

**Draft Meeting Minutes – Winter 2016, Orlando**  
**ASHRAE Technical Committee 10.2**  
**Automatic Ice Making Plants & Skating Rinks**

Date: Monday, January 25, 2016

Time: 4:30 PM to 6:30 PM

Place: Spring Lake Conference Room, Orlando Hilton, Orlando, FL., USA

**Voting Members for this Meeting:**

Greg Scrivener – Chair/ALI Coordinator

Wayne Borrowman – Vice Chair/Programs

John G. Davis – Secretary

Kyle Larson

John Scott – Handbook

Art Sutherland

William Wladyka

**Non-Voting Members for this Meeting:**

Robert Akkerman

Pradeep Bansal

Don Blacklock

Robert Burdick

Daniel Cowan

Dan Dettmers – Research/Webpage

Jon Edmonds

John Gallaher

Kyle Hasenkox

Charles Holwerk

Reinhold Kittler

Mark MacCracken

Dave Malinauskas

William Jack McCartney

Michael Saweikis

James Sheperd

Total Voting Members – 7

Required for a quorum – 4

Note –

The meeting attendance sheet is attached to this report.

Kyle Larson and Charles Holwerk attended via conference call.

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## ASHRAE Technical Committee 10.2

### Automatic Ice Making Plants & Skating Rinks

- I. Call to Order, Introductions, Establish Quorum –
  - A. Meeting was called to order at 4:30PM. Attendees did self-introductions. A quorum was established. Attendance sheet is attached to these minutes. Note that Kyle Larson and Charles Holwerk attended via conference call.
- II. Review Agenda –
  - A. Draft agenda was circulated.
- III. Review and approve Winter 2015 Chicago Meeting Minutes –
  - A. The 2015 Annual Meeting draft minutes from Atlanta were circulated and approved.
- IV. Liaison Reports –
  - A. Research
    1. Not present.
  - B. TAC
    1. Jim Tauby encouraged program submissions for St. Louis. Proposals are due 02.08.16.
  - C. Staff
    1. Not present.
  - D. Refrigeration (2018 Refrigeration HB)
    1. Not present.
- V. Report from Chair
  - A. TC/TG Chair's Breakfast Meeting
    1. Greg Scrivener reported that the TC webpage boilerplate have been updated to enhance user/programmer friendliness.
  - B. Activity between meetings
    1. A number of conference calls were conducted (attended by Greg Scrivener, ? and ?) to review and discuss RTAR 1727 comments from RAC. See additional details below.
- VI. Subcommittee Reports and Discussion
  - A. Handbook
    1. Report from Handbook Chairs' Meeting
      - a) John Scott reported that handbook chapter reviews for the 2018 Refrigeration Handbook need to begin soon. Ice Manufacture (Chapter 43, 2014 HB) needs a thorough review for updates. Charles Holwerk will review Chapter 43. Ice Rinks (Chapter 44, 2014 HB) could have more of a heat recovery focus to capture current trends in the industry. Brian Blahey, Art Sutherland and John Davis will review Chapter 44. Handbook updates need to be submitted no later than the 2017 Winter Meeting (Las Vegas).

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B. Research

1. Report from Research Chairs' Breakfast Meeting
  - a) Dan Dettmers was not present.
2. RTAR 1727 – “Interaction of Ice Arena Space Conditioning Loads and Ice Surface Refrigeration Loads” and corresponding draft work statement
  - a) A WS was not submitted to RAC by the required date (12.15.15). Efforts are needed to address comments and draft a WS with milestones with a schedule of values. RACs comments revolved around the benefit/cost/complexity of developing a software tool. Kyle Larson reported that DOE-2.2 has a method for modeling the ice rink surface, but lacks sophistication and is, at best, a basic approximation. A consensus of opinion still supports development of a methodology to model the interface between the ice surface refrigeration load and the arena space conditioning loads with software development by others. Greg Scrivener will contact new RAC Liaison to discuss steps that need to be taken to get out of the penalty box for the infraction of not submitting a WS on time. Greg will also contact Steve Duda (TC 9.1 Research) to see if they have an interest in co-sponsoring.
3. Research ideas
  - a) “Quantifying Good Rink Ice.” Most operators are running ice surface temperatures too low to eliminate any user complaints. “Good ice” is very subjective and user dependent. Significant operating savings are achievable if rink operators could be convinced to raise their ice surface temperatures. Art Sutherland has been doing a literature review to identify whether or not this topic has been researched in the past. He has found two sources (one written in Japanese that needs to be translated). He has also discovered a number of products that are using ASHRAE as a reference and being promoted as products that will improve ice quality and save energy. Art has generated a draft RTAR which will be distributed by Greg. Given water quality and chemistry is a concern for ice making plants, Charles Holwerk suggested that there may be some synergy with their efforts to produce “good ice.” It is anticipated that that a test method may need to be defined to support the research activities.

C. Standards

1. Standard 15 Update
  - a) Greg Scrivener reported that efforts to re-write Standard 15 with code enforceable language continues. Goal is also to make the Standard more user friendly and code enforceable. Out for public review soon is a proposed change to the Standard that would

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eliminate the need for an exterior exit in machinery rooms.  
Changes related to the safety requirements for 2L refrigerants went out for public review and received approximately 80 comments. Updated Standard needs to be finalized by the 2016 Annual Conference (St. Louis) or risk missing the 2018 code cycle.

- D. Programs
  - 1. Upcoming Meeting Tracks
    - a) St. Louis (Annual 2016) does have a refrigeration track. Wayne Borrowman suggested “Advances in Ice Rink Design” as a seminar topic. He will develop a seminar proposal. Deadline for submission is 02.08.16.
    - b) Proposals for Las Vegas (Winter 2017) conference papers are due mid year. Art has been drafting a paper on NH<sub>3</sub>/CO<sub>2</sub> Heat Recovery. Will discuss more in St. Louis.
- VII. Membership
  - A. Review Roster
    - 1. Proposed roster changes that will go in effect after the 2016 Annual Meeting in St. Louis:
      - Greg Scrivener will roll off of the roster
      - Wayne Borrowman will become Chair
      - John Davis will become Vice Chair/Programs (and perhaps a non-voting member)
      - John Gallaher will become Secretary
    - 2. Ray Cole will be added to the roster as a corresponding member.
- VIII. New/Unfinished Business
  - A. Greg Scrivener will request room/times in St. Louis for TC subcommittee efforts (Handbook, Research).
- IX. Review and Assign Action Items
  - A. John Scott - forward current handbook chapters to appropriate TC members for review.
  - B. Greg Scrivener – contact new RAC Liaison to identify steps necessary to to resurrect RTAR 1727. Also contact TC 9.1 to assess interest in co-sponsorship.
  - C. Greg Scrivener – distribute Art Sutherlands draft RTAR for “Quantifying Good Rink Ice.”
  - D. Wayne Borrowman - draft and submit seminar proposal for St. Louis.
  - E. Greg Scrivener – request space in St. Louis for TC subcommittee meetings.
- X. Next Meeting
  - A. 2016 Annual Meeting, St. Louis, June 27<sup>th</sup>, 2016, 4:30 – 6:30PM, location TBD
- XI. Adjourn
  - A. Meeting was adjourned at 6:30PM.

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TC 10.2 Winter Meeting – January 25 2016

| Name                      | Affiliation                     | Email Address                           |
|---------------------------|---------------------------------|---|
| <del>Tom Scott</del>      | <del>Nature Power Canada</del>  | <del>Tom.Scott@CANADIAN.CA</del>        |
| Kristina Zukauskas        | City of Hamilton                | Kristina.Zukauskas@hamilton.ca          |
| <del>Pat Sutherland</del> | <del>Accent Refrigeration</del> | <del>pat@accent-refrigeration.com</del> |
| Don Blacklock             | IBLx                            | doublacklock@IBLx.ca                    |
| Wayne Borrowman           | Cimco Refrigeration             | wborrowman@teramont.com                 |
| J Brian Blahney           | Cimco Ref'n Inc                 | bblahney@teramont.com                   |
| Kyle Hasenikox            | RPE                             | Kyle@RPEng.ca                           |
| John Gallager             | Hill Phoenix                    | John.Gallager@hillphoenix.com           |
| John G. Davis             | Univ Wisc                       | John.Davis@univ.wisc.edu                |
| Jim Tauby                 | ASHRAE TAC                      | JTauby@masov-ind.com                    |
| Ray Cole                  | Axiom Engineers                 | rayc@axiomengineers.com                 |
| Bill Wladyska             | WJW CONSULTING ENG.             | bwladyska@gmail.com                     |
| Greg Scriver              | Cold Dynamics                   | greg.scriver@cold-dynamics.com          |
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