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**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 July 7, 2016

TC/TG/MTG/TRG TITLE Water Treatment

DATE OF MEETING June 28, 2016 LOCATION St. Louis Missouri

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Bill Pearson	2015	Bill McCoy	2014	Jon Cohen – CM
Todd Cornwell	2015	Dick Miller	2015	Clive Broadbent - CM
Clive Ling	2014	Al Spence	2013	Jeff Ramey- CM
Frank Morrison	2015			Scott Shaffer-CM
Leon Shapiro	2014			Alain Trahan- CM
Helen Cerra	2015			Ron Wood – CM
Henry Becker	2013			Ruffin Tyler -
Paul Lindahl	2013			Joshua Ince - PCM
Michael Patton	2015			Kristy Vogt
Janet Stout	2013			Mark Pfieler
Allyn Troisi	2013			Bob Cunningham
Sarah Ferrari	2015			Dann Holmes
Tim Keane	2012			Ken Mortensen
Claressa Lucas	2012			Jay Mohler
Dan Weimar	2015			Scott Mold
				Daryn Cline
				Laura Cooley
				Tania Ullah
				Ron George
				Clif McLellan

TC 3.6 Management Team	
Chair	Sarah Ferrari
Vice Chair	Helen Cerra
Program	Jon Cohen
Handbook	Michael Patton
Research	Todd Cornwell
Membership	Bill Pearson
Webmaster	Joshua Ince

<b>DISTRIBUTION: <i>All Members of TC/TG/MTG/TRG plus the following:</i></b>	
TAC Section Head: Jay Kohler	SH3@ashrae.net
CTTC Liaison: Tracey Jumper Research Liaison: Stephen Kujak 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

# ASHRAE TC3.6 Meeting Minutes - 2016 Annual Conference St. Louis, Missouri USA

## Main TC 3.6 Meeting

Tuesday, June 28, 1:00-3:30 PM, America's Convention Center Complex, Room 125

## TC 3.6 Handbook / Program / Research

Sunday, June 26, 3:00-5:00 PM, America's Convention Center Complex, Room 125

## TC 3.6 Sponsored Technical Programs

- *Seminar 7: Building Water Systems: Issues and Insights from Outbreaks of Legionnaires' Disease;*  
Sunday, June 26, 11:00-12:30 PM, America's Convention Center Complex, Room 223
- *Seminar 18: Water Treatment Programs: Designing for Asset Management and Long-Term Efficiency*  
Sunday, June 26, 1:30-3:00 PM, America's Convention Center Complex, Room 226
- Seminar 17: Plumbing System Design Criteria to Minimize the Potential for Legionella Growth  
Cosponsored with TC 06.06.  
Sunday, June 26, 1:30-3:00 PM, America's Convention Center Complex, Room 227

## Scope:

**Technical Committee 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.

## Minutes:

### 1. CALL TO ORDER

Meeting was called to order at 1:07 PM by the Chair.

### 2. ROLL CALL & INTRODUCTIONS

Members and guests introduced themselves and their affiliations, signing in on the sign-in sheets provided.

### 3. REVIEW OF AGENDA

Agenda changes were noted by the Chair.

### 4. APPROVAL OF MINUTES (*2016 Winter Meeting, Orlando, FL*)

M. Patton made motion to accept edits to minutes. B. Pearson second. 12 -0-0 CNV

5. REVIEW OF SECTION 3 BREAKFAST – *Sarah Ferrari*

Minutes will include CEC notes from Section 3 Chair meeting. Significant points include: For program papers, Chair pointed out that all have some sort of bias. A bias disclosure will be included with a program presentation; CEC requested that all program submissions be on-time out of respect for the committee's time. There have been increasing numbers of late submissions. Three strikes rule will be in effect.

Two new program types, Panel Discussion and Debate, have been added to the conference starting June 2017.

6. SECTION 3 CHAIR REVIEW – *Jay Kohler*

Section 3 Chair thanked members for supporting TC 3.6. He reminded the Activity Report is due Tuesday night and any updates to roster and TC management team be sent to Tara Thomas.

7. PROGRAM – *Jon Cohen*

TC 3.6 sponsored two seminars: Seminar 7: Building Water Systems: Issues and Insights from Outbreaks of Legionnaires' Disease and Seminar 18: Water Treatment Programs: Designing for Asset Management and Long-Term Efficiency, both well attended. Seminar 17: Plumbing System Design Criteria to Minimize the Potential for Legionella Growth was co-sponsored with TC6.6.

Proposed for Las Vegas 2017:

1. Water reuse will probably be a seminar under the Energy Water Nexus Track. Presenters will be H. Cerra/J. Cohen collaboration and L. Shapiro with T. Cornwell session chair.
2. J. Boldt developed LSI/RSI tool will be coupled with a presentation on the LSI/RSI relationship to water treatment by P. Racine/J. Ince. D. Weimar will be session chair.
3. Cosponsor workshop with EHC for a Legionella and implementation of STD 188 with E. Stewart and C. Lucas.

Conference papers are due July 8. Seminar, Forum and Workshop proposals are due August 8.

B. Pearson made motion to cosponsor with TC 6.2, District Energy and 8.6. Alternative methods for water conservation and case study using RO feed for cooling towers. H. Becker or D. Weimar to contribute. Second Morrison 12-0-0 CNV

Proposed for Long Beach 2017:

1. Set up debate session as a litigation case around Legionnaires' disease with perhaps a panel discussion to follow.
2. Paper by David Shurk to be combined with another paper. L. Shapiro will champion. Enlist Mark Hyderman to make second presentation.

8. MEMBERSHIP REPORT – *Bill Pearson*

Pearson reviewed the membership terms and noted this is the year end. There will be 17 voting members the coming term. Subsequent to this meeting emergency roster changes will be requested to accommodate member affiliation changes.

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

### 9.1. Relevant Codes and Standards Reports

#### 9.1.1. ASHRAE Guideline 12

(P. Lindahl) –Working Groups editing on 4 of 12 sections. Optimistic that the guideline may be approved end of 2016. The goal is to complete as soon as possible to provide support document for STD 188.

#### 9.1.2. CTI Guideline 159

(H. Cerra) – CTI is meeting July 11-13 in Phoenix. The committee is working on verification section as well as finalizing other informative sections.

#### 9.1.3. ASHRAE Standard 189

(Morrison) – Morrison made motion to appoint D. Cline to 189 Second D. Weimar. 12-0-0 CNV

Chair will request D. Cline as liaison to the committee.

Liaison is on the roster of 189 until chair changes.

Bob Cunningham, Jon Cohen, Dan Weimar, Josh Ince, Henry Becker are part of the water efficiency working group.

C. Broadbent noted update is needed on drift eliminator section in subject document.

#### 9.1.4. ASHRAE Standard 191

(A. Troisi) – Standard covers HVAC. The committee is working on finalizing changes to Chapter 8. They are working through cooling tower cycle calculator in Chapter 4. A conference call on Chapter 3 is scheduled for mid-July.

Chair will request A. Troisi as liaison to the committee.

#### 9.1.5. ASHRAE Standard 90.1 –

(P. Lindahl) – the standard has several upcoming activities – analysis of cooling water systems. Previously, TC3.6 supported putting together water treatment costs. Bill Pearson is working on updating water quality and cost. Initial study included comparison of air cooled and water cooled chillers. Another study will review optimizing approach temperatures from what was used in the past. Weather and target cities have changed since initial study. Awaiting information for Load models.

#### 9.1.6. CEC Title 24

(F. Morrison) – They are starting the Stakeholder meetings. Morrison was invited to join the webinars.

### 9.2. ASHRAE Legionella Position Document Status (Patton) –

The goal is to have the present draft position statement completed by December 2016.

## 10. HANDBOOK – *Michael Patton*

10.1. Deadline for Volume 2019 (Applications) is 2018. Immediate goal is to update the print volume with references to Std 188 as well as in the online version. Subcommittee chair outlined the new tools for updating the handbook online through the link, [authoring.ashrae.org](http://authoring.ashrae.org). Access is based on the roster using ASHRAE website login credentials. Version tool identifies editor and can recall former version. Do not check out document.

Patton made motion to revise handbook online reflecting reference to STD188.2015.  
Second D. Weimar 14-0-0

## 10.2. Goals for 2018 Edition

H. Becker will do basic outline by September 2016. Committee will review content and structure. Outlines and suggestions can be uploaded to the New Material folder. J. Boldt will provide LSI/RSI excel program.

Chair expressed the goal to vote changes at each meeting.

## 11. RESEARCH – *Todd Cornwell*

### 10.1. Research project update

10.1.1. RTAR for Analysis of Methodologies project is written. TC 8.6 has agreed to cosponsor. Additional funding from AWT and CTI is possible. RAC suggested to skip RTAR and go directly to Work Statement. Cornwell will work with Patton.

10.1.2. Literature review of resolving hot water temperature claims and proper safe temperatures (T. Keane) – work statement is in development. C. Lucas, A. Trahan, C. Broadbent, and B. Pearson volunteered to help.

10.1.3 A. Trahan will continue his attempt at contacting Quebec for lab data results.

## 12. WEBSITE UPDATE

J. Ince will be the new Webmaster. A. Troisi will provide photos from TC dinner for website.

## 13. SOCIAL NIGHT REPORT

The committee thanked Dan for a very enjoyable and successful dinner at Copia Monday night with over 30 in attendance.

13.1. L. Shapiro was appointed Social Night Chair for the Las Vegas Meeting

## 14. OLD BUSINESS

Morrison motioned to accept Cleaning FAQ. H. Becker second. No discussion 13-0-0

## 15. NEW BUSINESS

Pearson motioned to submit Paul Lindahl for Hightower Award. Second D. Weimar.  
13-0-0

## 16. DATE AND LOCATION FOR NEXT MEETING

Winter Meeting – Las Vegas, NV USA – January 28-February 1, 2017

Morrison motioned to adjourn. Second C. Lucas. 13-0-0

## 16. ADJOURNMENT – 3:10 PM

**Conferences and Expositions Committee Information Items for Technical Committees  
Annual Meeting, St. Louis 2016**

**1. 2017 ASHRAE Winter Conference in Las Vegas, NV:** <http://www.ashrae.org/LasVegas>

- a. Conference Papers are due on July 8, 2016
- b. Seminar, Forum, and Workshop proposals are due August 8, 2016
- c. Confex opens for presentation uploads December 2, 2016
- d. All presentations due online January 2, 2017.
  - **Track 1: Systems and Equipment**  
Track Chair: Chuck Curlin                      Email: ccurlin@shultzeg.com
  - **Track 2: Fundamentals and Applications**  
Track Chair: Michael Collarin                      Email: Michael.Collarin@parsons.com
  - **Track 3: Water-Energy Nexus**  
Track Chair: Gary C. Debes                      Email: gcdebes@verizon.net
  - **Track 4: Commercial and Industrial IAQ**  
Track Chair: Kevin Marple                      Email: kmarple@benzco.com
  - **Track 5: Mission Critical Design and Operation**  
Track Chair: Carrie Anne Crawford                      Email: carriecrawford@eeace.com
  - **Track 6: Effects of Climate Change on HVAC&R**  
Track Chair: Rocky Alazazi                      Email: mralazazi@yahoo.com
  - **Track 7: Energy Efficient Industrial Buildings**  
Track Chair: Corey Metzger                      Email: corey.metzger@resourcece.com
  - **Track 8: Building Operation and Performance**  
Track Chair: Cynthia Moreno                      Email: cindym@tmmechanical.com

**2. 2017 ASHRAE Annual Conference in Long Beach, CA:** [www.ashrae.org/LongBeach](http://www.ashrae.org/LongBeach)

- a. Conference Papers Abstracts due August 29, 2016
- b. Conference Papers due December 9, 2016
- c. Seminar, Forum and Workshop proposals are due February 6, 2017
- d. Confex opens for presentation uploads May 1, 2017.
- e. All presentations due online June 2, 2017.
  - **Track 1: Fundamentals and Applications:**  
Track Chair: Frank Schambach                      Email: frankschambach@mindspring.com
  - **Track 2: HVAC&R Systems and Equipment:**  
Track Chair: Jennifer E. Leach                      Email: pennst8jen@yahoo.com
  - **Track 3: Refrigeration:**  
Track Chair: Vikrant Aute                      Email: vikrant@umd.edu
  - **Track 4: Building Life Safety Systems:**  
Track Chair: Robert Alan Neely                      Email: alan\_neely@pghcorning.com
  - **Track 5: Controls – Smart Building Systems and the Security Concerns as Technology Emerges:**  
Track Chair: Melanie Derby                      Email: derbym@ksu.edu

- **Track 6: Commissioning – Optimizing New and Existing Buildings and their Operation:**

Track Chair: Dennis Alejandro

Email: denzjac@yahoo.com

- **Track 7: Zero Net Energy Buildings – The International Race to 2030:**

Track Chair: Jason DeGraw

Email: jason.degraw@nrel.gov

- **Track 8: Residential Buildings – Standards Guidelines and Codes:**

Track Chair: Kimberly Pierson

Email: kdpwildcat@gmail.com

- **Track 9: Research Summit**

Track Chair: Ann Peratt

Email: ann.peratt@gmail.com

### 3. Program statistics for St. Louis; for a total of 107 available slots:

#### **Conferences Papers**

- o 130 conference paper abstracts submitted, 124 approved
- o 84 conference papers received
- o 71 conference papers presented
- o 22 Conference Paper Sessions

#### **Technical Papers**

- o 60 conference papers received
- o 28 conference papers presented
- o 9 Technical Paper Sessions

#### **Seminars**

- o 116 submitted
- o 64 presented

#### **Workshops**

- o 10 submitted
- o 8 presented

#### **Forums**

- o 12 submitted
- o 4 presented

### 4. Invited Speakers:

CEC has developed a policy to allow for invited speakers to have their speaker fee waved. The proposed invited speakers shall be submitted with the respective program submission, and will be reviewed concurrent to the submission review process. The CEC Chair, Vice Chair, and Conference Program Chair will review submissions and will accept up to five invited speakers, per Annual and Winter meeting, considering the strength of the proposal. The speaker must meet the following criteria to be considered: a.) Subject matter expert, b.) Not an ASHRAE member, c.) Will provide information that is useful to the ASHRAE membership.

### 5. Potential Sources Bias Disclosure:

Starting at the 2016 Annual Meeting in St. Louis, speakers will be asked to fill out a potential sources bias disclosure document that will note an affiliations/involvement with any organizations with financial or commercial interest in the subject matter to be discussed, in accordance with the ASHRAE code of ethics.

### 6. TC Opportunities:

- TC members who want to submit a program should consult the Track Chair for assistance in preparing a good abstract, learning objectives, and Q&A to help assure complete submission.
- TC's and Sections are welcome to suggest new presentation formats (like how the Workshop was born). Best way to present material to benefit attendee is a goal.



- c. TC's and Sections are encouraged to work with a track chair to put together a series of sessions that can be used as a mini-track.
- d. Putting together an entire track of programs in cooperation with other TC's is also encouraged; keeping in mind that track subjects are typically determined 14-15 months prior to a conference.
- e. CEC welcomes suggestions for tracks! We value your input. TAC/CEC agreed that the Comment Section on the activity form is the location for the TC to provide this information.

## **7. Speaker Ratings:**

About 12 speakers from Orlando had speaker ratings below 3.5 out of 5.0. These speakers were sent letters indicating that if they receive two additional low ratings they will be required to provide proof that they have received speaker training before they will be permitted to speak again.

## **8. Presentations:**

CEC has had an ongoing issue with presentations not being uploaded for commercialism review before the conference. This is problematic because it requires a "fire drill" for CEC on Saturday and Sunday to process commercial reviews for these presentations before they can be uploaded to the system. For clarification, presentation requirements include:

- a. Presentations must be uploaded for commercialism before the deadline (**January 2, 2017 for Las Vegas**).
- b. Uploads need to be substantially complete; including the AIA Disclaimer and Learning Objectives. Blank slides and place holders do not constitute a substantially complete presentation.
- c. St. Louis Presentation Uploads
  - i. Approximately 30 sessions were not uploaded by the final due date.
  - ii. 11 Presenters were not uploaded as of June 24<sup>th</sup> for St. Louis. 9 of these programs were sponsored by TCs

CEC needs to hold speakers accountable for making deadlines. Starting with the 2017 Winter Meeting in Las Vegas, CEC will be enforcing a 3 strike policy for speakers who do not upload their presentation by the published deadline. If a speaker receives 3 strikes they will not be able to present for the following .

## **9. CEC Announces a Call for Reviewers:**

ASHRAE has a number of conferences coming up that include papers, and CEC seeks your help in reviewing them. Specifically, there is an immediate need for reviewers for the following conferences: 2017 Winter Conference and various specialty conferences

Please contact Tiffany Cox, ASHRAE Assistant Manager, Conference Programs, at [tcox@ashrae.org](mailto:tcox@ashrae.org) for more information or to volunteer to be a reviewer.

## **10. Program Types:**

#### Technical Paper Session:

These sessions present papers on current applications or procedures, as well as papers resulting from research on fundamental concepts and basic theory. Papers presented in these sessions have successfully completed a rigorous peer review. Forms for written comment are available at each session, and sent to respective authors for reply and publication in ASHRAE transactions, if received by a certain date.

#### Conference Paper Session:

These sessions present papers on current applications or procedures, as well as papers reporting on research in process. These papers differ from technical papers in that they are shorter in length and undergo a much less stringent peer review.

#### Seminar:

These sessions feature presentations on subjects of current interest. There are not papers attached to seminars.

#### Workshop:

These sessions enable technical committees and other ASHRAE committees to provide a series of short presentations on a topic requiring specific expertise. These short presentations are provided with an increased emphasis on audience participation and training in a specific set of skills. There are not papers attached to workshops.

#### Forum:

The sessions are “off-the-record” discussions held to promote a free exchange of ideas. Reporting of forums is limited to allow individuals to speak confidentially without concern of criticism. There are not papers attached to forums.

#### Program types starting at 2017 Annual Meeting in Long Beach

##### Panel Discussion:

Panel discussions can feature a broad range of subjects and explore different perspectives on industry related topics. This session format includes a panel of 3-4 speakers each addressing a facet of the session topic, followed by an interactive discussion lead by the session chair. Panel Discussions may be 60 minutes or 90 minutes in length and will be posted online in the Virtual Conference.

##### Debate

Debates highlight hot-button issues commonly faced by our membership. Industry experts, either on teams or as individuals, argue opposing sides of an issue, concluding with position summaries and audience feedback. Debate sessions may be 60 minutes or 90 minutes in length and will be posted online in the Virtual Conference.