

TC 6.1 Hydronic & Steam Heating Equipment and Systems ASHRAE Annual Conference (June 22-26, 2024) in Indianapolis

HYBRID MEETING

(IN-PERSON AND MICROSOFT TEAMS)

Main Committee Meeting

Tuesday, June 25, 2024
1:00 pm – 3:00 pm EDT
Room: JW Marriott, 307 (3)
[Teams Link](#)

Handbook Subcommittee Meeting

Monday, June 24, 2024
3:00 pm – 5:00 pm EDT
Room: JW Marriott, 307 (3)
[Teams Link](#)

Research & Programs Subcommittees Meeting

Monday, June 24, 2024
1:00 pm – 3:00 pm EDT
Room: JW Marriott, 307 (3)
[Teams Link](#)

TC 6.1 Social Happy Hour

Monday, June 24, 2024
5:00 pm EDT (or whenever
Handbook Meeting ends)
High Velocity at JW Marriott

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 (x)	Standards Subcommittee Chair	Voting	07/01/2021 – 06/30/2025
Niels Bidstrup	Member Non-Quorum	Non-Quorum Voting	07/01/2020 – 06/30/2024
Lynndy Hedgcoth	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 INDIANAPOLIS

SEMINAR 39: Simplifying the Electrification of Hydronic Systems

Tuesday, June 25, at 11:00am – 12:30pm EDT
JW Marriott – Indianapolis, Grand Ballroom 8 (3)

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
 - Viral Dharaiya will continue as Vice Chair until 06/30/25.
 - Sarah Hilden becomes Voting Member starting 07/01/24.
 - Mick Schwedler changes from Voting Member to Corresponding Member after 07/01/24.
 - Viral Dharaiya and Niels Bidstrup shall have their Voting Member term extended beyond 06/30/2024.
 - Incoming research chair is Tsouvalas
 - 1. Jessica and Ted have served, please ask questions if you have them
 - 2. RAC will provide training as well
- Quorum Check
 - Quorum Established: 6 of 7 voting members present (Scare entered after)

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

- Approval of Meeting Minutes for 2024 ASHRAE Winter Conference in Chicago.
 - Myers/ Dharaiya motion to approve: Passes 5-0-0 (CNV)
- Review of Agenda
 - Myers requests committee to allow Jim Lutz to speak first
 - 1. TC 6.6 SWH
 - 2. In small pipes, pressure drops for small diameter fittings are inaccurate, lacking, underestimated.
 - 3. Trade school in WI has students testing, also NIST
 - 4. Proposal to create std method of test with new standards committee
 - 5. Timeline: proposal by Jan Meeting for members to review
 - Lance MacNowin:
 - 1. NIST has a plan to measure Pd through fittings of up to 1"
 - 2. To be published soon
 - Discussion ensues

- Lutz just making 6.1 aware and will bring to 6.1 in Orlando
- 5. **TC Chair Report** (*Jessica Mangler*)
 - **Mangler shared report (ATTACHMENT)**
- 6. **TC Communications** (*Lynndy Hedgcoth*)
 - Website: <https://tc0601.ashraetcs.org/>
 - Basecamp: <https://3.basecamp.com/3106353/projects/23183827>
 - Only last three meetings on basecamp
 - Only 15 members are listed, reach out to Hedgcoth to get added
 - 6.1 is not approaching the topic of OneHub
- 7. **Programs** (*Jennifer Leach*)
 - Update on TC 6.1 sponsored or co-sponsored programs for Indianapolis
 - SEMINAR 39: Simplifying the Electrification of Hydronic Systems
 - 6.5, 6.6 cosponsored
 - Report on TC 6.1 sponsored or co-sponsored programs from Chicago in January 2024
 - 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
 1. TES track – don't have a speaker, Hilden to with Bruce Lindsay
 2. Case studies – Hilden/Hedgcoth tag team as chair
 - a. Dual temp
 - b. Lessons learned
 3. Modern valving
 4. Mangler has a potential decarb speaker
 5. Need information to Leach by July 15
 6. Matrix to be posted Basecamp (not yet loaded) summarizing list from Programs Subcommittee meeting yesterday.
 - Programs 6.1 plan to sponsor or co-sponsor for 2025 Winter Conference in Orlando
 - Tracks: <https://www.ashrae.org/conferences/2025-winter-conference-orlando/2025-winter-conference-technical-program>
 - Deadline for Seminar proposals: August 2, 2024
 1. Scare has submitted – steam case studies: it's not dead!
 2. Tsouvalas will submit what he's been holding – Advanced Pumping Design
- 8. **Research** (*Jeff Farley*)
 - Update Test Method for Independent Control Valves (Viral Dharaia)
 - PICVs, energy valves, balancing valves – no standard test method
 - Dharaia seeking volunteers for an SSPC email if interested in participating.
 - Could be a good forum in winter meeting
 1. From yesterday's meeting (ATTACHMENT)
 - a. Sizing guides for nonmetallic piping relates to Jim's proposal
 - b. Magnetic Filtration Effectiveness - Salem to share paper

- The Effects of Magnetic Filtration on Energy Efficiency in Hydronic Systems (Brian Salem, Darren Wilkinson)
- Other ideas?

9. Handbook (Ted Duffy)

- HVAC Systems & Equipment (Assignments made, refer to Handbook Meeting minutes)
 - 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
 - Due 3 years from now
 - Ted.duffy@gmail.com if interested in helping
 - **Read your chapter to discuss address items at Winter Meeting**
- Fundamentals
 - Chapter 22 – Pipe Sizing
 - Dharaiya already authored this, voted to accept changes
 1. Duffy/Myers: Motion passes 6-0-0 (CNV)

10. Standards (Frank Myers)

- SSPC 90.1
 - Continue activity around decarbonization.
 - TBD whether carbon/GHG will be informative or minimum required.
 1. Std 100 already includes carbon/GHG
- SPC 155 – is published and available online! Methods of test for boilers
 - Stopped short of a single metric
 - Because regulated product, DOE requires single metric
 - Proposal in 90.1 to generate single metric will be transitioned to AHRI WG, chaired by Paul Solar
- SSPC 100
 - Villaume to report back on this – moving quickly!
 - Add to future agendas.

11. 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)
- 12. 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?
 - Villaume: Govt affairs looking for experts to testify at local, state, federal levels.
 1. Looking for outreach
 2. Gov't affairs on ashrae.com to sign up
- 13. Old Business**
- Task Force for Building Decarbonization (Jason Atkisson)
 - Open discussion as time allows.
 - Schwedler – Task Force created by Gulledge/Schwedler
 1. Proved ASHRAE **can** react quickly
 2. Chair: Kent Peterson, 150 members in working subgroups at one point
 3. Being transformed into ASHRAE's first center of excellence
 4. Blake Ellis vice chair, joint funding with AHRI
 5. 4 publications so far (free) others coming soon
 6. 3 scheduled for fall
 7. ASHRAE pos'n document on decarb.
 8. 3 – 45 min presos for chapters in tech resources
- 14. New Business** (*Jessica Mangler*)
- Feedback?
 - Open discussion as time allows.
 - Many new faces in the room – consider programs or handbook subcommittees
 - Champion for TC6.1 'big ideas' – ex) design guide for bookstore
- 15. Adjourn** (*Jessica Mangler*) 2:18 PM EST

Submitted by Sarah Hilden, Secretary, 2 July 2024.