



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. 3.6 DATE: February 1, 2022

TC/TG/MTG/TRG TITLE Water Treatment

DATE OF MEETING FEB 1, 2022 LOCATION Las Vegas, NV

MEMBERS PRESENT	Status	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
<b>Alain Trahan - Chair</b>	<b>Voting</b>	Helen Cerra	William Dohls – Section Head
<b>Joshua Ince – Vice Chair</b>	<b>Voting</b>	Harrison (Ruffin) Tyler	John Aykroyd
<b>Jeff Boldt</b>	<b>Voting</b>	Claressa Lucas	Allyn Troisi
<b>Clive Broadbent</b>	<b>Voting</b>	Paul Lindahl	Tania Ullah
<b>Henry Becker</b>	<b>Voting</b>	Tyler Anderson - Research	Eddie Xue
<b>Jeff Ramey</b>	<b>Voting</b>	Joe Ham - Programs	Phillip Yu
<b>Ken Mortensen</b>	<b>Voting</b>	Erica Eskins - Research	Chee Ow – Research Head
<b>Janet Stout</b>	<b>Voting</b>	Brandon Gross - Handbook	Cameron Robaczewski
<b>Clive Ling</b>	<b>Voting</b>	Jim Kendzel	Bob Silva
<b>Jon Cohen</b>	<b>Voting</b>		
<b>Frank Morrison</b>	<b>Voting</b>		
<b>Richard Miller</b>	<b>Voting</b>		
	<b>12</b>		
<b>Members Absent</b>	<b>Status</b>		
Scott Shaffer	Voting		
William (Bill) Pearson	Voting		
	<b>2</b>		
	<b>14</b>	<b>Roster Total</b>	<b>75</b>

TAC Section Head:	SH3.6@ashrae.net
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 at the next meeting.

## Main TC 3.6 Meeting Agenda

### 1. CALL TO ORDER

*Meeting called to order at 1PM PST by Alain, powerpoint of the meeting will be on Basecamp, along with these minutes*

### 2. ROLL CALL & INTRODUCTIONS

*Quorum – 12/14 voting members, 1/1 Voting member non-quorum.*

### 3. ASHRAE CODE OF ETHICS COMMITMENT

*Alain read ASHRAE's code of ethics and reminded 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 Annual Conference, VIRTUAL, June 22)

*Jeff Boldt.– seconded by Janet Stout – Approved unanimously*

### 6. REVIEW OF SECTION 3 BREAKFAST MEETING – Alain

ASHRAE is initiating TG.2RAST (Reactive Air and Surface Treatment)

TAC developed a 10 hour Leadership tutorial to promote good leadership within TCs (<https://www.ashrae.org/communities/committees/standing-committees/technical-activities-committee>)

Good videos from various TCs promoting more frequent virtual meetings, setting up easy virtual/hybrid meetings, sub committee meetings.

International Standards Interactive Task Force is looking for good representative and asking TCs to present individuals.

#### GAC – Government Affairs Committee

The Government Affairs Committee is responsible for organizing ASHRAE members to educate local, state, provincial, and national government bodies and officials in areas of interest to ASHRAE members and to promote effective cooperation between ASHRAE members and government.



#### Interim TC Meeting Procedures

TAC is encouraging TC's to meet in between ASHRAE Meeting. TAC will implement the following:

- Maintain a listing of the interim meetings on the Technical Committees webpage ([www.ashrae.org/technical-resources/technical-committees](http://www.ashrae.org/technical-resources/technical-committees)), similar to the listing done for Standards.
  - TC interim meetings should be posted (by emailing [shammerling@ashrae.org](mailto:shammerling@ashrae.org)) two weeks or more before an online meeting and four weeks before a face-to-face meeting. The person emailing should also include the meeting call-in info/ link for posting.
  - To keep our members apprised of the meetings, we will add a notice in the ASHRAE Journal Newsletter (bimonthly) to remind our members to check the listing and to provide a link to the list.
- 
- ASKTAC: Initiative to ensure that all committee members become aware of ASHRAE's activities and feels they can ask for information.
  - Committee balance is important, and Chairs must strive to maintain balance between industries/producers/users

## Training Options

### i. TC/TG/TRG/MTG Chair's Training Topic

A set of training blocks (ASHRAE Leadership Development Auto-Tutorial) related to leadership training are complete and posted at TAC website

([www.ashrae.org/communities/committees/standing-committees/technical-activities-committee](http://www.ashrae.org/communities/committees/standing-committees/technical-activities-committee)), TC website ([www.ashrae.org/technical-resources/technical-committees](http://www.ashrae.org/technical-resources/technical-committees)), and TAC/TC basecamp (<https://3.basecamp.com/3106353/projects/15520814>):

### 2021-2022 Hightower Award Nominations by Wednesday, September 1st

There were 4 nominations for this year's award. Thanks to all TCs that nominated! All that did not win are encouraged to resubmit.

TAC wishes to encourage TCs to make nominations for the 2021-2022 *George B. Hightower Technical Achievement Award*. Nominations are due to Section Heads by September 1, 2022 or sooner. The award recognizes outstanding technical leadership and contributions on a TC/TG/TRG during the past four years, excluding research and standards activities. Please go to the Technical Committee page of the ASHRAE website at the following link under the "Procedures, Forms..." heading: [www.ashrae.org/tcs](http://www.ashrae.org/tcs).

## 7. SECTION 3 CHAIR REVIEW – Stuart Dohls

*Stuart gave us an update from TAC.*

## 8. MEMBERSHIP REPORT – Bill Pearson

### 8.1. Voting Membership

- Roster of 14 voting members
- 64 members on our Jan. 31 Official Roster
- Members rolling off after summer meeting
  - Alain Trahan
  - Henry Becker
  - Ken Mortensen
  - Jeff Ramey
  - Scott Schaffer (Resignation letter)
  - Janet Stout
- Discussions ongoing to ensure balance committee

### Roster Voting members

• Alain Trahan	2022
• Josh Ince	2024
• Bill Pearson	2024
• Henry Becker	2022
• Jeff Boldt	2024
• Richard Miller	2024
• Clive Broadbent (Int'l NQ)	2025
• Frank Morrison	2024
• Jon Cohen	2025
• Ken Mortensen	2022
• Clive Ling	2025
• Jeff Ramey	2022
• Scott Schaffer	2023
• Janet Stout	2022



## 9. LIAISON REPORTS – ASHRAE / AWT / CTI / OTHERS

### 9.1. Research Liaison – Chee Ow

*No Report*

### 9.2. Relevant Codes and Standards Reports

#### 9.2.1. ASHRAE Guideline 12 and Standard 188

*Paul L – Provided the following report, and asked that Michael Patton become the new liaison as the new chair of SSPC188*

ASHRAE Standard 188-2021 and Guideline 12-2020 (for which SSPC188 is responsible) are in place to help SSPC 90.1 balance the often, conflicting needs for hygiene and energy efficiency in Building Water Systems. Both are in continuous maintenance. An Addendum developed with the Service Water Heating WG is currently in process that will help deal with this issue. As mentioned earlier, Standard 514P is actively under development, which is intended to cover hazards other than Legionella in building water systems, including biological as well as chemical and physical hazards such as scalding risk. Standard 514P has had an advisory public review and is expected to have its first public review shortly. This new standard is also expected to impact energy efficiency decisions and has a target date for publication of late 2022.

#### 9.2.2. CTI Guideline 159

*Helen Cerra updated us that CTI 159 is in continuous maintenance and most updates are editorial in nature at this time, nothing new to report.*

#### 9.2.3. ASHRAE Standard 189.1P

*Frank Morrison reported that there was no update*

#### 9.2.4. ASHRAE Standard 191P

*Michael Patton reported that they are currently working to square away a better T.P.S. ahead of the next public review. Frank asked for Michael to clarify what the change in T.P.S. was for, and confirmed it was to manage water in a building better, hence the need to adjust the T.P.S. A request was asked to Michael to ensure that TC3.6 is provided advanced notice to when the public review period will be*

#### 9.2.5. ASHRAE Standard 90.1

*Paul Lindahl reported as described above*

#### 9.2.6. ASHRAE Standard 514

*Paul reported that 514 has had an advisory public review and is expected to have its first public review shortly. This new standard is also expected to impact energy efficiency decisions and has a target date for publication of late 2022. Ken Mortensen will now be our liaison with 514 for TC3.6*

#### 9.2.7. Climate Chapter – TC2.5 Handbook

*Alain Trahan – no follow up at this meeting*

9.2.8. TC 9.9 – Phillip Yu representing the TC wanted to know if TC3.6 would like to provide input/support for reviewing handbook updates for liquid cooling handbook revisions, as there is a small section for cold plate cooling within data centers

### 10. HANDBOOK – Brandon Gross

#### 10.1. Handbook Subcommittee Update

- Meetings initiated and Basecamp was setup:
- Volunteers are
  - Brandon, Jeff, Dan, Henry, Clive, Josh, Tyler and Alain. Others?
- First run through February 28<sup>th</sup>
- E-mail ballot for approval planned to be a month or so.
- Revision Due April 21<sup>st</sup>, 2022

### 11. RESEARCH – Erica Eskins and Tyler Anderson

#### 11.1. Research projects update

- **PTAR**
- Reference Guide for [State by State Codes on Public Water supply](#) as applicable to building consecutive water treatment systems
- **RTAR**
- Investigation into sensible temperatures for potable hot water temperatures to maximize public safety, water and energy conservation.
- Discussion on oxidizers corrosion research proposal,  
To be discussed further?

*The work statements were discussed by Tyler and Erica for both projects.*

*WS1930 for sensible temperatures project*

*WS1889 for graywater use investigation in healthcare with TC9.6*

## 12. PROGRAM – Joe Ham

### 12.1. Programs at this meeting:

*No Programs at this conference.*

### 12.2. Programs next meeting (Toronto):

*Motion: TC will 3.6 support the 2 sessions as outlined below for the Toronto summer meeting, by the program subcommittee with unanimous support for both*

## How Should Standards and Guidelines for Recommissioning Premise Plumbing Systems Be Improved? Lessons Learned from COVID Era Building Shutdowns.

- **Abstract:** Stagnation of water in building plumbing is a commonly reported risk-factor for Legionella contamination and growth, but scientific data does not always support this conclusion and remedial interventions are often conducted without in-depth assessment of their efficacy or potential drawbacks. Here, we evaluate the impact of moderate- and long-term building plumbing stagnation, and subsequent flushing on Legionella growth in full-scale experiments conducted on the [Eawag](#) laboratory and office buildings. This work is the first to identify the unintended consequences of high volume and high flow rate flushing recommendations that were prevalent during and after COVID lockdown was lifted.
- **Chair:** Tania Ullah
- **Presenter 1:** William Rhoads, Ph.D.,
  - Variable Legionella Response to Building Water Demand Patterns
- **Presenter 2:** Michele Provost, Ph.D.
  - Can Flushing, Superheating and Shock Chlorination Control Legionella after Extended Stagnation?
- **Presenter 3:** Andrew [Whelton](#), Ph.D.
  - Plumbing Recommission Guidelines: Lessons from the Pandemic and Water Testing Discoveries

## Using advanced digital and connected technologies in Water Treatment.

- **Abstract:** Water treatment is advancing faster in the digital world through advanced digital technologies and connected equipment. In a post Covid world, monitoring operation remotely will also be more important. Integrating these technologies into other building automation, how these advancements benefit practitioners, and how these impact efficiency in water and energy use will be discussed.
- **Chair:** Helen Cerra
- **Presenter 1:** Jon Cohen
  - Technologies in Boilers and Cooling Towers
- **Presenter 2:** Janet Stout
  - Technologies impacting water safety and risk mitigation in respect to water pathogens

*A third potential topic was discussed as presented by Ron George at the subcommittee meeting, however after great discussion it was discovered that the scope of this presentation aligns/overlaps with the first seminar, so it was suggested that we recommend that Ron George, an established ASHRAE speaker and long time member and SME be added to the first seminar as a fourth speaker to add additional context and perspective to the seminar. Seminar chair Tania Ullah will review.*

**1. WEBSITE UPDATE – *Joshua Ince***

*Josh confirms that the site is updated. Alain Trahan volunteered to take over the webmaster role for the upcoming TC3.6 cycle after the summer meeting*

**13. SOCIAL NIGHT REPORT – *An ad hoc social dinner was organized Sunday due to the variable nature of those who could attend and those who could not. A small group of 9 enjoyed good food, good laughs and great company at Amalfi.***

**13.1. Appointment of Social Night Chair for Austin Meeting –**

*Past committee member Patrick Racine graciously accepted the task to organize the event in Toronto in June*

**14. OLD BUSINESS –**

*No old business.*

**15. NEW BUSINESS –**

*No new business*

**16. DATE AND LOCATION FOR NEXT MEETING**

*Summer Conference – Toronto – June 25–June 29<sup>th</sup>, 2022*

*Our meetings will thus be:*

*Sunday June 26<sup>th</sup>: 3h00pm to 5h00pm EDT*

*Tuesday June 28<sup>th</sup>: 1h00pm to 3h30pm EDT*

**17. ADJOURNMENT**

*Meeting adjourned by Alain at 2:56pm PST*