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FINAL June 22, 2021

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. 3.6 DATE: January 22, 2021

TC/TG/MTG/TRG TITLE Water Treatment

DATE OF MEETING June 22, 2021 LOCATION GOTO Virtual Meeting

MEMBERS PRESENT	YEAR ENDING	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Alain Trahan – Chair – VM	2022	Michael Patton – Handbook - NVM	Tyler Anderson – NVM
Joshua Ince – Vice/Sec. – VM	2024	Joseph Ham – Program Chair - NVM	Gary Harbison – NVM
Bill Pearson – Membership -VM	2024	Tom Mastbaum – Research - NVM	John Aykroyd – NVM
Henry Becker - VM	2022	Brandon Gross– Webmaster - NVM	Helen Cerra - NVM
Jeff Boldt - VM	2024	Claressa Lucas – NVM	Paul Lindahl - NVM
Richard Miller – VM	2024	Erica Eskins - PCM	Dann Holmes
Clive Broadbent – VM	2025	Eric Adams – PCM	Ellie Litwack
Frank Morrison – VM	2024	Dan Weimar – NVM	Jim Kendzel
Jon Cohen – VM	2025	Ron Wood – NVM	Allyn Troisi
Ken Mortensen – VM	2022	Bob Silva - NVM	Jon Books
Clive Ling – VM	2025	Ruffin Tyler – NVM	Stuart Dohls
Jeff Ramey – VM	2022		
Janet Stout – VM	2022		
Scott Shaffer – VM	2023		
MEMBERS ABSENT			
Tania Ullah – NVM		Thursten Simonsen – NVM	Mohamed Saad – NVM
Ng Yong Kong - NVM		James Kendzei – NVM	Carl Schultz - NVM
Salf Ullah – NVM		Shobhit Pundir – NVM	Leon Shapiro - NVM
Laurence Staples – NVM		Patricia Graef - NVM	Sahill Priyadarshi – NVM

Jeffrey Bruce – NVM		Rasika Chougale – NVM	John Fordemwalt – NVM
Charuchandra Dewasthale – NVM		Katherine Flamm – NVM	Todd Cornwell – NVM
William Gaines III - NVM		Alberto Comazzi – NVM	Arthur Freeman – NVM
David Geary – NVM		Kevin Connor - PCM	Goutham Pitchikala – PCM
Mike Hassell – NVM		Thomas Kinman – PCM	Kristy Azzolin - NVM
Liju Eapen – PCM		Ryan Corcoran – PCM	Ryan Reimer – PCM
Mahesh Prabhu – NVM		Molly McManus - PCM	Taylor Becker - NVM

TAC Section Head: William Dols	SH3.6@ashrae.net
CTTC Liaison: Tracey Jumper Research Liaison: Chee Sheng Ow Professional Dev.Liaison: James Bochat Handbook Liaison: Harris Sheinman Standards Liaison: Niels Bidstrup	CTTC3@ashrae.net RL3@ashre.net PDCchair@ashrae.net hba5@ashrae.net SL3@ashrae.net
Mike Vaughn, Manager Of Research & Technical Services	MORTS@ashrae.net
TC 3.6 Scope	TC 3.6 is concerned with water treatment for building water systems including scale, corrosion and microbiological control (except sewage drainage systems) and the impacts of water treatment on building operations, maintenance, sustainability, energy efficiency, human health, and water resource conservation.

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

Main TC 3.6 Meeting Agenda

1. CALL TO ORDER

Meeting called to order by Chair (Alain) at 1:03pm ET

2. ROLL CALL & INTRODUCTIONS

Quorum – 14/15 members present. 15th member arrived mid way through the meeting

3. ASHRAE CODE OF ETHICS COMMITMENT

Alain reads ASHRAE's code of ethics and reminds everyone that we have to abide by these.

In summary: 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. REVIEW OF AGENDA

5. APPROVAL OF MINUTES (2021 Winter Conference, Virtual Meeting)

January meeting minutes have been posted on our TC website and in our TC Basecamp for review for several months. Motion to approve minutes by Jeff Boldt, seconded by Ken Mortensen. No Discussion. Carried.

6. REVIEW OF SECTION 3 BREAKFAST MEETING – Alain Trahan

Alain commented that the TC reorg is well underway and we need to ensure that our annual reaffirmation for our committee is completed as this will be a way to ensure TC's remain efficient and not overlapping. Interim meetings of TCs are encouraged and can be arranged virtually via ASHRAE

SECTION 3 CHAIR REVIEW – Stuart Dols

Stuart commented on activity forms and roster update. Stuart also mentioned that TC3.6 is active and working well. If any questions are required of TAC, Stuart provided an easy email address for any questions – asktac@ashrae.net

7. MEMBERSHIP REPORT – Bill Pearson

7.1. Voting Membership

Bill Pearson reported that membership is strong with 15 voting members and 14/15 in attendance at this meeting. Bill commented on the folks rolling off this June 30 and we have a complimentary roster rolling on July 1. Membership is in good shape.

8. LIAISON REPORTS – ASHRAE / AWT / CTI / OTHERS

8.1. Research Liaison – Dr Chee Sheng Ow, PhD

No update

8.2. Relevant Codes and Standards Reports

8.2.1. AWT Update

Bill Pearson provided an update on the activities of AWT

8.2.2. ASHRAE Guideline 12 and Standard 188

Paul Lindahl commented that there has been great progress with the continuous maintenance processes for both Guideline 12-2020 and Standard 188-2018. In fact,

it is a publication year for 188, and at the moment all CM proposals and addenda, except for addendum E, made it into the republication process for the next publication.

8.2.3. CTI Guideline 159

Helen Cerra commented that CTI will be meeting next month for their summer meeting. If anyone has any comments or questions for 159 they can be directed to CTI directly or route them through Helen.

8.2.4. ASHRAE Standard 189P

no updates

8.2.5. ASHRAE Standard 191P

Michael Patton commented that they are preparing for comments from current public review. They are also proposing a Title, Purpose and Scope change for the standard which will indeed prompt another public review.

8.2.6. ASHRAE Standard 90.1

Paul Lindahl discussed a report given to 90.1 on behalf of 3.6/8.6 with respect to temperature awareness in buildings covered by 90.1.

8.2.7. ASHRAE Standard 514

Paul Lindahl commented on 514's work. Just completed an advisory public review of which 14 or 15 comments came in. Paul reminded us all on 514's scope, in that it includes all hazards that are not legionella related in a building.

8.2.8. Climate Chapter – TC2.5 Handbook

Alain commented that there was no update due to conflicting time slots with today's meeting. A question was raised by Jeff Boldt regarding climate change's effect on Dry bulb temperature, but what about wet bulb temperature. Discussion was had and Alain will raise the question with TC2.5 as to who might be best to ask/address this information gap as most engineers still use a "standard wet bulb" number.

8.2.9. ASSE/IAPMO/ANSI 12080

No Update

9. HANDBOOK – Michael Patton

9.1. Handbook Subcommittee Update

Michael and Brendon are co chairing. Thank you Brendon for stepping into the role. Handbook sub-committee volunteers to help with the upcoming work (Due April 21, 2022) are: Frank Morrison, Clive Ling, Jeff Boldt, Alain Trahan, Josh Ince, Dan Weimer

10. RESEARCH –

10.1. Research projects update (Tom Mastbaum Presented)

Three points to cover:

- 1) *RTAR – Sensible Temperature investigation – soliciting co-sponsorship from 188, Tom to bring up at Thursday's meeting. Alain Clarified the scope of the RTAR as there was some discussion at a previous 188 meeting about the intent. Janet discussed the need to potentially tighten up the expected outcome of the project to ensure the project has a better chance of approval.*

- 2) *PTAR – Reference guide for the various rules and regulations from state to state when it comes to potable treatment. Tom clarified the need for a concise understanding of each state's position and process for approval. Discussion was had whether ASHRAE publications would be interested in this due to budget constraints, Michael Patton commented that they indeed would be as they are "alive and well". Michael will check into publications to see what typical costs/revenue models might look like for this kind of project. More discussion was had about the cost of such a project and how to proceed without it being known. Moved by Ken Mortensen that the project cost should range from \$135,000 - \$140,000. Seconded by Jeff Ramey. No discussion. Carried.*
- 3) *Tom Mastbaum will be stepping down as Research Chair (Thank you Tom for stepping up and doing a great job with the committee this last year+). Tyler Anderson and Erica Eskins have graciously volunteered to co-chair the research sub-committee. Thank you Tyler and Erica.*

11. PROGRAM – Joe Ham

11.1. Programs at this meeting:

Two seminars were accepted into the current virtual conference

11.1.1. Seminar 69 – Basics of Steam Boiler Treatment Dan/Henry/Joe

11.1.2. Seminar 74 – Water Systems in Resilient Buildings Janet/Emilie/Ron

11.2. Programs next meeting (Las Vegas):

Discussion was had regarding submission of a seminar (90min) for Track 7 (HVAC for Industrial and Commercial Purposes – Challenges and Opportunities). Suggested seminar titles were "You did what??" and "H2-NO NO". Jon Cohen volunteered to present a section on Glycol Water systems, speakers needed for Hot Water systems and Chilled Water systems, target audience are design engineers that might not know all the "ins and outs" of these loops. Jeff Boldt offered to provide insight from the mind of a great design engineer, and from the mind of a typical design engineer to help steer the content correctly. Jeff also mentioned technical points such as freeze point of glycol, lower HW temperatures etc. Dan Weimer will Chair the seminar. Deadline for submission is August 2. Moved by Josh Ince that we proceed with this seminar submission for Las Vegas. Seconded by Ken Mortensen, no discussion. Carried

Joe Ham and Frank Morrison discussed a seminar that 8.6 is presenting and asked for Co-sponsor ship from 3.6. The seminar is on adiabatic heat rejection devices. Moved by Frank Morrison to co-sponsor this seminar with TC 8.6. Seconded by Helen Cerra. No Discussion. Carried.

12. WEBSITE UPDATE – Josh Ince/Brandon Gross

Josh/Brendon will work to update website and transfer access credentials. The website is updated at this time.

13. SOCIAL NIGHT REPORT –

13.1. Appointment of Social Night Chair for Las Vegas Meeting –

Dan Weimer volunteered to organize the social night, and we will invite 8.6 as tradition continues

14. OLD BUSINESS –

Frank Morrison discussed the proposal for Singapore by 8.6 that we participated in for

15GWT for 300Ton or greater systems. Frank's updates and comments attached to these minutes

15. NEW BUSINESS –

-No New Business

16. DATE AND LOCATION FOR NEXT MEETING

Las Vegas – LIVE (hopefully) – Sunday Afternoon for sub committees, Tuesday Afternoon for main meeting

ADJOURNMENT

Meeting adjourned by Alain at 2:40PM ET

Thank you to all for joining.

Proposed Singapore limit of 15 GWP for refrigerants used in water cooled chillers with a capacity equal to or greater than 1055kW.

TC 3.6 and TC 8.6, along with others in the Industry, including AHRI and individual firms, sent comments to the Singapore authorities in response to their request for comments on their proposal.

Singapore's response to TC 3.6 and TC 8.6 (our bold):

Dear Colleagues in ASHRAE TC 3.6 and TC 8.6,

We thank you for providing your views on Singapore's WTO Notification G/TBT/N/SGP/56.

2 Singapore acknowledges that climate change is a global emergency and a threat to mankind. Climate action requires urgent, collective and coordinated efforts by all countries, big and small. In Feb 2021, the Government of Singapore unveiled the Singapore Green Plan 2030, a whole-of-nation movement to advance Singapore's national agenda on sustainable development. The Green Plan charts ambitious and concrete targets over the next 10 years, strengthening Singapore's commitments under the UN's 2030 Sustainable Development Agenda and Paris Agreement, and positioning us to achieve our long-term net-zero emissions aspiration as soon as viable.

3 In this regard, Singapore has started taking active steps to reduce Singapore's greenhouse gases emissions arising from the use of hydrofluorocarbons (HFCs) in the refrigeration and air-conditioning (RAC) sector. Major chiller suppliers in Singapore have been consulted, and are supportive of the ban on water-cooled chillers using high-GWP refrigerants to come into effect by end 2022 as they are actively bringing in chillers using low-GWP refrigerants. **To safeguard against unintended consequences mentioned by ASHRAE TC 3.6 and TC 8.6 and to ensure effective implementation, Singapore has done the following: (i) Enacted energy efficiency regulations for water-cooled and air-cooled chilled water systems and split-type air-conditioners, (ii) Provided grants to support companies to switch to low-GWP refrigerant water-cooled chillers in advance of the regulations and (iii) Collaborated with educational institutes and other agencies on air-conditioning training courses to train technicians in the proper handling of low-GWP refrigerants, including fire safety aspects.**

4 We would like to once again thank ASHRAE TC 3.6 and TC 8.6 for taking time to provide comments. We hope that the above has clarified the rationale and approach underpinning Singapore push to restrict the supply of low-GWP RAC equipment by end 2022. Thank you.

Regards,

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Follow up:

AHRI followed up their comments with a teleconference with the Singapore authorities and learned that there is a waiver process for the GWP requirements (see below). However, AHRI is skeptical that waivers will be granted.

Power of Director-General to waive requirements
40P. A person that, in any particular case, is unable to comply with any requirement under section 40 D for any GHG goods that the person intends to supply or import for the person's own use, may apply in writing to the Director-General for a waiver and the Director-General may, upon being satisfied that there are good reasons to do so, waive the requirement for any of those GHG goods."

Future actions:

Monitor refrigeration legislation and regulations going forward as well as gauge the impact of the Singapore GWP market on the water-cooled chiller market over time.