

ASHRAE Meeting – Dallas
TC 10.1 Custom Engineered Refrigeration Systems
Monday January 28, 2013 2:15 to 4:15 PM
City View 8, Sheraton Dallas

MINUTES

1. Meeting called to order at 2:14pm

2. Self Introduction & Sign Roster - Members, Visitors, and Guests

3. Quorum Established (9 voting members; 5 present)

Daniel J Dettmers, Donald L Fenton, John J Sluga, Andrew B Pearson (Non-Quorum), Ronald P Vallort, Jim Caylor, Dennis I Halsey, **Eric M Smith, James W Young**

4. Changes and additions to Agenda

None

5. Approval of Minutes from San Antonio

Moved Sluga, seconded Young 4-0 CNV

6. Chairman's Report from Section 10 Chair Breakfast

ASHRAE Standard of Ethics; request to update your employment discipline online; free wi-fi in future meetings

7. Liaison Reports

a) Refrigeration Committee (Doug Scott)

- i) Awards for Refrigerants Conference to Piotr Domansky & Tony Giometti
- ii) 1634-TP Guide for Sustainable Refrigerated Facilities and Refrigeration Systems nearly ready to start, delays on agreements with UNEP & ASHRAE
- iii) Programs issues with this meeting, more discussion later
- iv) **Action Item:** Dan Dettmers to request Richard Royal assign a formal Refrigeration Committee liaison
- v) CTTC requests more refrigeration related programs with "excellent speakers" on broad topics with wider appeal, and more "excellent speakers" applying for Distinguished Lecturers (2 year term).
- vi) Refrigerant Management Program ad-hoc exploratory committee. Program to minimize direct emissions of synthetic refrigerant over their life-cycle. Initial phase is in US only focused on HVAC&R.

b) IIAR (Eric Smith)

- i) IIAR-5 – Almost ready to publish, delayed by an additional public review & comments.
- ii) IIAR-7 – Guidelines for writing operating procedures. Close to completion.
- iii) IIAR-2 – 50% to finish major review, to expand current coverage of following topics (but not limited to these):
 - (1) Shunt tripping
 - (2) Alarms & detection

- (3) Equipment not in a machinery room
- iv) Bruce Badger is retiring as IIAR President and this is his last meeting. Thanks & acknowledgement of Bruce's work at IIAR & ASHRAE.
- v) Annual Meeting in Colorado Springs in March. Encouraged TC10.1 members and guests to attend.
- vi) Carbon Dioxide Training course in coordination with the IIAR Annual Meeting. Brian Marriot coordinating.
- c) Research Committee (Pradeep Bansal)
 - i) Requesting more submission from TC10.1
 - ii) Funds are available
 - iii) Simplified RTAR approval process
- d) Handbook Committee (Don Fenton)
- e) Other Liaison Reports and Announcements

8. Review of Action Items from San Antonio

None

9. Subcommittee Reports

- a) Membership – Fenton/ Dettmers
 - i) Establish membership for 2013-14 Society year
 - (1) Dettmers rolling off, add Tom Wolgamot, Wayne Borrowman, Gregory Scrivener
 - (2) Increased membership to 11, quorum to 6
 - ii) Call for corresponding member interest
 - iii) Dettmers to Program, Borrowman to Vice Chair, Jekel remains Secretary, Griffith remains Standards, Wolgamot remains Research, Sluga remains Handbook, Hoest remains Webmaster
- b) Research – Wolgamot
 - i) Review of Research breakfast
 - (1) Looking for broader topics
 - (2) **Action item:** Request clarification from RAC (Pradeep & Eric at TAC) on the URP recommendation: convert this URP in cooperation with the TC into a Work Statement
 - ii) 1513-WS – “Liquid/Vapor Separating Velocities for Industrial Refrigeration Systems” (TC 10.3 lead)
 - iii) 1514-WS – “Thermal Energy Recovery from Industrial Refrigeration Systems”
 - (1) Doug Scott editing
 - (2) Pradeep recommended re-titling and resubmitting as a workstatement
 - (3) Don Fenton & Eric Smith to assist
 - iv) 1634-WS – “Guide for Sustainable Refrigerated Facilities and Refrigeration Systems”
 - (1) Contracts getting signed, work started
 - ~~v) 1448 RP – “Ventilation Requirements for Refrigeration Machinery Rooms” (TC 4.3)~~
 - (1) Complete
 - ~~vi) 1472 RP – “Experimental Validation of Modeling Tools for Mixed Gas Refrigeration Cycles”~~
 - (1) Complete
 - vii) 1602-RP - “Thermal-Fluid Behavior of Mixed Refrigerants for Cryogenic Applications”

- (1) Meeting during TC 10.1 Cryogenic Refrigerants - Executive Boardroom (Sheraton Dallas), Sunday 3-5 pm ... rescheduled...will be online
- (2) Work started, construction of experimental apparatus underway, expecting data by Denver
- (3) **Action item:** Dettmers to find a time and submit for a room at Denver.
- viii) Co-sponsor with TC 10.3 proposed on research into hydraulic shock. Originally RTAR-1569. Idea reworked and being resubmitted as a work statement. (Loyko)
 - (1) Title: *CFD Study of Hydraulic Shock in Two Phase Anhydrous Ammonia*.
 - (2) Also asked to coordinate with TC 4.10 (CFD) by RAC but they showed no interest.
 - (3) Requested Loyko send the TC10.3 vote to Dettmers and, if approved, Dettmers would send out a letter ballot.
- ix) MTG *Alternative Lower GWP Refrigerants* (Scott)
 - (1) Dallas, Saturday, January 26, 2013, 6:00 – 7:30 PM, State Room 2 on the 3rd Floor, Sheraton Conference Center
- x) Future research priorities and volunteers for RTAR development
 - (1) Component balancing (moving Chapter 5 in the *Refrigeration Handbook* to computer methodologies)
- c) Program -- Borrowman
 - i) Dallas meeting – Shut out
 - ii) Denver Meeting
 - (1) Resubmit by February 11, 2013. Borrowman to strengthen abstracts.
 - (2) From CEC to Dettmers “...proposed a "research summit" at the Denver Conference as a way to focus/call attention to research and encouraging more papers at ASHRAE conferences.”
- d) Handbook -- Sluga
 - i) Volunteers chapter responsibility:
 - (1) Liquid Overfeed Systems (4) Comments pending, vote pushed until Denver.
 - (2) Component Balancing in Refrigeration Systems (5) – needs fundamental change in the future. Sluga moved to approve chapter as written. 5-0-4 CV, abstentions are absent
 - (3) Secondary Coolants in Refrigeration Systems (13) Comments pending, vote pushed until Denver.
 - (4) Concrete Dams and Subsurface Soils (45) Sluga moved to approve chapter as written. 5-0-4 CV, abstentions are absent
 - (5) Refrigeration in the Chemical Industry (46) Comments pending, vote pushed until Denver.
 - (6) Terminology of Refrigeration (50)
 - (a) IIR Standard 1
 - (b) ASHRAEwiki (<http://wiki.ashrae.org/index.php/ASHRAEwiki>)
 - (7) Cryogenics (47) Comments pending, vote pushed until Denver.
 - (8) Ultralow-Temp Refrigeration (48) Comments pending, vote pushed until Denver.
 - (9) Biomedical (49) Sluga moved to approve chapter as written. 5-0-4 CV, abstentions are absent
- e) Standards -- Griffith
 - i) See attached report from Griffith
 - ii) Review/Comments on Standards from other organizations
 - (1) BSR/UL 427-201x, Standard for Safety for Refrigerating Units (revision of ANSI/UL 427-2011)
 - (a) Comment deadline: December 31, 2012

- (b) See attached
- (2) IIAR 5-201x, Start-up and Commissioning of Closed-Circuit Ammonia Mechanical Refrigerating System
 - (a) Comment deadline: December 17, 2012
 - (b) Contact IIAR for copy
- (3) IIAR 7-201x, Developing Operating Procedures for Closed-Circuit Ammonia Mechanical Refrigerating Systems
 - (a) Comment deadline: December 10, 2012
 - (b) Contact IIAR for copy
- (4) CGA Standard G-2.1-201x, BSR CGA G-2.1-201x, Safety Requirements for the Storage and Handling of Anhydrous Ammonia – new standard
 - (a) Comment Deadline: November 13, 2012
 - (b) Paper copy to be circulated at meeting

10. Old Business

- a) Objectives
 - i) MBO #1 – Develop programs
 - ii) MBO #2 – Support sustainability efforts
 - iii) MBO #3 – Increase research activities
- b) Web site updates – Hoest
 - i) Complete prior to meeting
- c) Promote Awards: Hightower, Milt Garland, Comfort Cooling Awards
- d) Request for more refrigeration articles for ASHRAE Journal

11. New Business

- a) Report on Refrigeration Commissioning Guide 50% review – Siller/Vaisman with Scott
 - i) See attached copy of guide for review
 - ii) Peer review schedule: January 21, 2013 through February 8 COB
 - iii) Comments should be place on attached review sheet and sent to Lilas Pratt <LPratt@ashrae.org>
- b) Standard 189.1 *Standard for the Design of High-Performance Green Buildings* looking for comments on revised commercial refrigeration efficiency table
 - i) Monday 4:30 to 5:30 pm: Dallas Sheraton 4th floor - City View 7
- c) AIRAH requesting comments on DRAFT DISCUSSION PAPER: TRANSITION TO LOW EMISSION HVAC&R ISSUES AND SOLUTIONS
 - i) See attached copy
 - ii) Comments by 5pm Friday 1st February 2013 to vince@airah.org.au

12. Announcements

- a) **Cryogenics Refrigerants Subcommittee: Sunday 3:00-5:00p, Executive Boardroom (Sheraton)**
 - i) **May include PMS for RP-1602**
- b) **MTG *Alternative Lower GWP Refrigerants*: Saturday 6:00 – 7:30 PM, State Room 2**
- c) **All other 10.1 subcommittee meetings: Sunday 5:00-7:00p, Executive Boardroom (Sheraton)**

d) Std 189.1 Revised Commercial Refrigeration Efficiency Table meeting: 4:30-5:30, City View 7 (Sheraton)

13. Next meeting June 22-26, 2012 in Denver

14. Adjourn at 4:12pm (Sluga moved, Smith seconded, 5-0 CV)