



2024 ASHRAE Annual Conference

June 22-26, 2024 | Indianapolis, IN

TC 8.2 Main Meeting

Indianapolis Summer – Hybrid Meeting

June 24th, 2024

Call to Order, Welcome, and Introductions

- Welcome - Hybrid Meeting Format
- Introductions (... total):
 - Officers (...)
 - Members (...)
 - Liaisons (...)
 - Guests (...)

Quorum Check – Trent Hunt

- 8 Voting Members/ ... in attendance (... online)
- **Scott MacBain** – Currently listed on committee site as non-voting
- **Dan Kemper**
- **Brandon Gill**
- **Chris Miller**
- **Michael Perevozchikov** – Currently listed on committee site as non-voting
- **Nick Zupp**
- **Drew Turner**
- **Tiffany Bates Abruzzo**
- ***Need 1 more; Nominations?***

In all your interactions at these meetings,
please remember...

Code of Ethics

“As members of ASHRAE or participants in ASHRAE activities, we pledge to act with honesty, fairness, courtesy, competence, integrity and respect for others in our conduct. We will avoid conflicts of interest and behavior that is discriminatory and/or harassing.”



<https://www.ashrae.org/about/governance/code-of-ethics>

Agenda

- Call to Order, D. Turner
- Introductions
- Quorum check – T. Hunt
- ASHRAE Code of Ethics Commitment – D. Turner
- Agenda Review – D. Turner
- TC 8.2 Mission Statement & Scope & Vote to Re-affirm – D. Turner
- Reviewed/Approve Winter 2024 Meeting Minutes – Basecamp – D. Turner
- Reports:
- Standards – P. Johnson (+ others)
- MTG Low GWP Liaison Update – P. Johnson
- Program - M. Rogan
- Research – D. Showalter
- Handbook – J. Medina
- Membership & Transition – T. Bates Abruzzo
- Web Master – D. Kemper
- Honors and Awards – R. Good
- Chair's Breakfast Report – T. Bates Abruzzo
- Old Business – D. Turner
- New Business – D. Turner
- For the Good and Wellbeing
- Adjourn

TC8.2 Centrifugal Machines Scope

- TC 8.2 is concerned with packaged equipment which involves centrifugal compressors, including those heat exchangers, drivers, controls and accessories, which are specific to packaged centrifugal equipment.
- TC 8.2 is also concerned with the design and performance of centrifugal compressors, steam turbines and gas turbines for use in refrigerating applications.

TC8.2 Centrifugal Machines Mission Statement

The mission of Technical Committee 8.2, Centrifugal Machines, is to provide world class technical expertise on all aspects of centrifugal refrigeration machines.

This committee is a resource to industry, academia, and others following society protocols through seminars, standards, technical papers/articles and other presentations.

Motion to update 8.2 to Chillers & 8.1 to Compressors?

OLD:

Title: TC 8.2 Centrifugal Machines

Scope: TC 8.2 is concerned with packaged equipment which involves centrifugal compressors, including those heat exchangers, drivers, controls and accessories, which are specific to packaged centrifugal equipment.

NEW

Title: TC 8.2 Compressorized Cooling and Heat Pump Chillers

Scope: TC 8.2 is concerned with cooling and heat pump chillers which involve centrifugal or positive displacement compressors, including those with heat exchangers, drivers, controls, split evaporators and condensers, and other accessories.

Review and Approve Previous Meeting Minutes

2023 Winter (Atlanta) Hybrid Meeting Minutes



TC8_2 Winter 24
Meeting Minutes

Standards Report

Standards Subcommittee – Phil Johnson (chair)

TC 8.2 is the cognizant TC for:

- ASHRAE **Standard 30-2019** Method of Testing Liquid Chillers
[TC 8.2 is lead; TC 8.5 is co-cognizant]
- ASHRAE **Standard 184-2020** Method of Test for Field Performance of Liquid-Chilling Systems
- ASHRAE **Standard 225-2020** Method for Performance Testing Centrifugal Refrigerant Compressors and Condensing Units

TC 8.2 also monitors activity for the following standards of interest to members:

- ASHRAE **Guideline 22-2012** Instrumentation for Monitoring Central Chilled-Water Plant Efficiency
[TC 9.1 is cognizant]
- ASHRAE **Standard 23-2022** Methods for Performance Testing Positive Displacement Refrigerant Compressors and Compressor Units
[TC 8.1 is cognizant]
- ASHRAE **Standard 90.1-2022** Energy Standard for Buildings Except Low-Rise Residential Buildings
[TC 7.6 is cognizant]
- ASHRAE **Standard 205-2023** Representation of Performance Data for HVAC&R and Other Facility Equipment
[TC 4.7 is cognizant]
- AHRI **Standards 550/590|551/591-2023** Performance Rating of Water-chilling and Heat Pump Water-heating Packages using the Vapor Compression Cycle
- AHRI **Standard 1520-2022** Performance Rating of Centrifugal Refrigerant Compressors
- ISO TC 86 / SC 4 Testing and rating of refrigerant compressors (**ISO/AWI 18501, 18483, 18976**)

Standards Report

ASHRAE Standard 30-2019 (Nick Zupp, Chair SSPC30)

- Developing addenda to ASHRAE Standard 30-2019 “Method of Testing Liquid Chillers” (designated as continuous maintenance)
- Anticipate publication of a 2024 edition (definitely with Addenda a, b, d, f; possibly also with Addendum c)
- Updated [errata sheet](#) issued [2024-Apr-24](#)
- PPR1 for **Addendum c** during May-24 to Jul-8, please review! (<https://osr.ashrae.org/>)
- 2024-Apr-22 meeting:
 - Voted to recommend PPR1 of Addendum c.
 - AHRI proposed a test plan to collect test data for air sampler temperature array versus air sampler with aspirating psychrometer (for developing Addendum e). Still pending.
 - Voted to recommend an APR regarding nomenclature for temperature differential unit symbol.
- Next meeting: Mon Jun 24 (Indianapolis)

Addendum a. Published in May 2020. Mainly clean-up including a requirement to test based on defined operating mode set points.

Addendum b. Published in April 2020. Mainly clean-up including clarification of Δp_{adj} . Republished to add missing calibration workbook (.xlsx).

Addendum c. Addition of adiabatic, free-cooling, and 4-pipe chillers by introduction of hybrid operating modes. APR1 Nov 2020. PPR1 public review May~Jul 2024.

Addendum d. Published March 2024. Update to steady-state criteria.

Addendum e. Harmonization with AHRI 550/590, Section 4. Addition of air sampling arrays. PPR1 public review expected in late 2024/early 2025.

Addendum f. Published January 2023. Inclusion of AHRI 550/590, water pressure drop calculation tool.

Standards Report

ASHRAE Standard 184-2020 (Phil Johnson)

- Standard 184-2020 was published in November under periodic maintenance.
- TC 8.2 decided and voted (7-0-0-1) in Tampa on 2023-Jun-26 to recommend forming a committee to revise the standard (e.g. additional work on the uncertainty calculator spreadsheet workbook). 5-year cycle would need to publish next edition by 2025 (-ish?), deadline to decide “withdraw, reaffirm, or revise” was 2023-Nov-30.
- Periodic Maintenance Recommendation form submitted 2024-01-18, probably too late to be on Chicago agenda for Standards Reaffirmation Subcommittee (SRS to StdC). Pending confirmation of SRS approval.
- Call for more people interested to be a member. Names? (& email address)

Standards Report

ASHRAE Standard 184-2020 (Phil Johnson)

- Recap of discussion points from Tampa (2023-Jun):
 - ASHRAE Standards staff provided a review of the standard
 - There is quite a list of issues that could be “cleaned up”, including out of date references, use of permissive language (need to better word-smith it), and inconsistent units of measure formatting
 - staff recommendation is “Revision”
 - P. Johnson found some errors in the example spreadsheet (part of Informative Appendix I), agrees with the recommendation, with the expectation that the work plan would limit the scope to correcting the issues from the staff review and any other “minor” changes identified

Standards Report

ASHRAE Standard 225-2020 (Phil Johnson)

- Standard 225-2020 was published under periodic maintenance (5-year cycle) SPC 225. SPC 225 has been disbanded.
- Based on a TC 8.2 letter ballot passing, to accept being the cognizant TC, Mark Weber (staff liaison) confirmed on 2023-Jul-10 that the change was made.
- 5-year cycle would need to publish next edition by 2025, deadline to decide “withdraw, reaffirm, or revise” was 2023-Apr-13 (TC 8.1 was listed as cognizant at that time & notification went to TC 8.1). Notification with attachments received 2023-Jul-10.
- Staff recommended revision due update references (and possibly to remove a 3 instances of permissive language). Scope of effort appears to be minimal.
- TC 8.2 decided & voted on 2024-Jan-22 to recommend formation a SPC 225 committee to revise the standard.
- Form submittal in process (as of 2024-Jun-17)

Standards Report

ASHRAE Standard 225-2020 (Phil Johnson)

- 2024-Jan-22
- Motion:
- TC 8.2 recommends to form a SPC 225 to revise Standard 225-2020, and authorizes P. Johnson to fill out the form “Periodic Maintenance Recommendation to SRS” for D. Turner to review and approve with signature.
- Vote tally: 6 for/ 2 absent

Standards Report

ASHRAE Guideline 22-2012 (Daryl Showalter, Chair GPC22)

- Developing next edition of ASHRAE Guideline 22-2012
“Instrumentation for Monitoring Central Chilled Water Plant Efficiency” (designated as periodic maintenance)
- PPR2 closed 2024-Jan-15. Some supportive comments with editorial changes.
- Finally wrapping up since 2015, final publication submittal form sent and galley proof in process.

Standards Report

ASHRAE Standard 196P (Phil Johnson, Chair SPC 196P)

- Developing new document ASHRAE Standard 196 “Method of Test for Measuring Refrigerant Leak Rates”
- As of 2023-Jun (Tampa), have reached consensus on resolving a fundamental question with the measurement method (under what range of conditions are ideal gas assumptions sufficiently valid), now need to implement the changes into the draft (and propagate changes into the examples in the informative appendices)
- Committee behind target to have PPR1 sent out in Q1 2024, now expecting Q3 2024

Standards Report

ASHRAE Standard 205 (Phil Johnson)

- Standard 205-2023 was published under continuous maintenance. SPC 205 was disbanded and SSPC 205 formed.

RS0001 LIQUID-COOLED CHILLER

RS0001.1 Identification and History. schema: RS0001

schema_version	Date	Initial Approved Standard	Notes
1.0.0	2023	2023	Initial publication
<u>2.0.0</u>	<u>2024</u>	<u>2023 - Addenda a, b, & c</u>	

- Published Addenda a, b, c in March 2024.
- Developing additional representation specifications (e.g. for air-cooled chillers) to be published as addenda.

Addendum a. Published in March 2024. Mainly clean-up including revisions to the RS0001 chiller rep spec.

Addendum b. Published in March 2024. Removed requirement to include part load “ratings” (e.g. IPLV) as reference info (but performance map retains part load points).

Addendum c. Published in March 2024. Added provisions for scalable representation of equipment performance.

Standards Report

ASHRAE Standard 23 (Scott MacBain, past Chair SPC23)

- Standard 23-2022 published “Methods for Performance Testing Positive Displacement Refrigerant Compressors and Compressor Units”.
- There remains potential for either a future merger of 23 and 225, or perhaps harmonization activities.

Standards Report

ASHRAE Standard 90.1-2022 (Rick Heiden)

Standard 90.1-2022 published (December 2022)

New addenda to the 2022 edition (when published) are available at:

<https://www.ashrae.org/technical-resources/standards-and-guidelines/standards-addenda>

Addenda of interest:

Published (*of interest to this committee)	In process
bo,ca,cv,cw,a,b,d,f,h,l*,j,k,l,m*,n,o,p,q*,r,t,v*,x,z	c,g,i,s,u,w,y,aa,ab,ac,ad,ae,af,ag,ah

- * L – of general interest → **net zero operational energy emissions (NZOEE)**, informative appendix that jurisdictions could adopt for buildings to achieve NZOEE over 1-3 code cycles. Includes chiller emission factors.
- * M – of interest for split chillers → **hydronic and dx coils must be rated in accordance with AHRI 410-2023 (SI/I-P)** Performance Rating of Forced-Circulation Air-Cooling and Air-Heating Coils
- * Q – of interest for water cooled chiller systems → **add pad-type (wetted media) adiabatic fluid coolers** along with a minimum efficiency and the recently published CTI acceptance test code to Table 6.8.1-7 Heat Rejection Equipment. Technology being offered on some “free-cooling” air-cooled chillers <https://www.thermalcare.com/adiabatic-fluid-coolers/>
- * V – of general interest → **reference Std 169 Climate Data for Building Design Standards version 2021** instead of 2013, wrt US counties 85% no changes, 9% move to warmer zones, 3% to colder zones, 3% changes subzones (i.e. A, B, C)
- Discussion topics within the 90.1 Mechanical Subcommittee of interest to this committee
 - >15 dT chilled water distribution requirements (Hydronics working group)
 - Chiller efficiency table updates in collaboration with related AHRI committee (Hydronics working group)
 - Requirements for all electric buildings (Decarb working group)

Standards Report

AHRI Standards 550/590|551/591 (Phil Johnson)

AHRI 550/590 (I-P) and 551/591 (SI) – 2023, *Performance Rating of Water-Chilling and Heat Pump Water-Heating Packages Using the Vapor Compression Cycle*

- 2023 Editions of both standards are published as ANSI/AHRI. Include minor revisions to the 2020 editions. Include normative reference to ASHRAE 30 for method of test.

AHRI 1550P (proposed) *Performance Rating of Liquid-Chilling and Heat Pump Water-Heating Packages Using the Vapor Compression Cycle*

- Would replace 550/590 and 551/591, merge separate IP & SI edition into a single standard.
- Project charter scope of revisions for next edition after that (circa 2025) includes the following items:
 - Review tolerances and incorporate units with variable flow
 - Continue to work toward harmonizing section 4 with ASHRAE 30
 - Review uncertainty analysis reporting requirements
 - Adiabatic cooled condensers
 - Heat Pump Part-Load Metrics
 - Review of rounding throughout documents
 - Review Standard Rating Conditions
 - Regional part load metrics
 - Ratings for units with more than two heat exchangers

Standards Report

AHRI Standard 1520 (Matt Cambio)

AHRI Standard 1520-2022, *Performance Rating of Centrifugal Refrigerant Compressors*

- This standard provides a rating method for centrifugal compressors and a calculation method to compare centrifugal compressors with positive displacement compressors.
- A MatLab tool is being created by Purdue for reading data and calculating performance as well as comparisons with positive displacement compressor 10 coefficient model
- It is probable that a WG will be formed this year to review the standard to see how it's working.
- Would like to encourage use of the standard and participation in the next WG.

Additional Notes:

- Reference to ASHRAE 225, *Methods for Performance Testing Centrifugal Refrigerant Compressors and Condensing Units*
- Similar format to AHRI 540, *Performance Rating of Positive Displacement Refrigerant Compressors and Compressor Units*
- AHRI Compressor Standards Technical Committee will maintain the standard (responsible for a total of 7 standards including 1520)

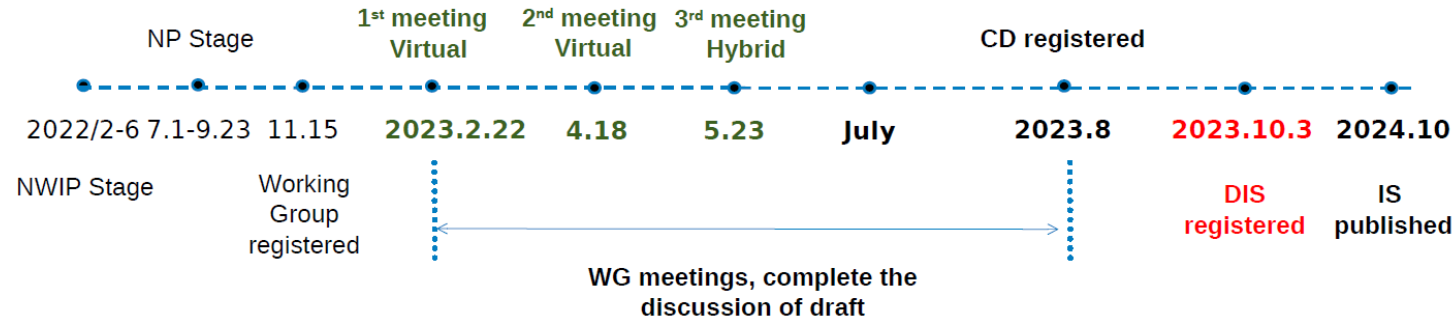
Standards Report

ISO/TC 86/SC 4 (Justin Prosser)

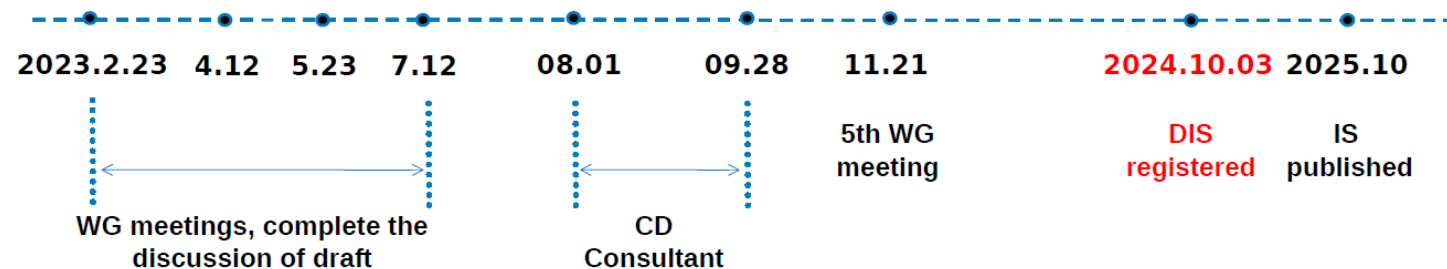
Key:
TC = Technical Committee
SC = SubCommittee
WG = Working Group
AWI = Approved Work Item

TC 86: Refrigeration and air-conditioning, **SC 4:** Testing and Rating of refrigerant compressors

WG2: ISO 18501, *Positive displacement refrigerant compressor* (harmonizing: AHRI 540, EN 12900)



WG3: ISO 18483, *Centrifugal refrigerant compressor* (harmonizing: AHRI 1520)



WG4: ISO 18976, *Testing of refrigerant compressors* (harmonizing: ASHRAE 23 & 225, EN 13771-1, and withdrawn version of ISO 917)

Dates for key milestones:

Circulation of 1st Working Draft (if any) to experts:	2023-03-10
Committee Draft consultation (if any):	2023-09-29
DIS submission*:	2024-07-04
Publication*:	2025-10-31

MTG.LowGWP Report (Phil Johnson, TC 8.2 Liaison)

- The MTG will meet Wed Jun 26.
- Program Subcommittee. Seeking programs from TCs for co-sponsorship. Contact Danny Harel (danny.harel@nthalpengineering.com).
- Codes & Standards Subcommittee. Not meeting Indianapolis.
- Research Subcommittee, current activity at the PMS level.
- Active research project: RP-1806 active. RP-1855 final report was published fall 2023. Monitoring a few projects sponsored by other TCs.

MTG.LowGWP Report (Phil Johnson, TC 8.2 Liaison)

- Research project status.
- RP-1806 “Flammable Refrigerants Post-Ignition Simulation and Risk Assessment Update”
 - Start date: Jan-2017.
 - Slow progress. PMS received revised Task 1 interim report Jan-2022.
 - Original scope included updating AHRI risk assessments for 2L refrigerants in 5 types of equipment, including chillers (centrifugal & screw, machinery room).
 - Project has re-allocated the budget (more to Task 1) and not yet clear what scope will be reduced (or if more funding will be requested to complete original scope).
 - Spring 2024 PMS received a pilot study that completes the Task 2 and Task 3 work for just a small subset of the original scope (reach-in coolers). Results will determine go/no-go/redirect for remainder of the project

MTG.LowGWP Report (Phil Johnson, TC 8.2 Liaison)

- Research project status.
- RP-1855 “Determination of the Impact of Combustion Byproducts Hydrogen Fluoride (HF) and Carbonyl Fluoride (COF₂) on the Safe Use of Fluorinated Refrigerants”
 - Start date: Jan-2020
 - Final report approved by MTG.LowGWP via letter ballot conducted after the Tampa meeting in June 2023.
 - Report is available via the ASHRAE Technology Portal.

<https://technologyportal.ashrae.org/>

MTG.LowGWP Report (Phil Johnson, TC 8.2 Liaison)

- More detailed report document available for the meeting minutes.
- Reconfirm the representatives from TC 8.2 (Primary: Phil Johnson, Alternate #1: Ray Good, Alternate #2:Trent Hunt).

Program Subcommittee Report – Mark Rogan (chair)

- **Combined TC 8.02/8.01 Program Subcommittee Report**
- 2024 Summer Meeting, Indianapolis, IN
- Subcommittee Meeting: June 18th, 1:00 pm -3:00 pm EST
- Attendees: Mark Rogan, Drew Turner, Mathew Cambio, Justin Prosser, Michael Perevozchikov, Davide Ziviani, Craig Bradshaw, Dan Kemper, Alex Schmig, Tiffany Abruzzo, Phillip Johnson, Chris Miller, Farhan Jurati, Riley Barta, Jethrow Medina, Nicholas Zupp, Margaret Mathison, Erik Anderson, Yintao Wang, Bruno de Carvalho, Heinz Juergensen, Kalen Gabel, Andreas Hoess, James Spalding, Sugun Tej Inampudi, Rick Heiden

Program Subcommittee Report – Mark Rogan (chair)

- Future Program Ideas – Beyond Indianapolis
- **Electrification of Heating Chapter 2: Industrial and Healthcare Markets as well as Hybrid Applications** – Chris Miller possible chair. Good candidate for Track # 5; Electrification: Possibilities and Pitfalls.
- **System Design & Controls on Heat Pump & Heat Recovery Applications** – Trent Hunt as possible chair. Rick Heiden, Drew Turner, and Chris Miller have been discussed as speakers. Chris should have at least desuperheater data from Kaiser Baldwin Project but not sure about HR data off the steam boiler as that system may not be running yet. Good candidate for Track # 5; Electrification: Possibilities and Pitfalls.
- **Electrification of various Heating Applications and the challenges of capacity modulation using different compressor types: Which applications can be served by electrification today and which ones cannot.** Rick Heiden as a potential chair. Good candidate for Track # 5: Electrification: Possibilities and Pitfalls
- **Application Issues with New Refrigerants and Centrifugal Chillers: Does Standard 15 (equipment room design) properly cover the flammability issue?** Phil Johnson as a potential chair. Good candidate for Track # 8: Legislation, Standards, Codes, and Guidelines
- **Any other topic ideas?** Open to the floor
- Next Meeting
- Subcommittee will meet via conference call in early January, 2025

Program Subcommittee Report – Mark Rogan (chair)

- **2025 Winter/ Expo Meeting/Conference Orlando:**
- Important dates:
- Monday August 2nd - Program Proposals Due
- Monday - September 27th Program accept/reject notifications
- **2024 Summer Meeting/Conference Program Tracks Indianapolis**
 - Track 1 - Fundamentals and Applications
 - Track 2 - HVAC&R Systems and Equipment
 - Track 3 – Refrigeration & Refrigerants
 - Track 4 – Energy Storage & Grid Resiliency
 - Track 5 – Pathways to Building Decarbonization
 - Track 6 – Artificial Intelligence
 - Track 7 – Industrialized Construction: Opportunities and Challenges
 - Track 8 – Ventilation and Indoor Environmental Quality
 - Track 9 – Proofing the Built Environment

Research Subcommittee Report – Daryl Showalter (chair)

Research S/C Chair Breakfast notes of interest

- Not attending, nothing to report.

Current Activities

- Research Subcommittee online meeting was held June 20
- Project update in August

Project Status

- **1716 - Oil concentration of field-installed liquid chillers with flooded type evaporators.**
 - Project has been awarded. Philip Johnson is the chair.

Major Project Completion Milestones	Deadline Month
Sampling program defined with methods & procedures, submittal to PMS for review & approval.	Dec 2023
Data collection complete	Aug 2024
Submission of project report for review & approval.	Sep 2024

Research Subcommittee Report – Daryl Showalter (chair)

- **1793 - Development of Method of Test for Motor Component Thermal Conductivity**
 - TC8.1 is taking the lead on this one and will resubmit from the comments.
 - Waiting to hear back from TC8.1 chair but if we want to take this on happy to work on it.
- **1879 – Foamability properties of LGWP Refrigerant and Oil Mixtures**
 - Sponsored by TC3.4 and Co-Sponsored by TC8.1
 - MORTS needs revised WS to rebid w/ Expanded Bidders list, new Budget Est. , Etc.

Future Activities

- Decarb and heating mode how to get **higher-temp** heat pumps – willing to entertain a proposed Title for this if anyone wants to put one forward.

TC 8.1 & 8.2 Handbook – Jethro Medina (Chair)

Not updated

- **TC 8.1:**

- Refrigeration: Chapter 8 - Factory Dehydrating, Charging & Testing
 - 2022 Last Publication: MacBain, Sanchez, Perevozchikov
 - 2026 Next Up Revision: Scott MacBain, Joe Sanchez, Chris Seaton, Michael Perevozchikov (Looking for participants)

- **TC 8.1 & 8.2:**

- 2024 HVAC Systems & Equipment: Chapter 38 and 43 – Compressors & Liquid Chilling Systems
 - Publication: Approved by TC8.1 & 8.2 Committees via mail ballot and submitted to ASHRAE Q423
 - Davide Ziviani, Craig Bradshaw, Michael Perevozchikov, Rick Heiden, Scott MacBain
 - 2028 Next Revision
- **Authoring Portal:** Confirm document access on authoring portal: <https://authoring.ashrae.org/>
 - Contact Heather Kennedy(hkennedy@ashrae.org) if you have any issues with Microsoft login

TC8.2 Leadership Roles – Drew Turner

- Chair – Drew Turner (Trent Hunt)
- V Chair – Trent Hunt (Tiffany Bates Abruzzo)
- Secretary – Tiffany Bates Abruzzo (Scott MacBain)
- Handbook – Scott MacBain (Jethro Medina)
- Programs – Mark Rogan
- Standards – Phil Johnson
- Research – Daryl Showalter
- Webmaster – Dan Kemper
- Honors and Awards – Ray Good
- MTG. LowGWP Liaison – Phil Johnson
- MTG. LowGWP Alternate – #1 Ray Good (#2 Trent Hunt)
- Effective until 2026 summer annual meeting

Membership – T. Hunt

<https://tpc.ashrae.org/Membership?cmtKey=83a02e09-1a12-4ee1-bbf8-3ba74490dec7>

- Final modifications to TC membership –
 - Requested that Michael Perevozchikov and Scott MacBain be made Voting Members (update soon)
- Updated 2023-2024 roster attached
- Action to confirm attendance/ Voting w/ Nick & Brandon
- How to Import Your TC Roster Information into MS-Outlook
 - <http://www.ashrae.org/TCs>



TC8.2 Members

Webmaster – Dan Kemper

- General updates and maintenance
 - Meeting time, current power point agenda and links posted
 - Past agenda, minutes, and power point posted
- Please send documents from 2024 seminars so they can be added to the presentations section of the website
- <https://tc0802.ashraetcs.org>

Personal Awards for General Society Activities

Not updated

- **Distinguished Service Award (DSA)**
 - Recognizes members who have served the Society faithfully and with distinction or otherwise given freely of their time and talent on behalf of the Society. A minimum of 15 points required on the point tally form.
 - Nomination deadline: December 1
- **Exceptional Service Award (ESA)**
 - Similar to the DSA, except 45 points are required on the point tally form and the member must have been a Full Member for at least ten years.
 - Nomination deadline: December 1
- **Developing Leader Award**
 - This award recognizes new members who have shown diverse involvement and commitment to ASHRAE within five years of their Association Member join date.
 - Recommended by the YEA Committee





ASHRAE SOCIETY HONORS & AWARDS

Do you know an ASHRAE member who...

has performed outstanding voluntary non-compensated public service in their community?

YES



Nominate them for Distinguished Public Service Award

has served ASHRAE and given freely of their time and talent on behalf of the Society?

Have they received the Distinguished Service Award?

NO



Nominate them for Distinguished Service Award

YES



Nominate them for Exceptional Service Award



They have the exceptional service award, too!
Andrew T. Boggs

has made notable contributions to the industry, and has been an ASHRAE Member in good standing for at least 10 years?

Are they an ASHRAE Fellow?

NO



Nominate to ASHRAE Fellow

YES



Nominate them for Louise & Bill Holladay Distinguished Fellow Award

has been an ASHRAE member for 50 years, and meets one of the below criteria?

- Has performed outstanding service
- Is an ASHRAE Fellow
- Is a Distinguished Service Award winner
- Is a Past Society President

YES



Nominate them for Distinguished 50 Year Member Award

is deserving of ASHRAE's highest award and meets *all* of the following criteria:

- Has accomplished notable achievement
- Has a history of outstanding work or service in any field of the Society
- Shown exceptional leadership in the HVAC&R industry, and
- Has broad-based activities of outstanding value

YES



Nominate them for F. Paul Anderson Award

Do you know of a giant in the HVAC&R industry who is deceased and you want to memorialize?

Were they an ASHRAE Member?

NO



Nominate them for Pioneers of the Industry

YES



Nominate them for ASHRAE Hall of Fame

Honors and Awards – Ray Good Continued

TC8.2 Member DSA Qualifications (15 Points)

DSA Eligible Members

Customer Number	Customer Name	Member Grade Date	Current Grade	Print Grade	cat A	cat B	cat C	cat D	Total Points
1081787	Mr Steven M Tredinnick, PE	3/1/1984	Member	Fellow Member	4	0	5	10	19
5116459	Mr Nicholas G Zupp	1/1/0001	Member	Full Member	0	0	7	10	17
7988980	Mr Daryl K Showalter	1/1/0001	Member	Full Member	0	0	7	10	17
8106245	Mr Justin Mark Prosser	9/21/2007	Associate	Associate	0	2	7	6	15
8215567	Dr Michael Perevozchikov, PhD	1/1/0001	Member	Full Member	0	0	7	8	15

TC8.2 Member ESA Qualifications (45 Points)

ESA Eligible Members

Customer Number	Customer Name	Award Name	Start Date	Print Grade
1037248	Mr Carl F Huber, PE	2016 - Distinguished Service Award	8/1/1986	Life Member
134547	Mr Earl M Clark	1993 - Distinguished Service Award	6/21/1998	Fellow Life Member
5070363	Mr Stephen W Duda, PE	2009 - Distinguished Service Award	8/30/1992	Fellow Member
5077138	Mr Harris M Sheinman	2016 - Distinguished Service Award	2/28/1993	Full Member

Honors and Awards – Ray Good Continued

TC8.2 Member Qualifications

Fellow Eligible Members

Customer Number	Customer Name	Join Date	Print Grade
1020040	Mr William E Dietrich	3/12/2003	Full Member
1037248	Mr Carl F Huber, PE	8/1/1986	Life Member
2016871	Mr Craig S Messmer, PE	11/30/1998	Full Member
2024504	Mr Raymond W Good, Jr	6/1/1986	Full Member
5030609	Mr Roger Richmond-Smith	2/28/1998	Full Member
5040782	Mr Edward Ka Cheung Tsui	2/28/1999	Full Member
5077138	Mr Harris M Sheinman	2/28/1993	Full Member
5096193	Mr Phillip A Johnson, PE	2/19/2002	Full Member
5096223	Mr Trenton S Hunt	11/30/2000	Full Member
5125884	Mr Michael Stark	1/7/2008	Full Member
5170214	Mr J. David McDaniel	10/14/2004	Full Member
5197772	Mr Richard Taft	6/30/1999	Full Member
7981880	Ms Tiffany Bates Abruzzo	7/1/2007	Full Member
7988980	Mr Daryl K Showalter	9/12/2002	Full Member
8016147	Mr Rick M Heiden	3/19/2003	Full Member
8027542	Mr Justin P Kauffman	11/17/2008	Full Member
8096401	Prof Vishal Garg	3/13/2007	Full Member
8113954	Dr Konstantinos Kontomaris, PhD	3/10/2008	Full Member

Honors and Awards – Ray Good Continued

Current Activities:

1. Currently Exploring
 - Phil Johnson for Standards Achievement Award
2. Encourage all members to update their ASHARE bios in an effort to qualify for additional honors and awards recognition
3. Consider others who may qualify as a Fellow or other awards

T Abruzzo & Ray Good to Coordinate on ESA/DSA & email out Fellow PP

TC Chairs Breakfast Report – T. Bates-Abruzzo

Speaker	Topic
Kevin Marple (outgoing)	Introduction and ASHRAE updates
Emily Toto	Code Interaction Subcommittee (CIS): ICC, IAPMO, GSA P100, NFPA & CSA- work with GAC
Jaime Bennett (TAC CH)	TAC-FG Online Roster, virtual meetings between winter & annual, updated MOP & RMs, 10 leadership members, developed new tools & roles. Reminder-Fill out Activity Forms by Tuesday 6/25/24
Costas Balaras	Center of Excellence for Bldg Decarb (CEBD)- Special Projects & Project Management groups formed, SP143,144, & 145 completed Center of Excellence for Building Decarbonization (ashrae.org)
Steve Bushby & Ashish Rakeja	Global Technical Interactions Co (GTIC)- is responsible for Harnessing ASHRAE technical resources by Impacting International Standards globalpromote ASHRAE through IEC & ISO:the International Organization for Standardization is a worldwide federation of national standards bodies from more than 170 countries. ANSI is the sole U.S. representative and dues paying member of ISO
Carol Marriott	Residential Bldg Council (RBC)- looking for DLs & Res Bldg Award nominees, published chapter in Green Guide- helping 4 TC's https://www.ashrae.org/communities/committees/standing-committees/residential-building-committee-rbc
Bill Murphy & Natascha Milesi-Ferretti	Research Process Training: Writing RTARs, PTARs and Work Statements, online data base coming soon- fall 2024, WS updates also coming
Section Heads	Section 8 Head: Kashif Nawaz, PhD Oak Ridge National Lab; nawazk@ornl.gov

Old Business – D. Turner

New Business – D. Turner

New members (additions since winter meeting)

- Dr Yintao Wang- confirmed corresponding member
- Jethro Medina
- Bernardo Oliver
- Andreas Hoess

• Attendees not on roster:

- ...

For the Good and Wellbeing

Adjourn