

**TC 6.1 Hydronic & Steam Heating Equipment and Systems  
ASHRAE Winter Conference (January 20-24, 2024) in Chicago**

**ALL TC 6.1 MEETINGS IN CHICAGO WILL BE IN-PERSON ONLY**

**Main Committee Meeting**

Tuesday, January 23, 2024  
1:00pm – 3:00pm CST  
Room: McCormick Place West, W178B

**Handbook Subcommittee Meeting**

Monday, January 22, 2024  
3:00pm – 5:00pm CST  
Room: McCormick Place West, W181B

**Research & Program Subcommittees Meeting**

Monday, January 22, 2024  
1:00pm – 3:00pm CST  
Room: McCormick Place West, W178

**TC 6.1 Social Happy Hour**

Monday, January 22, 2024  
5:00pm CST (or whenever Handbook Meeting Ends)  
Nomad Beer & Wine at Marriott Marquis Chicago

Name	Position	Voting Status	Voting Term
Jessica Mangler	Chair	Voting	07/01/2023 – 06/30/2025
Viral Dharaiya	Vice Chair	Voting	07/01/2023 – 06/30/2024
Sarah Hilden	Secretary	Non-Voting	N/A
Jennifer (Jen) Leach	Program Subcommittee Chair	Non-Voting	N/A
Jeff Farley	Research Subcommittee Chair	Non-Voting	N/A
Theodore (Ted) Duffy	Handbook Subcommittee Chair	Voting	07/01/2023 – 06/30/2025
Frank Myers	Standards Subcommittee Chair	Voting	07/01/2021 – 06/30/2025
Mr. Niels Bidstrup	Member Non-Quorum	Non-Quorum Voting	07/01/2020 – 06/30/2024
Lynndy Ruddell	Webmaster	Non-Voting	N/A
Rex Scare	Member	Voting	07/01/2023 – 06/30/2026
Mick Schwedler	Member	Voting	07/01/2023 – 06/30/2027

**TC 6.1 SPONSORED OR CO-SPONSORED PROGRAMS FOR CHICAGO**

**SEMINAR 1: Driving Towards Decarbonization:  
Hydronics – The Perfect Transmission**

Sunday, January 21, at 8:00am – 9:00am CST  
Marriott Marquis Chicago, 2nd Floor, Great  
Lakes C

**AHR EXPO SESSION 2: Beyond the Boiler:  
Making it Work.**

Tuesday, January 23, at 9:00am – 10:30am CST  
McCormick Place South, 4, S402a

**SEMINAR 8: The Logical Way to Tap into  
Decarbonization: Hydronic District Energy  
Systems**

Sunday, January 21, at 9:45am – 10:45am CST  
Marriott Marquis Chicago, 2nd Floor, Great  
Lakes E

**SEMINAR 40: Modern Pumping Design**

Tuesday, January 23, at 9:45am – 10:45am CST  
Marriott Marquis Chicago, 2nd Floor, Great  
Lakes E

**1. Chair Welcome** (*Jessica Mangler*)

- **Committee Scope:** TC 6.1 is concerned with all aspects of hydronic and steam systems. This includes the application of boilers, chillers, terminal units, and all accessories and controls making up the total system as well as the design of the integrated system. In addition to comfort applications of both heating and cooling, snow melting systems are included. Cooperation with other TCs is recognized in areas such as control, noise and vibration, refrigeration, pumps, and hydronic and service water piping.
- **ASHRAE Code of Ethics Commitment:** 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> )
- **Secretary for the meeting:** Sarah Hilden

**2. Introductions**

- Roll Call of Voting Members (*Viral Dharaiya*)
- Member and Guest Introductions

**3. Membership** (*Viral Dharaiya*)

- Review Roster Updates
- Quorum Check

**4. Review of Meeting Documents** (*Jessica Mangler*)

- Approval of Meeting Minutes for 2023 ASHRAE Annual Conference in Tampa
- Review of Agenda

**5. TC Chair Report** (*Jessica Mangler*)**6. TC Communications** (*Lynndy Ruddell*)

- Website: <https://tc0601.ashraetcs.org/>
- Basecamp: <https://3.basecamp.com/3106353/projects/23183827>

**7. Programs** (*Jennifer Leach*)

- Update on TC 6.1 sponsored or co-sponsored programs for Chicago.
  - SEMINAR 1: Driving Towards Decarbonization: Hydronics – The Perfect Transmission
  - SEMINAR 8: The Logical Way to Tap into Decarbonization: Hydronic District Energy Systems
  - AHR EXPO SESSION 2: Beyond the Boiler: Making it Work.
  - SEMINAR 40: Modern Pumping Design
- Report on TC 6.1 sponsored or co-sponsored programs from Tampa in June 2023.
  - Seminar 7: Decarbonization for Hydronic Systems

- Others?
  - Programs that we plan to sponsored or co-sponsor for 2024 Annual Conference in Indianapolis
    - Tracks: <https://www.ashrae.org/conferences/2024-annual-conference-indianapolis/2024-annual-conference-technical-program>
    - Deadline for Seminar Proposals: February 26, 2024
- 8. Research** (*Jeff Farley*)
- Jeff was unable to attend the Chicago Winter Conference in-person this year.
- 9. Handbook** (*Ted Duffy*)
- HVAC Systems & Equipment
    - Chapter 11 – Steam Systems
    - Chapter 13 – Hydronic Heating and Cooling
    - Chapter 14 – Condenser Water Systems
    - Chapter 15 – Medium and High Temperature Water Heating
    - Chapter 28 – Unit Ventilators, Unit Heaters, and Makeup Air Units
    - Chapter 32 – Boilers
    - Chapter 36 – Hydronic Heat-Distributing Units and Radiators
    - Chapter 44 – Centrifugal Pumps
    - Chapter 46 – Pipes, Tubes, and Fittings
    - Chapter 47 – Valves
    - Chapter 48 – Heat Exchangers
    - Chapter X – Chilled Water Plant Design
  - Fundamentals
    - Chapter 22 – Pipe Sizing
- 10. Standards** (*Frank Myers*)
- SSPC 90.1
  - SPC 155
- 11. Task Force for Building Decarbonization** (*Jason Atkisson*)
- 12. Recognize Liaisons** (*Jessica Mangler*)
- Handbook
    - Derek Crowe [Chs. 11, 28, 32, 36, 44 & 46]
    - Satish Iyengar [Chs. 13, 14 & 15]

- Ahmed Medhat [Chs. 47 & new ChW]
  - Research (Stefan Elbel)
  - Standard (Paolo Tronville)
  - Chapter Technology Transfer Committee (CTTC) (Elizabeth Zakelj)
  - TAC Chairman (Craig Messmer)
  - TAC Section Head (Douglas Reindl)
  - Staff (Steve Hammerling)
- 13. Liaison Reports from other TCs and Organizations** (*Jessica Mangler*)
- 6.2 – District Energy
  - 6.5 – Radiant Heating & Cooling
  - 6.6 – Service Water Heating
  - 6.7 – Solar and Other Renewable Energies
  - 6.8 – Geothermal Heat Pump & Energy Recovery Applications
  - 6.10 – Fuels and Combustion
  - Residential Building Committee
  - Hydronics Industry Alliance
  - Others?
- 14. Old Business**
- Update Test Method for Independent Control Valves (*Viral Dharaiya*)
- 15. New Business** (*Jessica Mangler*)
- Feedback?
  - Do we want to have seminar presentations re-presented, in a condensed format, during TC meeting?
  - Open discussion as time allows.
- 16. Adjourn** (*Jessica Mangler*)

**ATTACHMENTS:**

- Draft Meeting Minutes from 2023 Annual Conference in Tampa
- TC 6.1 Membership Roster