet the heating, cooling, or combined thermal energy and power needs of end-users in two or more structures. The TC collects and disseminates information on regional resource planning including the design, performance, economic analysis, operation and maintenance of central plants, distribution networks, and consumer limited to materials, construction methods, heat transfer, fluid flow, and measurement. The scope of the TC includes the development and assessment of associated technologies for energy use sections.

All attendees were welcomed. Self-introductions were made. An agenda was distributed and an attendance sheet was circulated and signed by attendees. See attached copies. The following voting member attendance was noted:

<u>Name</u>	<u>End of Term</u>	
Mr. Alan Neely	6/30/2020	Present
Mr. Geoffrey Bares	6/30/2020	Present
Ms. Jessica Mangler	6/30/2020	Present
Mr. Lawrence Markel	6/30/2019	Not Present
Mr. Jay Eldridge	6/30/2018	Present
Mr. Steve Severini	6/30/2017	Present
Mr. John Andrepont	6/30/2017	Present
Mr. Drew Overmiller	6/30/2017	Present
Mr. Christian Paraskevacos	6/30/2017	Not Present

With 7 of 9 voting members in attendance, a quorum is present.

2. Visitors & Reports/Information from other Committee Representatives:

Drew gave the floor to any committee representatives. None were present.

3. Approval of the St Louis June 2016 Meeting Minutes:

No corrections were noted. Alan Neely moved to approve the minutes. Second by John Andrepont. The motion passed with a vote of 7-0-0.



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4. Announcements by Chair:

Drew attended the Section 6 breakfast earlier this day and noted the following discussion items:

A. Section 6 Breakfast:

i. Conferences & Expositions Committee (CEC)

(1) 2017 Long Beach, CA

- (a) Conference Papers Abstracts were due August 29, 2016
- (b) Conference Papers were due December 9, 2016
- (c) Seminar, Forum, and Workshop proposals are due February 6, 2017
- (d) Confex opens for presentation uploads is May 1, 2017
- (e) All presentations due online June 2, 2017
 - Track 1: Fundamentals and Applications; Track Chair: Frank Schambach (frankschambach@mindspring.com)
 - Track 2: HVAC&R Systems and Equipment; Track Chair: Jennifer E. Leach (pennst8jen@yahoo.com)
 - Track 3: Refrigeration; Track Chair: Vikrant Aute (vikrant@umd.edu)
 - Track 4: Building Life Safety Systems; Track Chair: Robert Alan Neely (alan_neely@pghcorning.com)
 - Track 5: Controls – Smart Building Systems and the Security Concerns as Technology Emerges; Track Chair: Melanie Derby (derbym@ksu.edu)
 - Track 6: Commissioning – Optimizing New and Existing Buildings and their Operation; Track Chair: Dennis Alejandro (denzjac@yahoo.com)
 - Track 7: Zero Net Energy Buildings – The International Race to 2030; Track Chair: Jason DeGraw (jason.degraw@nrel.gov)
 - Track 8: Residential Buildings – Standards Guidelines and Codes; Track Chair: Kimberly Pierson (kdpwildcat@gmail.com)
 - Track 9: Research Summit; Track Chair: Ann Peratt (ann.peratt@gmail.com)

(2) 2018 Winter Chicago, IL

- (a) Conference Papers Abstracts are due March 1, 2017
- (b) Conference Papers are due August 29, 2017.
- (c) Seminar, Forum, and Workshop proposals are due August 7, 2017
- (d) Confex opens for presentation uploads is TBD
- (e) All presentations due online TBD
 - Track 1: Fundamentals and Applications; Track Chair: Carrie Anne Crawford (carriecrawford@eeace.com)
 - Track 2: HVAC&R Systems and Equipment; Track Chair: Kevin Marple (kmarple@benzco.com)



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- Track 3: Standards, Guidelines and Codes; Track Chair: Corey Metzger (corey.metzger@resourcecece.com)
 - Track 4: Earth, Wind & Fire; Track Chair: Ashish Rakheja (ashish.rakheja@aeonconsultants.in)
 - Track 5: Beyond the "L": IAQ and Air Conditions in Transportation Applications and Enclosed Vehicular Facilities; Track Chair: Dimitris Charalambopoulos (dimitris@ashrae.gr)
 - Track 6: Tall Buildings; Track Chair: Leticia Neves (leneves@gmail.com)
 - Track 7: Modeling Throughout the Building Life Cycle; Track Chair: Joseph Firrantello (j.firrantello@gmail.com)
 - Track 8: Performance and Design of Heat Exchange Equipment under Real Field Type Conditions; Track Chair: Vikrant Aute (vikrant@umd.edu)
 - Track 9: Refrigerant Mini Track @ Expo; Track Chair: Gary C. Debes (gcdebes@verizon.net)
- (3) Program Statistics for Las Vegas: total of 109 available slots
- (a) Conference Papers
 - (i) 164 abstracts submitted, 145 approved
 - (ii) 102 papers received
 - (iii) 81 conference papers presented in 22 Conference Paper Sessions
 - (b) Technical Papers
 - (i) 42 received
 - (ii) 30 conference papers presented in Poster Sessions
 - (c) Seminars
 - (i) 152 submitted
 - (ii) 76 presented
 - (d) Workshops
 - (i) 18 submitted
 - (ii) 7 presented
 - (e) Forums
 - (i) 8 submitted
 - (ii) 3 presented
 - (f) Panel
 - (i) 8 submitted
 - (ii) 3 presented
- (4) CEC Call for Reviewers: 2017 Annual Conference and others. Contact Tiffany Cox (tc Cox@ashrae.org) and copy TC Chair & Vice Chair
- (5) New program types starting at 2017 Annual Meeting in Long Beach
- (a) Panel Discussion - 3-4 speaker panel with each addressing a facet of the session topic followed by an interactive discussion lead by chair. 60 or 90 minutes.



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- (b) Debate – highlight hot-button issues faced by membership. 60-90 minutes in length.
- B. Multidisciplinary Task Groups (MTGs)
 - i. 2 new MTGs
 - ii. MTG.IAST – Impact of ASHRAE Standards and Technology on Energy Savings/Performance; Chair – Dan Pettway
 - iii. MTG.OBB – Occupant Behavior in Buildings; Chair – Tianzhen Hong
 - iv. 10 total MTGs
 - v. TC contact Mike Vaughn (MORTS@ashrae.net) if TC would like to have a voting representative on a particular MTG.
 - vi. Potential MTG: MTG.ACR (Air Change Rate)
- C. New restructured TC Manual of Procedures (MOP) was issued after St. Louis meeting

5. Liaison Reports:

- A. ALI: No report.
- B. DOE: Rich Sweetser reported “no news” from DOE, as folks wait for action and direction from the new presidential administration.
- C. IDEA: John Andrepont provided the following report. Drew will investigate the possibility of having voting members attending the IDEA conference in June to call in to the TC6.2 meeting to achieve a quorum, due to the conflict between these 2 meetings.
 - i. The International District Energy Association (IDEA) is an industry association of ~2,000 members. The membership includes: District Energy (Thermal) Utilities; Physical Plant and Utilities Personnel from University, Medical, and other District Energy Facilities; Equipment Manufacturer/Suppliers; Service Providers to the Industry; other District Heating & Cooling Associations; plus Government, Student, and other Personal members.
 - ii. IDEA has two major conferences each year (one focused on campus District Energy systems and one focused on commercial thermal utility District Energy systems), as well as smaller workshops on subjects such as marketing and thermal distribution, plus occasional regionally-focused conferences. Each major conference also focuses on integrating Combined Heat & Power (CHP) and Thermal Energy Storage (TES) with District Energy.
 - iii. Upcoming IDEA conferences include:



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- 30th Annual Campus Energy Conference
February 20-24, 2017 – Miami, Florida
- 108th Annual Conference and Trade Show
June 26-29, 2017 – Scottsdale, Arizona (*Note: these dates conflict with the 2017 ASHRAE Annual Meeting*)
- 31st Annual Campus Energy Conference
March 5-9, 2018 – Baltimore, Maryland
- 109th Annual Conference and Trade Show
June 11-14, 2018 – Vancouver, British Columbia, Canada
- 32nd Annual Campus Energy Conference
February 26-March 1, 2019 – New Orleans, Louisiana

iv. For further information on IDEA, contact:

Rob Thornton, President
IDEA
24 Lyman Street, Suite 230
Westborough, Massachusetts 01581

tel: 508-366-9339
fax: 508-366-0019
e-mail: rob.idea@districtenergy.org
website: www.districtenergy.org

6. Sub-Committee Reports

- A. Handbook: Steve Tredinnick (Chair)
TC6.2 is responsible for Chapter 12 (District Energy) and Chapter 13 (Medium- and High-Temperature Water Heating). For the 2020 edition, Chapter 12 will require updates to the life cycle cost calculations, and heat transfer equations for underground piping, and other minor revisions. Chapter 13 will require updating of terminology as this Chapter (previously authored by TC6.1 Hydronic and Steam Equipment) has not been closely reviewed in a long time. Any volunteers to help review should contact Steve.

ASHRAE is now using an authoring portal that allows simultaneous editing of Word documents to facilitate Chapter edits. It can be accessed at authoring.ashrae.org. Anyone who is on the roster of this TC can assess documents posted by this TC.



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By January 2019, we need to have Chapter revisions completed. At the June 2019 meeting, we will approve the revisions. We will begin actively reviewing the chapters at the next TC6.2 meeting in Long Beach, CA.

B. Membership: John Andrepont (Chair)

It was noted that we will have 4 voting members rolling off in June 2017. John encouraged corresponding members to become a voting member. Any guest is encouraged to become a provisional corresponding member. Anyone interested should inform Drew Overmiller (Chair) and provide their ASHRAE number in the correspondence. It was also noted that Dharam Punwani will become a voting member on July 1, 2017.

C. Programs: Tim Anderson (Chair)

Las Vegas January 2017 (this meeting): we are co-sponsoring Seminar 22 (with TC1.10 Cogeneration Systems) – The Past Present and Future of Combined Heat and Power in Mission Critical Facilities, to be held on Monday at 8:00 am. We proposed two other presentations for Las Vegas, and both were not approved.

Long Beach June 2017 meeting: As discussed previously, the tracks are very focused. There is not much opportunity for district energy topics. We are not proposing any presentations for Long Beach.

Chicago January 2018 meeting: there was much discussion about proposing for Track 4 "Earth, Wind & Fire". Our emphasis would be the resilient nature of district energy systems, particularly when subjected to a natural disaster. Also, that district energy can more economically address resiliency issues than de-centralized systems. Many titles were suggested ("District Energy: Benefits and Resiliency"; "Efficiency and Economy in District Energy during a Disaster"). Tim Anderson will consider suggestions and determine the best title after presenters are lined up. Drew suggested in the 1 pm planning meeting that we first develop our concept of what we want to accomplish, prior to approaching potential speakers. It was mentioned that co-sponsorship from TC 9.6 Healthcare Facilities and/or TC9.9 Mission Critical Facilities may be desirable.

D. Standards: TC 6.2 is not responsible for any published Standards. No discussion.

E. Webmaster: Jessica Mangler

Our website is up-to-date. At Drew's request, Jessica will investigate obtaining data on visitors to the TC6.2 website. We may wish to adjust content to appeal to our visitors. Jessica will also review websites of other TC's for creative ideas.



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F. ALI Liaison: Chris Paraskevakos – not present
No discussion.

G. Research: Jay Eldridge (Chair)
Per Dragos Paraschiv, TC 1.10 Cogeneration Systems is publishing a Combustion Turbine Inlet Cooling Design Guide Update, and TC6.2 is a co-sponsor, along with TC6.9 Thermal Storage. The updated material is expected in Spring 2017.

7. Old Business:

SSPC 100 Update: For information, SSPC 100 was formed in part to discuss the reaction that the calculation procedure used in Standard 100 "Energy Efficiency in Existing Buildings" is flawed. As previously discussed in TC6.2 meetings, Standard 100 uses "site energy" which unfairly treats district energy systems. Steve believed that a SSPC 100 Addendum may be currently under public review. No action is planned until the public review period is complete. A meeting scheduled for tomorrow was cancelled, perhaps because public review is still in progress.

Micro-grids: Some attendees felt that "micro-grid" is a buzz word with no real definition. Micro-grid according to google is a "small-scale power grid that can operate independently or in conjunction with the area's main electrical grid". Many presentations on micro-grids fail to mention the thermal component, which is ironic because in most cases the thermal component makes the micro-grid economically justifiable. There was discussion regarding whether "District Energy" is too broad to describe our purpose. "Energy" can include photovoltaics, solar, electrical distribution, and even natural gas...all of which are not the focus of the expertise of current TC6.2 members. Our focus is the thermal aspects of district energy. David Wade suggested that we might consider a name change. John Andrepont suggested a forum to educate society on the thermal side of micro-grids.

8. New Business

Drew noted that ASHRAE 90.1 has reached out to TC6.2 inviting us to participate in discussions on whether 90.1 should be modified to include district energy systems. An organizational meeting is scheduled for tomorrow at 7:30 am in the Patrician room on the Pool Level. Attendees agreed that TC6.2 should accept the invitation and stay involved in any 90.1 revisions that impact district energy systems.



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9. Meeting Adjournment:

- John Andrepont moved for adjournment. Second by Geoff Bares.
- The meeting was adjourned at 4:45 pm.

Submitted by,
Steve Severini
TC 6.2 Secretary
January 30, 2017

TC 6.2

Project _____
Subject Meeting
Project No. _____ Date _____ By _____

- To be Typed
- Note to the File
- Calculations
- To be Drawn
- Page 1 of 2



Jan. 29, 2017
Las Vegas

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Las Vegas

Project _____

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- To be Drawn
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✓ DRAGOS PARASCHIV

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HUNGER COLLEGE

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