

Sub-Committee Meeting Minutes
Technical Committee, TC 6.02 District Energy
Sunday, 2019-06-23, Kansas City, MO

TC 6.02 District Energy – Sub-Committee Meeting
Sunday, 1:00 pm – 3:00 pm, KCCC, Room 2215C

Voting Committee Members Present:

Mr. Steve Tredinnick	2021-06-30	Mr. Daniel Pyewell	2022-06-30
Mr. Michael Calabrese	2022-06-30		

New Incoming Voting Committee Members:

None

1. The Chair (Steve Tredinnick) Called to Order

Technical Committee (TC) 6.02 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.

2. Handouts Distributed

A. None

3. Sub-Committee Discussion:

A. Handbook: Steve Tredinnick (Chair)

- i. Chapter 12 and Chapter 15 were submitted to the Society and they were voted on by the TC in Atlanta
- ii. Galley proof will be sent to review, between July 2019 and February 2020.
- iii. Will be released in the Handbook in Spring 2020.
- iv. District cooling Guide was issued, version 2. In 2024 there will be a new release.

B. Program: Tim Anderson (Chair), not present.

- i. Suggested programs, by Chair Alan Neely.
 - (1) Chilled water insulation used in District Energy applications. \$20M lessons learned. High profile chilled water failures.
 - (a) The projects are Minute Maid, NRG Stadium and Lake Wood Church.
 - (2) A project in Dubai in preparation for the World Cup that has 4 football (soccer) stadiums. How does one air condition an open Soccer Stadium in the middle of the dessert?
 - (a) Plant is 1000T per AHU. 80 AHUs using 100%OA. The plant is about 2 miles away (piping distribution)
- ii. Additional topics discussed were the Chicago expansion, ENWAVE, under rail tracks. ROW issues.
- iii. Suggestion programs by Elizabeth (Betsy) Goll

- (1) Airport Plant MIA. Decommissioned air side chiller plant and introduced a 4000T chiller at CCPE plant.
- (2) Miami-Dade GSA District cooling plant that serves American Airlines (AA) Arena. System operates a low temperature, using 35deg water and a low supply air temperature.
- (3) Nova Southeast (SE), a Thermal Energy Storage (TES) plant. Elizabeth Goll will request additional information.

iv. CEC Tracks for Winter 2020 in Orlando

- (1) HVAC&R Fundamentals and Applications
- (2) Systems and Equipment
- (3) Refrigeration and Refrigerants
- (4) Cutting Edge Approaches
- (5) High Efficiency Design and Operation
- (6) Big Data and Smart Controls
- (7) Ventilation, IAQ and Air Distribution Systems
- (8) Standards, Guidelines and Codes

v. CEC Tracks for 2020 Annual in Austin

- (1) Fundamentals and Applications
- (2) HVAC&R Systems and Equipment
- (3) Professional Development
- (4) Research Summit
- (5) Potential Additional Track Ideas
 - (a) Optimization and HVAC&R
 - (b) Commissioning / Continuous Commissioning / Automated Fault Detection
 - (c) Modeling Throughout the Building Life Cycle
 - (d) Hydronic System Design
 - (e) Existing Buildings
 - (f) High Performance for Energy Intensive Building Types
 - (g) Energy Efficiency and Renewables
 - (h) Energy Recovery and Cascade Systems
 - (i) Building Certification and Operating Metrics
 - (j) Ground-Coupled Systems
 - (k) Life Safety
 - (l) Indoor Air Quality
- (6) Potential topics reviewed such as- Interactive Grid, Resilient Community

vi. Mr. Thomas Lawrence from the University of Georgia. He is a very good speaker, he presented in Atlanta.

vii. January 1, 2020. R123 no longer available. What will be used now?

- (1) Ken Shultz from Trane is knowledgeable and may be approached by Bill Ryan.

C. Research: Jay Eldridge (Chair), Not Present at this meeting.

i. None

4. Open Discussion

- A. TC 6.02 Webpage is current and ASHRAE IT department will be approached to repair an issue with browsers.
- B. The ASHRAE authoring portal is only accessible with Internet Explorer v10.
- C. Any Research Topic Action Request (RTAR), Jay Molnar will be following up with other TC's for a potential joint venture.
- D. John Molnar suggested refrigerated warehouses, food temperatures. It could be beneficial for ASHRAE research to study food temperature,
 - i. Viking Cold is a vendor. This uses phase change materials.

- E. Question was asked about the Society TC reorganization. It has not effected this TC. Society will be reviewing this by the Austin meeting. This topic will be reviewed in detail at 3pm, during the main meeting.

5. Meeting Adjourned at 1:45 pm.

Submitted by,
Michael Calabrese
TC 6.02 Secretary
2019-07-02

DRAFT

2019 ASHRAE Annual Conference

TC 6.02 District Energy

Subcommittee Meeting

Sunday, 2019-06-23, Kansas City, MO

Attendance List

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Shaping Tomorrow's
Built Environment Today

TC 6.2: Subcommittee Meeting - Sign-in Sheet

Meeting Info: Programs, Research, Handbook Location: Kansas City Convention Center, Room 2215C Date: 1:00-3:00pm on 2019-06-23

Name	Affiliation	E-mail	Member (Voting, Corresponding, or Guest?)	YEA Member? (Yes/No)
MICHAEL CALABRESE	BURNS ENGINEERING PHILADELPHIA PA	mcalabrese@burnsglobal.com	SECRETARY VM	NO
Steve Tredinnick	Burns + McDonnell Chicago	stredinnick@burnsmcd.com	Handbook chair VM	No
Gary Phetteplace	GWA Research Lynn, NH	gary.p@gwa-research.com	CM	?
Dan Pyrenell	Tanco Engineering	dpyrenell@tancoeng.com	VM	NO
Bill Ryan	UIC	wryan@uic.edu	CM	No
Elizabeth (Betsy) Goll	FPLS	elizabeth.goll@fpl.com	CM	NO
Heather Sharif	ITW	hsharif@itwinsulation		Yes
Jim Young	ITW	jyoung@itwinsulation.com		
John Molnar	CoEng Advisors	john.molnar@coengadvisors.com	CM	N



TC 6.2: Subcommittee Meeting - Sign-in Sheet

[illegible]



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 2019-06-23

TC/TG/MTG/TRG TITLE District Energy

DATE OF MEETING 3:00-5:00pm on 2019-06-23 LOCATION Kansas City Convention Center, Room 2215C

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Alan Neely (Remote)	2017	Jessica Mangler	2017	
Steve Tredinnick	2017	Geoffrey Bares	2016	
Michael Calabrese	2018	Scott Murray	2017	
Jay Eldridge	2018			
Daniel Pyewell	2018			
Tim Anderson (Remote)	2018			

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

TAC Section Head: Mr. Dawen Lu	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

Note: These draft minutes have not been approved and not the official, approved record until approved by the TC.

Technical Committee Meeting Minutes
TC 6.02 District Energy
Sunday, 2019-06-23, Kansas City, MO

TC 6.02 District Energy – Meeting
Sunday, 3:00 pm – 5:00 pm, KCCC, Room 2215C

Voting Committee Members Present:

Steve Tredinnick	2021-06-30	Alan Neely (Telephone)	2019-06-30
Michael Calabrese	2022-06-30	Tim Anderson (Telephone)	2022-06-30
Daniel Pyewell	2022-06-30		

New Incoming Voting Committee Members:
None

1. The Substitute Chair (Steve Tredinnick) Called to Order and discussed -

Technical Committee (TC) 6.02 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.

2. General introductions

- A. 19 persons in the room.
- B. 2 persons on the Telephone.
- C. Handouts
 - i. TC 6.02 District Energy Meeting Agenda
 - ii. IDEA Liaison report, 2019-05-31 by John Andrepont

3. ASHRAE Code of Ethics Commitment – Announced by TC Substitute Chair (Steve Tredinnick)

In this an all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interest. (see full code of ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>.)

4. Membership (TC Substitute Chair (Steve Tredinnick))

- A. Members & Guests Introductions, roundtable introductions
- B. Review of Current Voting Members and TC officers
 - i. Ref. Manual of Procedures – 3.33, 2.13, 2.14 & 2.15
- C. Recruiting of new members and officers for this technical committee (TC 6.02). Refer to attachment with members and their business cards.
 - i. Elizabeth (Betsy) Goll, ASHRAE Member #5059903
 - ii. Mohommed Ibrahim, ASHRAE Member #8149396
 - iii. John Molnar, ASHRAE Member #8133771
 - iv. Gary Phetteplace, ASHRAE Member #580344
 - v. Drew Turner
 - vi. Michael Langton, ASHRAE Member #2024455

- D. TC Chair Alan Neely will be completing his term in 2019-06-30. He will continue as TC Chair and complete the paperwork.
- E. The TC 6.02 roster requires updating and additional Voting Members to be considered.

5. Meeting Minutes

- A. January 2019, Winter meeting in Atlanta, GA (by TC 6.02 secretary, Michael Calabrese)
 - i. Revisions were reviewed. There are a few unknown names which are to be completed.
 - ii. Vote is deferred.

6. Announcements by Chair:

- A. CEC call for reviewers: Orlando 2020 Winter Meeting and others. Contact Tiffany Cox (tc Cox@ashrae.org) and copy TC Chair, Alan Neely and Vice Chair, Jessica Mangler.
- B. Remote participation meeting is an option to Vote on today's items. To be reviewed by the Chair, Alan Neely.
- C. A "Thank you" letter for employers is available from the ASHRAE president.
- D. Friday 2019-08-02 is the deadline for the Orlando submissions.
- E. Tech council is looking for nominations for the "Hightower" Award. Due to section head, Dawen Lu, by 2019-09-01.
- F. Tracks are listed for Orlando Winter 2020 and Austin Annual 2020
- G. TC reorganization was reviewed.
 - i. Mergers are still being reviewed.
 - ii. Comments by TC were received and the earliest would be at the Austin meeting.

7. Visitors and Liaison Reports/Information from other Committee Representatives

- A. IDEA – John Andrepont (non-present, provided report to Chair)
 - i. See the 2019-05-31 report attached to the agenda handout and available on the TC webpage.
 - ii. ASHRAE and IDEA now have an agreement between the groups.
 - (1) Blake Ellis is the liaison between ASHRAE and IDEA.
 - (2) Conferences with IDEA may conflict, such as this conference, simultaneously with IDEA in Pittsburgh, PA.
 - (3) IDEA Campus meeting is typically at the time of the ASHRAE annual meeting

8. Sub-Committee Reports:

- A. Handbook: Steve Tredinnick (Chair)
 - i. Chapter 12 and Chapter 15 was approved in Atlanta and have been submitted to the Society
 - ii. Will be released in the new edition of the Handbook in Spring 2020.
 - iii. District Cooling Guide was issued, version 2. In 2024 there will be the next release.
- B. Membership: John Andrepont (Chair), not present
 - i. None
- C. Program: Tim Anderson (Chair), by Telephone.
 - i. Suggested programs, by Chair Alan Neely. Suggested for the 2020 Winter meeting in Orlando.
 - (1) Chilled water insulation used in District Energy applications. \$20M lessons learned. High profile chilled water failures.
 - (a) The projects are Minute Maid, NRG Stadium and Lake Wood Church.
 - (2) A project in Dubai in preparation for the World Cup that has 4 football (soccer) stadiums. How does one air condition an open Soccer Stadium in the middle of the desert?
 - (a) Plant is 1000T per AHU. 80 AHUs using 100%OA. The plant is about 2 miles away (piping distribution)
 - ii. May be able to combine topics into one presentation.
 - (1) Alan and Mohammed to provide detailed information to Tim Anderson, for program review.
 - iii. CEC Tracks for Winter 2020 in Orlando
 - (1) HVAC&R Fundamentals and Applications
 - (2) Systems and Equipment

- (3) Refrigeration and Refrigerants
- (4) Cutting Edge Approaches
- (5) High Efficiency Design and Operation
- (6) Big Data and Smart Controls
- (7) Ventilation, IAQ and Air Distribution Systems
- (8) Standards, Guidelines and Codes

iv. CEC Tracks for 2020 Annual in Austin

- (1) Fundamentals and Applications
- (2) HVAC&R Systems and Equipment
- (3) Professional Development
- (4) Research Summit
- (5) Potential Additional Track Ideas
 - (a) Optimization and HVAC&R
 - (b) Commissioning / Continuous Commissioning / Automated Fault Detection
 - (c) Modeling Throughout the Building Life Cycle
 - (d) Hydronic System Design
 - (e) Existing Buildings
 - (f) High Performance for Energy Intensive Building Types
 - (g) Energy Efficiency and Renewables
 - (h) Energy Recovery and Cascade Systems
 - (i) Building Certification and Operating Metrics
 - (j) Ground-Coupled Systems
 - (k) Life Safety
 - (l) Indoor Air Quality
- (6) Potential topics reviewed such as- Interactive Grid, Resilient Community

v. Refrigerant. January 1, 2020. R123 no longer available. What will be used now?

- (1) TC 8.2 Centrifugal Machines joint venture
- (2) Potential Speakers
 - (a) Thomas Lawrence, University of Georgia. He presented in Atlanta.
 - (b) Juan (UTA) may be able to present as well.
- (3) UTA Campus is off-grid. Their energy is cheapest in the world and they sell back to Austin.
- (4) Austin Energy Texas Facilities Commission. Robert Bush to volunteer to coordinate and assist Alan.
- (5) ENWAVE Chicago expansion under rail tracks. Right of way issues.

vi. Suggestions by Elizabeth Goll.

- (1) Airport Plant MIA. Decommissioned an air side chiller plant and introduced a 4000T chiller at CCPE plant.
- (2) Miami-Dade GSA District cooling plant that serves American Airlines Arena. The systems uses 35degF water and low temperature air distribution.
- (3) Nova SE, a Thermal Energy Storage (TES) plant. Not much information is known. Elizabeth Goll will get more information to present to this TC.

vii. John Karakash, had a program about 2 years ago, TC 8.3 Absorption and Heat Operated Machines and TC 6.9 Thermal Storage.

- (1) Educational Subcommittee of TC 7.3 Operation and Maintenance Management
 - (a) Educational training or a forum at the 2020 Winter conference in Orlando on Lessons Learned.
- (2) Topics should be "Nightmare Stories"

D. Standards: Open

- i. NONE

E. Webmaster: Dan Pyewell (Chair)

- i. IT will be approached to fix an issue with browsers.

F. Research: Jay Eldridge (Chair)

- i. The District Cooling guide was discussed. RP 1762 a review meeting is scheduled for Monday 2019-06-24. TC 1.10 Combined Heat and Power Systems, is co-sponsoring.
- ii. Jay expressed a desire to have a replacement as Chair. Gary Phetteplace volunteered.

9. Old Business-

- A. None

10. New Business-

- A. Mention of the newest District Energy, version 2, is in the ASHRAE bookstore now.
- B. Overview of TCs potentially combining and being synergized.

11. Meeting Adjourned at 4:03 pm.

- A. Announcement by Substitute Chair (Steve Tredinnick) to close this session.

Submitted by,
Michael Calabrese
TC 6.02 Secretary
2019-07-02

Subcommittee Meetings - Day, Date, Times, & Location Prior to TC 6.02 Meeting:

TC 6.02 Handbook - Sunday, 1:00 pm – 3:00 pm, KCCC, Room 2215C
TC 6.02 Program - Sunday, 1:00 pm – 3:00 pm, KCCC, Room 2215C
TC 6.02 Research - Sunday, 1:00 pm – 3:00 pm, KCCC, Room 2215C

2019 ASHRAE Annual Conference

TC 6.02 District Energy

Main Meeting

Sunday, 2019-06-23, Kansas City, MO

HANDOUT

Agenda: TC 6.2 District Energy Sunday, June 23rd, 2019 Kansas City, MO.

HANDOUT

Cosponsoring None

TC 6.2 Main Committee Meeting

Sunday, June 23rd 3:00 pm – 5:00 pm, Kansas City Convention Center, Room 2215C

TC 6.2 Programs, Research, Handbook

Sunday, June 23rd 1:00 pm – 3:00 pm, Kansas City Convention Center, Room 2215C

Voting Committee Members

Mr. Alan Neely	6/30/2020	Mr. Michael Calabrese	6/30/2022
Mr. Geoffrey Bares	6/30/2020	Mr. Steve Tredinnick	6/30/2021
Ms. Jessica Mangler	6/30/2020	Mr. Timothy Anderson	6/30/2022
Mr. Scott Murray	6/30/2021		
Mr. Daniel Pyewell	6/30/2022		

New Incoming Voting Committee Members

1. Call to Order: (TC Chairman- Alan Neely)

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.

2. Agenda & Attendance Handouts - (TC Chairman- Alan Neely)

3. ASHRAE Code of Ethics Commitment – (TC Chairman – Alan Neely)

In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interests. (See full Code of Ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>.)

4. Membership (Alan Neely)

- A. Members & Guests Introductions and Sign In
- B. Review of Current Voting Members and TC 6.2 Officers (Ref. Manual of Procedures – 3.2.2, 2.13, 2.14 & 2.15)
- C. Discuss recruiting new members and officers for this Technical Committee (TC 6.02)

5. Approval of Minutes from 13th January 2019 meeting in Atlanta, Georgia (TC 6.02 Secretary – Michael Calabrese)

6. Announcements by Chair:

- A. CEC Call for Reviewers: 2020 Winter Meeting and others. Contact Tiffany Cox (tcx@ashrae.org) and copy TC Chair & Vice Chair (TC Chairman- Alan Neely)
- 7. Visitors & Liaison Reports/Information from other Committee Representatives**
 - A. DOE- Richard Sweetser
 - B. IDEA- John Andrepont- Attached
- 8. Sub-Committee Reports:**
 - A. Handbook: Steve Tredinnick (Chair)
 - B. Membership: John Andrepont (Chair)
 - C. Program: Tim Anderson (Chair)-
 - i. Ideas:
 - (1) Mohammed- How does one air condition an open roof Soccer Stadium in the middle of the dessert?
 - (2) Alan- Chilled water insulation used in district energy applications (Orlando is an ideal place to give this presentation)
 - D. Standards: Open
 - E. Webmaster: Dan Pyewell (Chair)
 - F. Research: Jay Eldridge (Chair)
- 9. Old Business-**
- 10. New Business-**
 - A. TC Reorganization?

11. Meeting Adjourn (5pm)

Subcommittee Meetings - Day, Date, Times, & Location Prior to TC 6.2 Meeting:

TC 6.02 Handbook - Sunday, 23 June 2019, 1:00 - 3:00 pm, Kansas City Convention Center, Room 2215C

TC 6.02 Program - Sunday, 23 June 2019, 1:00 - 3:00 pm, Kansas City Convention Center, Room 2215C

TC 6.02 Research - Sunday, 23 June 2019, 1:00 - 3:00 pm, Kansas City Convention Center, Room 2215C

HANDOUT

May 31, 2019

IDEA Liaison Report to ASHRAE TC 6.2 and TC 1.10

Prepared by: John Andrepont (+1-630-353-9690 / CoolSolutionsCo@aol.com)

The International District Energy Association (IDEA) is an industry association of >2,300 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.

IDEA publishes a quarterly magazine, entitled *District Energy*.

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 or technology-focused conferences. Each major conference also focuses on integrating Combined Heat & Power (CHP) and Thermal Energy Storage (TES) with District Energy.

Upcoming IDEA conferences include:

- 110th Annual Conference & Trade Show
June 24-27, 2019 – Pittsburgh, Pennsylvania
- 33rd Annual Campus Energy Conference, Workshops & Trade Show
February 10-14, 2020 – Denver, Colorado
- 111th Annual Conference & Trade Show
June 22-25, 2020 – Washington, D.C.
- 34th Annual Campus Energy Conference, Workshops & Trade Show
February 16-19, 2021 – San Francisco, CA

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

2019 ASHRAE Annual Conference

TC 6.02 District Energy

Main Meeting

Sunday, 2019-06-23, Kansas City, MO

Attendance List

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Shaping Tomorrow's
Built Environment Today

TC 6.2 District Energy Meeting Sign-in Sheet

Meeting Info: Main Committee Location: Kansas City Convention Center, Room 2215C Date: 3:00-5:00pm on 2019-06-23

Name	Affiliation	E-mail	Member (Voting, Corresponding, or Guest?)	YEA Member? (Yes/No)
MICHAEL CALABRESE	BURNS ENGINEERING PHILA. PA	mcalabrese@burns-group.com	SECRETARY VM	NO
Steve Tredinnick	Burns+McDonnell Chicago	stredinnick@burnsmcd.com	Handbook VM	NO
Gary Phetteplace	GWA Research Lyons, NH	gary@gwa-research.com	CM	NO
JAY ELDRIDGE	DAIKIN APPLIED	JAY.ELDRIDGE@ DAIKINAPPLIED.COM	CM	NO
PATRICK VILLAUME	PATTERSON-KELEY	PVILLAUME@HARSCO.COM	G	X
Drew Turner	Danfoss	drew.turner@danfoss.com	Guest	N
Ben Levie	Seattle City Light	Ben.Levie@seattlecity.gov	Guest?	N
Trey Bush	Braetlet	trey.bush@braetlet.com	Guest	Y
Margaret Phillips	P2S Inc	margaret.phillips@p2sinc.com	guest	Y
John KARAKASH	Resource Professionals Group LLC	JTK@ resourceprofessionalsgroup.com	guest - app. for corr.	✓

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TC 6.2 District Energy Meeting Sign-in Sheet

Meeting Info: Main Committee **Location:** Kansas City Convention Center, Room 2215C **Date:** 3:00-5:00pm on 2019-06-23

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Shaping Tomorrow's
Built Environment Today

TC 6.2 District Energy Meeting Sign-in Sheet

Meeting Info: Main Committee Location: Kansas City Convention Center, Room 2215C Date: 3:00-5:00pm on 2019-06-23

Name	Affiliation	E-mail	Member (Voting, Corresponding, or Guest?)	YEA Member? (Yes/No)
Mohamed Ibrahim	DcPro engine	AQRAN@hotmail.com	corresponding	No
Daniel R. Pyrenell	dpyrenell@tancoeng.com Tanco Engineering		Voting member	No
John Molnar	CoEng Advisors	john.molnar@coengadvisors.com	CM	N
Elizabeth (Betsy) Goll	FPLS	elizabeth.goll@FPL.com	CM	N
Jim Young	ITW	jyoung@itwinsulation.com	CM	N
Heather Sharif	ITW	hsharif@itwinsulation.com	CM	Y
DARAGOS PARASCHIV	HUMBER COLLEGE	dvagosa@paraschiv.ca	CM	No
Daryl Stauffer	Johnson Controls	daryl.stauffer@jci.com	CM	NO

ATTACHMENT

CONTACTS LISTED BELOW HAVE REQUESTED INFORMATION ABOUT
JOINING TC 6.02 AND BECOMING A VOTING MEMBER



Drew Turner

Michael Langton, ASHRAE Member #2024455



Elizabeth (Betsy) Goll, ASHRAE Member #5059903
-interested in getting involved with the Handbook

Mohamed Ibrahim, ASHRAE Member #8149396

John Molnar, ASHRAE Member #8133771

Gary Phetteplace, ASHRAE Member #580344

2019 ASHRAE Annual Conference

TC 6.02 District Energy

Sunday, 2019-06-23, Kansas City, MO

TC 6.02 Roster
2019-05-31

ASHRAE Roster

DISTRICT ENERGY-T-TAC-TC06.02

As of Any Date

Chair
8074057 064 Voting
Term in Position: 07/01/2017 to 06/30/2019
Term on Committee: 07/01/2007 to 06/30/2019
Mr Robert (Alan) Neely
9013 Willow Springs Ln
Conroe, TX 77302-3453
Pittsburgh Corning
Phone: (281)432-9864 Fax: (281)465-9186
Email: alan.neely@owenscorning.com

REMOTE

Vice Chair
8089391 054 Voting
Term in Position: 07/01/2017 to 06/30/2020
Term on Committee: 07/01/2015 to 06/30/2020
Ms Jessica A Mangler, PE **YEA**
2469 55th Ave SW
Unit B
Seattle, WA 98116
Affiliated Engineers, Inc.
Phone: (417)489-9055 Fax:
Email: jmangler@gmail.com

ABSENT

Secretary
8116870 021 Voting
Term in Position: 07/01/2018 to 06/30/2022
Term on Committee: 09/07/2016 to 06/30/2022
Mr Michael Calabrese, PE
319 Cheswold Rd
Drexel Hill, PA 19026-3501
Phone: (215)979-7700 Fax: (215)405-2510
(7780)
Email: MCalabrese@burns-group.com

PRESENT

Handbook Subcommittee Chair
1081787 049 Voting
Term in Position: 07/01/2017 to 06/30/2021
Term on Committee: 07/01/2017 to 06/30/2021
Mr Steven M Tredinnick, PE
1431 Opus Pl Ste 400
Downers Grove, IL 60515-1164
Burns & McDonnell
Phone: (608)287-4753 Fax:
Email: stevetred@gmail.com

PRESENT

Program Subcommittee Chair
3026670 043 Voting
Term in Position: 07/01/2018 to 06/30/2022
Term on Committee: 07/01/2014 to 06/30/2022
Mr Timothy M Anderson
Applied Engineering Services
5975 Cast Ck Pkwy N Dr Ste 300
Indianapolis, IN 46250-4346
Phone: (317)810-4141 Fax: (317)810-4140
(182)
Email: tanderson@applied-e-s.com

REMOTE

Research Subcommittee Chair
7974058 052 **Non-voting**
Term in Position: 07/01/2018 to
Term on Committee: 07/01/2007 to 06/30/2018
Mr Jay Eldridge
Daikin Applied
13600 Indust Pk Blvd
Minneapolis, MN 55441-3743
Phone: (763)553-5424 Fax: (763)557-4916
Email: jay.eldridge@daikinapplied.com

PRESENT

MTG.ASEC - Voting Member
580344 152 Non-voting
Term in Position: 07/01/2016 to
Term on Committee: 07/01/2010 to 06/30/2016
Dr Gary E Phetteplace, PE
GWA Research LLC
7 Masa Morey Ln
Lyme, NH 03768-3424
Phone: (603)795-4920 Fax:
Email: garyp@gwaresearch.com

Would like to be a VM**PRESENT**

Webmaster
8297570 073 Voting
Term in Position: 07/01/2018 to 06/30/2022
Term on Committee: 02/09/2017 to 06/30/2022
Mr Daniel Richard Pyewell
CB&I (Chicago Bridge & Iron)
2002 Basalt Ct
Loveland, CO 80538-5593
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Email: punxpyewe79@yahoo.com

PRESENT

ASHRAE Roster

DISTRICT ENERGY-T-TAC-TC06.02

As of Any Date

Member
8141681 049 Voting

Term in Position: 07/01/2016 to 06/30/2020

Term on Committee: 07/01/2010 to 06/30/2020

Mr Geoffrey Bares

Enwave Chicago
200 W Jackson Blvd Ste 1310
Chicago, IL 60606-6941

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Email: geoff.bares@enwave.com

ABSENT

Member
8300539 075 Voting

Term in Position: 07/01/2017 to 06/30/2021

Term on Committee: 10/13/2016 to 06/30/2021

Mr Scott T Murray

Clearway Energy
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Omaha, NE 68102-2455

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YEA

ABSENT

Provisional Corresponding Member

8299861 999 Non-voting

Term in Position: 01/28/2018 to 01/28/2020

Term on Committee: 01/28/2018 to 01/28/2020

Mr Hyeunguk Ahn

265 Blue Course Dr Apt 26A
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YEA

Provisional Corresponding Member

8163134 022 Non-voting

Term in Position: 07/06/2017 to 07/06/2019

Term on Committee: 07/06/2017 to 07/06/2019

Mr Joseph Catrambone

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Provisional Corresponding Member

8275822 084 Non-voting

Term in Position: 07/28/2017 to 07/28/2019

Term on Committee: 07/28/2017 to 07/28/2019

Mr Jose Chavez

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15231 Laguna Canyon RD Ste 100
Irvine, CA 92618-7714

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YEA

Provisional Corresponding Member

8256493 084 Non-voting

Term in Position: 01/21/2018 to 01/21/2020

Term on Committee: 01/21/2018 to 01/21/2020

Charlotte Wan Dean

P2S Engineering
5000 E Spring St 8th FL
Long Beach, CA 90815-5218

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YEA

Provisional Corresponding Member

8264693 118 Non-voting

Term in Position: 01/24/2018 to 01/24/2020

Term on Committee: 01/24/2018 to 01/24/2020

Dr S. David Dvorak

University of Maine
119 Boardman Hall
University of Maine
Orono, ME 04469-5711

Phone: (207)581-2338 Fax: (207)581-2113

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Provisional Corresponding Member

5138571 999 Non-voting

Term in Position: 06/26/2018 to 06/26/2020

Term on Committee: 06/26/2018 to 06/26/2020

Mr Frederic Genest

Natural Resources Canada - CanmetENERGY
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ASHRAE Roster
DISTRICT ENERGY-T-TAC-TC06.02**As of Any Date**

Provisional Corresponding Member

5059903 104 Non-voting

Term in Position: 06/25/2018 to 06/25/2020

Term on Committee: 06/25/2018 to 06/25/2020

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Florida Power & Light

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Would like to be a VM**PRESENT**

Provisional Corresponding Member

5218882 185 Non-voting

Term in Position: 10/19/2017 to 10/19/2019

Term on Committee: 10/19/2017 to 10/19/2019

Mr Sayani Sri Haribabu

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Provisional Corresponding Member

8320250 073 Non-voting

Term in Position: 01/18/2019 to 01/18/2021

Term on Committee: 01/18/2019 to 01/18/2021

Karl W. Heine**YEA**

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Provisional Corresponding Member

8266380 175 Non-voting

Term in Position: 05/02/2019 to 05/02/2021

Term on Committee: 05/02/2019 to 05/02/2021

Mr Farhan Juratli

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Provisional Corresponding Member

8319082 071 Non-voting

Term in Position: 07/03/2018 to 07/03/2020

Term on Committee: 07/03/2018 to 07/03/2020

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Provisional Corresponding Member

8358777 074 Non-voting

Term in Position: 05/07/2019 to 05/07/2021

Term on Committee: 05/07/2019 to 05/07/2021

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Provisional Corresponding Member

8127696 084 Non-voting

Term in Position: 01/23/2018 to 01/23/2020

Term on Committee: 01/23/2018 to 01/23/2020

Mr David Klug**YEA**

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Provisional Corresponding Member

8281901 021 Non-voting

Term in Position: 09/17/2018 to 09/17/2020

Term on Committee: 09/17/2018 to 09/17/2020

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ASHRAE Roster

DISTRICT ENERGY-T-TAC-TC06.02

As of Any Date

Provisional Corresponding Member

8285300 025 Non-voting

Term in Position: 06/08/2018 to 06/08/2020

Term on Committee: 06/08/2018 to 06/08/2020

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Provisional Corresponding Member

8237023 999 Non-voting

Term in Position: 09/25/2018 to 09/25/2020

Term on Committee: 09/25/2018 to 09/25/2020

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8067217 008 Non-voting

Term in Position: 03/09/2018 to 03/09/2020

Term on Committee: 03/09/2018 to 03/09/2020

Mr Sergio Sadaba

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Provisional Corresponding Member

8355770 064 Non-voting

Term in Position: 01/25/2019 to 01/25/2021

Term on Committee: 01/25/2019 to 01/25/2021

Mrs Heather A Sharif**YEA**

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PRESENT

Provisional Corresponding Member

8005818 022 Non-voting

Term in Position: 06/14/2017 to 06/14/2019

Term on Committee: 06/14/2017 to 06/14/2019

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PRESENT

Provisional Corresponding Member

8188490 064 Non-voting

Term in Position: 01/26/2018 to 01/26/2020

Term on Committee: 01/26/2018 to 01/26/2020

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Provisional Corresponding Member

8255666 503 Non-voting

Term in Position: 07/02/2017 to 07/02/2019

Term on Committee: 07/02/2017 to 07/02/2019

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Corresponding Member

8149396 175 Non-voting

Term in Position: 07/01/2016 to

Term on Committee: to

**Mr Mohamed Eltaieb
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ASHRAE Roster

DISTRICT ENERGY-T-TAC-TC06.02

As of Any Date

Corresponding Member

8131646 174 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 06/24/2014 to 06/30/2015

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Corresponding Member

8119140 175 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 07/06/2013 to 06/30/2015

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Corresponding Member

8207271 160 Non-voting

Term in Position: 07/01/2016 to

Term on Committee: 02/22/2015 to 06/30/2016

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Corresponding Member

1051512 088 Non-voting

Term in Position: 07/01/2012 to

Term on Committee: 07/01/2008 to 06/30/2012

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Corresponding Member

2027398 049 Non-voting

Term in Position: 07/01/2017 to

Term on Committee: 07/01/1997 to 06/30/2017

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ABSENT

CORRESPONDING MEMBER

32406 022 Non-voting

Term in Position: 07/01/1990 to

Term on Committee: 07/01/1993 to 06/30/2006

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8220596 034 Non-voting

Term in Position: 03/10/2017 to

Term on Committee: to

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8180715 064 Non-voting

Term in Position: 07/01/2012 to

Term on Committee: 10/17/2011 to 06/30/2012

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ASHRAE Roster
DISTRICT ENERGY-T-TAC-TC06.02**As of Any Date**

Corresponding Member

8219242 101 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: to

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Corresponding Member

8264527 015 Non-voting

Term in Position: 07/13/2016 to

Term on Committee: to

Mr Raymond Boulter

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Corresponding Member

5122938 099 Non-voting

Term in Position: 11/11/2016 to

Term on Committee: to

**Ms Heather L Buckberry,
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Oak Ridge National Laboratory

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Corresponding Member

8210364 050 Non-voting

Term in Position: 04/02/2016 to

Term on Committee: to

Dr Michael P Case

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Corresponding Member

5150521 024 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 07/01/2002 to 06/30/2015

Mr Kenneth R Collier

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Corresponding Member

5127069 015 Non-voting

Term in Position: 12/07/2016 to

Term on Committee: to

Mr Kashyap Desai

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5051518 053 Non-voting

Term in Position: 07/01/2014 to

Term on Committee: 07/01/2011 to 06/30/2014

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Corresponding Member

8295421 175 Non-voting

Term in Position: 11/09/2016 to

Term on Committee: to

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ASHRAE Roster
DISTRICT ENERGY-T-TAC-TC06.02**As of Any Date**

Corresponding Member

259862 070 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 04/29/2014 to 06/30/2015

Mr Arthur L Giesler

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Corresponding Member

7981029 062 Non-voting

Term in Position: 06/26/2016 to

Term on Committee: to

Mr David L Handwork, PE

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Corresponding Member

8131299 049 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 08/21/2014 to 06/30/2015

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Corresponding Member

8018351 043 Non-voting

Term in Position: 07/01/2011 to

Term on Committee: to

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Corresponding Member

8001394 009 Non-voting

Term in Position: 07/01/2016 to

Term on Committee: 11/11/2015 to 06/30/2016

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Corresponding Member

8204394 086 Non-voting

Term in Position: 07/01/2017 to

Term on Committee: to

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5194913 008 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 08/21/2014 to 06/30/2015

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Corresponding Member

8121818 105 Non-voting

Term in Position: 07/01/2012 to

Term on Committee: 07/01/2011 to 06/30/2012

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ASHRAE Roster

DISTRICT ENERGY-T-TAC-TC06.02

As of Any Date

Corresponding Member

7988802 038 Non-voting

Term in Position: 07/01/2016 to

Term on Committee: to

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8115717 094 Non-voting

Term in Position: 01/29/2017 to

Term on Committee: to

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8183966 105 Non-voting

Term in Position: 06/26/2017 to

Term on Committee: to

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YEA

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Corresponding Member

8075227 161 Non-voting

Term in Position: 07/01/2011 to

Term on Committee: to

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Shaker Group

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Corresponding Member

8173962 149 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 10/14/2014 to 06/30/2015

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2024455 064 Non-voting

Term in Position: 07/01/2017 to

Term on Committee: to

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8184544 025 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 08/21/2014 to 06/30/2015

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Corresponding Member

8094334 034 Non-voting

Term in Position: 12/16/2016 to

Term on Committee: to

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ASHRAE Roster
DISTRICT ENERGY-T-TAC-TC06.02**As of Any Date**

Corresponding Member

8167351 010 Non-voting

Term in Position: 02/03/2016 to

Term on Committee: to

Mr Chonghui Liu

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CORRESPONDING MEMBER

8043286 017 Non-voting

Term in Position: 07/01/2006 to

Term on Committee: to

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Corresponding Member

443351 022 Non-voting

Term in Position: 07/01/2014 to

Term on Committee: 07/01/2009 to 06/30/2014

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CORRESPONDING MEMBER

453614 008 Non-voting

Term in Position: 07/01/2001 to

Term on Committee: to

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Corresponding Member

3027773 021 Non-voting

Term in Position: 07/04/2011 to

Term on Committee: 02/24/2010 to 02/24/2011

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Term in Position: 07/01/2010 to

Term on Committee: 07/01/1995 to 06/30/2010

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Corresponding Member

463522 099 Non-voting

Term in Position: 12/14/2017 to

Term on Committee: 07/01/1993 to 12/13/2017

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CORRESPONDING MEMBER

2045984 009 Non-voting

Term in Position: 07/01/2003 to

Term on Committee: 07/01/1997 to 06/30/2003

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ASHRAE Roster
DISTRICT ENERGY-T-TAC-TC06.02**As of Any Date****CORRESPONDING MEMBER**

5079390 095 Non-voting

Term in Position: 07/01/1997 to

Term on Committee: to

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Corresponding Member

8133771 037 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: to

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PRESENT**CORRESPONDING MEMBER**

545643 079 Non-voting

Term in Position: 07/01/2006 to

Term on Committee: 07/01/1989 to 06/30/2006

Mr Robert G O'Brien, PE

5019 157th Ave SE

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Corresponding Member

8237279 049 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 10/21/2014 to 06/30/2015

Mr Thomas Olmsted**YEA**

SWEP

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Corresponding Member

8080062 149 Non-voting

Term in Position: 07/01/2010 to

Term on Committee: to

Mr Muhammad Isa OthmanNo 3 Jalan Tepuan Satv 8/4A
Shan Alam

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Email: m_isa1709@yahoo.com

Corresponding Member

5203711 053 Non-voting

Term in Position: 07/01/2017 to

Term on Committee: 07/01/2008 to 06/30/2019

Mr Drew L Overmiller, PE

Burns & McDonnell

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Corresponding Member

8216788 079 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 08/21/2014 to 06/30/2015

Mr Brandon Oyer**YEA**

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Corresponding Member

7984983 999 Non-voting

Term in Position: 07/01/2008 to

Term on Committee: to

Dr Dragos Paraschiv, P.Eng

2017 Waterbridge Dr.

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Humber Institute of Technology and Advanced Learning

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PRESENT

ASHRAE Roster
DISTRICT ENERGY-T-TAC-TC06.02**As of Any Date**

Corresponding Member

3001624 049 Non-voting

Term in Position: 07/01/2013 to

Term on Committee: 07/01/1988 to 06/30/2013

Mr Victor L Penar

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Corresponding Member

596604 032 Non-voting

Term in Position: 07/01/2010 to

Term on Committee: to

Mr Frank J Pucciano

769 Bruxton Woods Ct SW

Lilburn, GA 30047-5374

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Corresponding Member

5175060 049 Non-voting

Term in Position: 07/01/2016 to

Term on Committee: to

Mr Dharam V Punwani

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Naperville, IL 60565-4152

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Email: dpunwani@avalonconsulting.com

Corresponding Member

8301848 001 Non-voting

Term in Position: 03/13/2017 to

Term on Committee: to

Mr PJ Qvarnstrom

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Swep

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Corresponding Member

2007830 080 Non-voting

Term in Position: 07/01/2009 to

Term on Committee: 07/01/1997 to 06/30/2009

Mr Kevin D Rafferty

Retired

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Klamath Falls, OR 97601-0152

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Corresponding Member

2050731 049 Non-voting

Term in Position: 07/01/2008 to

Term on Committee: to

Dr William A Ryan, PhD

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University of Illinois at Chicago

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A decorative stamp with the word "PRESENT" in bold, capital letters, enclosed in a cloud-like border.

Corresponding Member

5098686 175 Non-voting

Term in Position: 07/01/2007 to

Term on Committee: to

Mr Michael Samadhin

Clarke Samadhin Associates

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Dubai, UNITED ARAB EMIRATES

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Corresponding Member

2025971 066 Non-voting

Term in Position: 07/01/2009 to

Term on Committee: to

**Mr Randy C
Schrecengost, PE**

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ASHRAE Roster
DISTRICT ENERGY-T-TAC-TC06.02**As of Any Date**

Corresponding Member

8196617 206 Non-voting

Term in Position: 02/24/2016 to

Term on Committee: to

Mr Hessam Seifi

DC PRO Engineering

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Buheirah Corniche, P.O. Box 22851

Sharjah, 22851 UNITED ARAB EMIRATES

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Email: hessam_seifi@hotmail.com

Corresponding Member

8218253 064 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 09/17/2013 to 06/30/2015

Mr Eren Selcen, PE

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Corresponding Member

2027360 032 Non-voting

Term in Position: 07/01/2018 to

Term on Committee: 07/01/2009 to 06/30/2018

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Corresponding Member

8161970 191 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 08/16/2014 to 06/30/2015

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Corresponding Member

685827 052 Non-voting

Term in Position: 07/01/2010 to

Term on Committee: 07/01/1995 to 06/30/2010

Mr Alexander H Sleiman

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Corresponding Member

8043552 049 Non-voting

Term in Position: 07/01/2010 to

Term on Committee: to

Mr Steve N Spentzas

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Corresponding Member

2007547 043 Non-voting

Term in Position: 07/01/2015 to

Term on Committee: 07/01/2001 to 06/30/2015

Mr Francis L St John

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Corresponding Member

5125884 010 Non-voting

Term in Position: 07/01/2008 to

Term on Committee: to

Mr Michael Stark

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ASHRAE Roster
DISTRICT ENERGY-T-TAC-TC06.02**As of Any Date**

Corresponding Member

8199054 054 Non-voting

Term in Position: 07/01/2013 to

Term on Committee: 11/06/2012 to 06/30/2013

Mr Rory J Stegeman, PE

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Corresponding Member

771012 032 Non-voting

Term in Position: 07/01/2014 to

Term on Committee: 07/01/1987 to 06/30/2014

Mr David W Wade, PE

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Corresponding Member

2014618 026 Non-voting

Term in Position: 07/01/2007 to

Term on Committee: 07/01/2000 to 06/30/2007

Mr Richard S Sweetser

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CORRESPONDING MEMBER

5223919 004 Non-voting

Term in Position: 07/01/2006 to

Term on Committee: to

Mr Timothy C Wagner

UTRC

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CORRESPONDING MEMBER

5073278 999 Non-voting

Term in Position: 07/01/2000 to

Term on Committee: to

Mr Robert P Thornton

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CORRESPONDING MEMBER

5158503 016 Non-voting

Term in Position: 07/01/2005 to

Term on Committee: to

**Mr Terrence J Whitehead
PE**

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Corresponding Member

749804 021 Non-voting

Term in Position: 07/01/2012 to

Term on Committee: 07/01/2007 to 06/30/2012

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CORRESPONDING MEMBER

802224 085 Non-voting

Term in Position: 07/01/2004 to

Term on Committee: 07/01/2004 to 06/30/2005

Mr Verle A Williams, PE

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ASHRAE Roster

DISTRICT ENERGY-T-TAC-TC06.02

As of Any Date

Corresponding Member

5175086 612 Non-voting

Term in Position: 07/01/2013 to

Term on Committee: 07/01/2002 to 06/30/2013

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**Corresponding Member**

8094751 073 Non-voting

Term in Position: 07/01/2016 to

Term on Committee: 11/14/2014 to 06/30/2016

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TAC Chairman

2028310 027 Non-voting

Term in Position: 07/01/2018 to 06/30/2019

Term on Committee: 07/01/2018 to 06/30/2019

Mr Thomas A Justice

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Section Head

5194915 028 Non-voting

Term in Position: 07/01/2017 to 06/30/2021

Term on Committee: 07/01/2017 to 06/30/2021

Mr Dawen Lu, PE

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2020 HB Systems & Equipment

3032713 004 Non-voting

Term in Position: 07/01/2016 to 06/30/2020

Term on Committee: 07/01/2012 to 06/30/2020

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Research Liaison

8079187 211 Non-voting

Term in Position: 07/01/2017 to 06/30/2021

Term on Committee: 07/01/2017 to 06/30/2021

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Staff Liaison

7966801 650 Non-voting

Term in Position: 07/19/2001 to

Term on Committee: 07/19/2001 to 06/30/2002

Mr Michael R Vaughn, PE

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