

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING  
ENGINEERS, INC.  
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. TC 2.5 DATE Feb. 19, 2015

TC/TG/MTG/TRG TITLE Global Climate Change

DATE OF MEETING 27 January 2015 LOCATION Chicago, IL

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Bill McQuade	2013	Bruce Lindsay	2012	See Attachment 1
Don Brundage	2014	Jim Crawford	2014	
Matt Ritter	2013	Dave Godwin (VNQ)	2012	

**DISTRIBUTION**

*All Members of TC/TG/MTG/TRG plus the following:*

TAC Section Head:	Tom Sobieski
TAC Chair:	Eric Adams
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters:	Chris Fudge (CTTC) Harvey Sachs (RAC) Darin Nutter (ALI) Cyrus Nasserri (Standards)
Manager Of Standards Manager Of Research & Technical Services	Stephanie Reiniche Mike Vaughn

## DRAFT Minutes

Technical Committee TC 2.5 (*Global Climate Change*)<sup>1</sup>

Tuesday, 27 January 2015, 1:30 - 3:30 pm

Madison (3), Palmer House Hilton, Chicago, IL

### 1. CALL TO ORDER [Bill McQuade]

- 1.1. Meeting was called to order at 1:30 and an introduction of members and guests occurred. A sign-up sheet was circulated. See Attachment 1.
- 1.2. Agenda revision / acceptance: no revisions noted.
- 1.3. Establishment of a quorum: Three of five voting members were present and quorum was established.
- 1.4. Due to a lack of quorum at past meetings, there was a backlog of minutes requiring approval. The following meeting minutes were approved in Chicago by a vote of 3-0-0-CV.
  - 1.4.1. 29 January 2013 (Dallas)
  - 1.4.2. 25 June 2013 (Denver)
  - 1.4.3. 21 January 2014 (New York)
  - 1.4.4. 1 July 2014 (Seattle)

### 2. CHAIRMAN'S ANNOUNCEMENTS [Bill McQuade]

#### 2.1. Report of TC/TG Chairs' Breakfast Meeting

##### 2.1.1. **2014-2015 Hightower Award Recipient – John Carter, TC 4.3**

Mr. Carter's contributions to ASHRAE technical committees and especially to TC 4.3 in the last four years have been exemplary and make him a well deserving recipient of the *George B. Hightower Technical Achievement Award*.

##### 2.1.2 **2014-2015 Service to ASHRAE Research Award Recipient – Iain Walker, TC 4.3**

Dr. Walker's contributions to ASHRAE technical committees in the area of research and especially to TC 4.3 in the last four years have been exemplary and make him a well deserving recipient of the *Service to ASHRAE Research Award*.

##### 2.1.3 **TAC has developed a new award call the Outstanding Technical Committee Award.** The purpose of the award is to recognize, annually, a single Technical Committee within each TAC Section that has the highest measured performance based on a set of weighted criteria as compared to other TCs within that same Section.

##### 2.1.4 **ASHRAE Code of Ethics.** The Chairman reviewed the ASHRAE code of ethics with the members and emphasized that all participants agree to abide by them regardless of ASHRAE membership status.

##### 2.1.5 **New MTGs that have been formed**

TAC approved the formation of the following new multidisciplinary task group (MTG):

##### **MTG.O&MEE – Operations and Maintenance Activities That Impact Energy Efficiency**

Scope: MTG.OMBE will coordinate TC/TG/TRG activities to help support the application of ASHRAE guidelines, Standards and other technical resources to support regulatory bodies, utilities, building owners and others who are attempting to enhance efficiency of existing buildings. Responsibilities include suggestions for research, development and presentation of technical programs of all types on maintenance and its impact on energy consumption and efficiency. It will be especially involved with interactions with those who are introducing and evaluating strategies for building efficiency enhancements.

For more information on this MTG and the six other active MTGs, please go to the MTG section on the following web page: <http://www.ashrae.org/tcs>

Also since the 2014 annual meeting, **MTG.HPAS – High Performance Air-handling Systems for Buildings except Low-Rise Residential Building** voted to disband as a MTG after completing their charge.

##### 2.1.6 **E&P Beta Test #7 TC meetings being Held in Chicago**

The 7<sup>th</sup> beta test of Electronic and Physical (E&P) meetings, which allows some TC members to participate in the TC meeting from a remote location electronically, will occur in Chicago and the following nine TCs have agreed to participate in this test: TC 1.5, TC 2.2, TC 7.9, TC 4.2 (RP-1561 PMS & RP-1699 PMS), TC 6.8, TC 8.4, TC 8.8, and TC 9.2.

##### 2.1.7 **CEC Seeking Track Suggestion for 2016 Annual Meeting in St. Louis & Other Program Information**

The Conferences and Expositions Committee (CEC) oversees ASHRAE's annual and winter conferences and other specialty conferences and expositions globally. The CEC continually works to improve the conference

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<sup>1</sup> SCOPE: TC 2.5 is concerned with the impact that the activities of the HVAC&R industry may have on the global environment, including greenhouse warming and ozone depletion. This Task Group coordinates activities and planning for the Society to address these issues. This includes identifying factors within the scope of the HVAC industry, which may impact, favorably and unfavorably, the global environment and the role that ASHRAE is serving and could serve.

experience for all attendees. To help keep a “pulse” on the technical issues facing professionals in the HVAC&R marketplace, the CEC seeks ideas for tracks for the St. Louis 2016 meeting next year and annual and winter conferences beyond as well as topics for specialty conferences from TC members. Please submit your suggestions to ASHRAE Staff member Tony Giometti ([Giometti@ashrae.org](mailto:Giometti@ashrae.org))

#### 2.1.9 ***TC Volunteers needed to help improve the ASHRAE technical program for meetings***

CEC is requesting qualified volunteers from TC 2.5 that are potential Technical Session chairs and reviewers of session papers that are related to TC’s scope for use by the Conferences & Expositions Committee (CEC) in developing technical content for future technical programs.

#### 2.1.10 ***Upcoming meetings:***

##### **Atlanta Meeting - June 27 – July 1, 2015**

- Conference Paper accept/reject notifications sent January 30, 2015
- Seminar, Forum and Workshop Proposals Due on February 9, 2015
- Revised Conference Papers/Final Technical Papers due February 13, 2015
- Conference and Technical Paper Final Accept/Reject Notifications sent Feb. 27, 2015
- Seminar, Forum, Workshop Accept/Reject Notifications sent March 23, 2015
- All PPTs Due Online by June 5, 2015
- Final Day for Commercialism Revision Upload prior to on-site by June 17, 2015
- Speaker's Lounge Opens on June 27, 2015
- Conference Website: <http://www.ashrae.org/atlanta/>

##### **Orlando Meeting - January 23 - 27, 2016**

- Conference Paper abstracts due on March 23, 2015
- Conference Paper Abstract Accept/Reject Notifications sent April 6, 2015
- Technical papers due by April 20, 2015
- Website Opens for Seminar, Forum and Workshop Proposals on June 4, 2015
- Final Conference Papers Submitted for Review by July 6, 2015
- Conference Paper accept/reject notifications sent August 3, 2015
- Seminar, Forum and Workshop Proposals Due on August 10, 2015
- Revised Conference Papers/Final Technical Papers Due on August 21, 2015
- Conference and Technical Paper Final Accept/Reject Notifications sent August 28, 2015
- Seminar, Forum, Workshop Accept/Reject Notifications sent September 11, 2015
- Conference Website: <http://www.ashrae.org/orlando/>

##### **Program Focus at Orlando Winter Conference**

###### **• Track 1: Systems and Equipment**

Selection of equipment and systems is paramount to HVAC&R design. Papers and programs in this track will assist designers, engineers, and operators in the design, selection, and operation of HVAC&R systems and equipment.

Track chair: Gary C. Debes - [gcdebes@verizon.net](mailto:gcdebes@verizon.net)

###### **• Track 2: Fundamentals and Applications**

Fundamentals are the foundation for understanding applications in engineering. Key components of ASHRAE fundamentals include thermodynamics, psychrometrics, fluid and mass flow, IAQ, and building envelope. This track provides opportunities for papers and presentations of varying levels across a large topic base. Concepts, design elements and shared experiences for theoretical and applied concepts of HVAC&R design are included.

Track chair: Cynthia Moreno - [cindym@tmmechanical.com](mailto:cindym@tmmechanical.com)

###### **• Track 3: Design Build**

This track explores the challenges and benefits of D-B project delivery. Highlight successful projects; discuss contracts; review management responsibilities; offer alternative design and construction processes. These topics and more will be included.

Track chair: James Liston - [jfliston@verizon.net](mailto:jfliston@verizon.net)

###### **• Track 4: International Design**

Design for various environmental elements, geography and culture demand that new and innovative strategies be developed. As an international organization, ASHRAE strives to meet the needs of a global membership. HVAC&R systems vary globally and this track provides an opportunity to share innovative and necessary design elements that can be shared internationally.

Track chair: Leon Shapiro - [leoneshapiro@gmail.com](mailto:leoneshapiro@gmail.com)

###### **• Track 5: Standards, Guidelines and Codes**

There is a large interaction of ASHRAE with the code authorities and government to incorporate standards and guidelines. The series of sessions in this track highlight the changes to the standards and guidelines, their projected path and optimum design techniques to meet or exceed the standards.

Track chair: Michael Collarin - [Michael.Collarin@parsons.com](mailto:Michael.Collarin@parsons.com)

- **Track 6: Cutting-Edge Technologies**

As energy codes become increasing more stringent, we are challenged to find creative ways to improve efficiencies in the effort to achieve net zero buildings. This track will include the most recent advances in HVAC&R system design, equipment, and construction techniques. Programs included will focus on efficiency, responsible use of resources and energy recovery.

Track chair: Ann Peratt - [agregg.ksu@gmail.com](mailto:agregg.ksu@gmail.com)

- **Track 7: The Great Debate**

Engineers commonly weigh multiple solutions to find the best match for a certain project. Centralized or Decentralized heating and cooling? Chemical or non-chemical water treatment? These sessions and papers will present divergent methods for accomplishing the same task. Hear all sides of the debate and decide for yourself.

Track chair: Chuck Curlin - [ccurlin@shultzeg.com](mailto:ccurlin@shultzeg.com)

- **Track 8: Modern Residential Systems**

Engineering for residential HVAC and plumbing systems and equipment used to be referred to as catalog engineering: for a two bedroom house choose one from Column A; for a three bedroom house choose one from Column B. Recent years have seen a boom in energy efficient solutions for the savvy, fiscally-conscience home owner. From glazing to water heating to lighting, this track will provide you with the latest advances for the residential market.

Track chair: Rocky Alazazi - [mralazazi@yahoo.com](mailto:mralazazi@yahoo.com)

2.1.11 ***Section Head Report on TC/TG/TRG websites in Section***

TAC and the Electronic Communications Committee (ECC) recently posted a webinar recording on how to set-up and maintain a basic TC website using the ASHRAE server and TC website template at the following link: <http://media.ashrae.biz/webinar/TrainingWebinar.avi>

2.1.12 ***New TAC Presentation template can be used by TC members to make a presentation to their local Chapter***

The new presentation template allows TC members, without a lot of effort, to give a presentation to their local chapter on TAC and the TCs in general and to also customize a few slides with information specific to their own TC or TCs. The template is posted now on the Technical Committee page of the ASHRAE website for download.

2.1.13 ***New Presentation Developed on TCs and ASHRAE Code Interactions***

Model codes (codes that are intended to be used as a model for jurisdictions to adopt at the state and local level) are being revised at a fairly rapid rate. ASHRAE Staff has been interacting with some TCs to ensure that model codes do not prevent sound engineering practice in the HVAC&R world. ASHRAE has a path for establishing official ASHRAE positions on proposals, and a mechanism to submit proposals and comments to model code organizations. If approved in accordance with ASHRAE procedures, ASHRAE Staff will represent positions of the Society in the model code development process. Many TCs are unaware that such a mechanism exists, and a new presentation has been developed for posting on the TC page of the ASHRAE website [www.ashrae.org/tcs](http://www.ashrae.org/tcs) intended to provide some additional information on how TCs 1) can help ASHRAE write more enforceable documents/standards, and 2) can provide input to the code development process.

2.1.14 ***Option for TC Subcommittee Meetings via Conference Calls and Web Meetings***

More and more TCs are taking advantage of a new Society service that allows TCs to hold subcommittee meetings by phone and/or web. Many TCs are finding this to be a more efficient way for them to conduct subcommittee business and it also allows TC members that can't travel to meetings on a regular basis a way to still contribute to the TC. Such a change can also eliminate potential conflicts with the TC's program sessions at Society meetings. Please pass your conference call/web meeting/webinar requests on to the Manager of Research and Technical Services, Mike Vaughn, at [mvaughn@ashrae.org](mailto:mvaughn@ashrae.org) or [MORTS@ashrae.net](mailto:MORTS@ashrae.net)

2.1.15 ***Employment Discipline added to ASHRAE BIO Online Input Form***

A new input field titled Employment Discipline has been added to the ASHRAE online member (BIO) graphical input form and **TAC would like ALL TC members to self-declare their employment discipline prior to the start of the new Society year on July 1, 2015** by going to the Members Only section (<https://eweb.ashrae.org/eweb/DynamicPage.aspx?Site=ASHRAE&WebKey=8396a37a-9fc2-4f50-9332-5eebebe73494>) and enter their employment discipline information. The link should take you directly to the screen, which is located under demographics.

You will need your login and password to enter. Employment Discipline is located in the third section.

Employment Discipline	
category:	Government and Organizations
discipline:	Not-for-Profit Organization (USGBC, Habitat, etc.)

Thus far, approximately **30%** of TC Members have declared their discipline.

#### 2.1.16 *Upcoming Workshops and Conferences:*

2015

- **International Air-Conditioning, Heating, Refrigerating Exposition (AHR Expo) – 2015 - January 26 – 28, 2015 - Chicago, IL – Contact: <http://www.ahrexpo.com/>**
- **2015 HVACR & Mechanical Conference for Education Professionals – March 9 to 11 – Baltimore, Maryland – Contact: <http://careersinhvacr.org/site/306/HVACR-Mechanical-Conference>**
- **2015 ASHRAE Webcast – New Tomorrows for Today’s Buildings: Existing Building Commissioning – April 23, 1 - 4 pm EDT – Contact: <https://www.ashrae.org/membership--conferences/webcasts> - Contact:**
- **Advanced HVAC and Natural Gas Technologies - May 6 – 9, 2015 - Radisson Blu Hotel, Riga, LATVIA – Contact: <http://www.rtu.lv/en/>**
- **2015 International Conference on Energy and Environment in Ships - May 22 – 24, 2015 - Athens, Greece – Contact: <https://www.ashrae.org/membership--conferences/conferences/2015-international-conference-on-energy-and-environment-in-ships>**
- **ISHVAC-COBEE 2015: 9th International Symposium on Heating, Ventilation and Air Conditioning (ISHVAC) and 3rd Conference on Building Energy and Environment (COBEE) - July 12 – 15, 2015 - Tianjin, CHINA – Contact: <http://www.cobee.org/>**
- **ICR2015 (24th IIR International Congress of Refrigeration) - August 16 – 22, 2015 - Yokohama, JAPAN – Contact: <http://www.icr2015.org/index.html>**
- **Cold Climate 2015 - October 20 – 23, 2015 - Dalian, CHINA – Contact: <http://www.coldclimate2015.org/>**
- **11th International Conference on Industrial Ventilation - October 26 – 28, 2015 - Shanghai, CHINA – Contact: <http://www.ventilation2015.org/>**
- **IBPSA 2015 (14th International Conference of the International Building Simulation Conference) – December 7 – 9, 2015 - Hyderabad, INDIA – Contact: <http://www.bs2015.in/>**

2016

- **International Air-Conditioning, Heating, Refrigerating Exposition (AHR Expo) – 2016 - January 25 – 27, 2016 - Orlando, FL – Contact: <http://www.ahrexpo.com/>**
- **CLIMA 2016 - May 22 – 25, 2016 - Aalborg, DENMARK – Contact: <http://www.clima2016.org/welcome.aspx>**
- **IAQVEC 2016 (9th International Conference on Indoor Air Quality Ventilation & Energy Conservation in Buildings) – Oct. 17 – 19, 2016 - Seoul, SOUTH KOREA – Contact: <http://iaqvec2016.org/>**

#### 2.1.17 *Upcoming TC Award Nomination Submission Deadlines*

##### a) **2015-2016 Hightower Award Nomination Process and Deadline**

Nominations for the 2015-2016 George B. Hightower Technical Achievement Award are due to you Section Head by **September 1, 2015**. 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 and Forms...” heading: <http://www.ashrae.org/tcs>

##### b) **2015-2016 Service to ASHRAE Research Award Nomination Process and Deadline**

Nominations for the 2015-2016 Service to ASHRAE Research Award for TC volunteer efforts in research are due to RAC research liaison by **September 1, 2015**. Please go to the Research page of the ASHRAE website at the following link under the “Research Grants and Awards” heading: <http://www.ashrae.org/research>

#### 2.1.18 *PEC On-line Orientation Modules Now Available on Effective Meetings and other Useful Topics*

New on-line orientation modules are now available at the link below on following subjects:

- ASHRAE Structure, Councils and Committees
- Budgets and Financial Statements
- Conducting Effective Meetings
- Strategic Planning

<https://www.ashrae.org/society-groups/councils#pubed>

## 2.2. Review of 2015-2016 roster workbook, Subcommittee Assignments

TC 2.5 has several voting members who will be rolling off as voting members due to end of tenure or to inability to attend meetings. The following are rolling off: Bill McQuade, Jim Crawford, and Bruce Lindsay. Members who will move into voting members for the next roster year are: Alameda Brooks, Julian DeBulles, Eric Sturm, and Cynthia Gage. Bill Walters will become voting non-quorum. Some leadership positions will also change. The new Chair will be Matt Ritter. Eric Sturm will be Vice-Chair, and Cynthia Gage will become Secretary.

## 3. UPDATE REPORTS ON RELATED TREATIES/ACCORDS AND ACTIVITIES [Round Table Discussion]

- 3.1. International Treaties on Climate and Ozone – Matt Ritter gave an update on the Montreal Protocol. The US, Canada and Mexico again requested that HFCs be controlled under this Protocol, but the call did not advance. A separate workshop will be held in Bangkok in April 2015 to discuss this, and to discuss alternatives to HFC and HFC management. The EU presented a discussion paper to have a freeze on HFC's in developing countries. Matt also reported that the UNFCCC has scheduled 5 meetings for this year. Developed countries are pledging funds to assist developing countries, however the targets developed under the Durbin platform are not moving.
- 3.2. European F-Gas Update – This topic was the subject to the TC's sponsored seminar at this meeting. Matt Ritter summarized some additional information. The EU commission is studying the impact of the use of low GWP refrigerants on codes, training, and of green procurement by government/military can speed up their introduction to the marketplace. Some countries are pushing for tighter restrictions than the F-gas regulation.
- 3.3. North America– EPA's SNAP program has proposed delisting some HFCs in different applications. The rule is expected to be finalized by the third quarter of 2015. While some are happy with the quicker phasedown, there are some complaints that the phasedown will affect the ability of the industry to meet the new DOE energy codes as they have been developed based on the use of existing HFCs. Main impacts of phasedown would be foams, auto and commercial applications, and solvents. Industry has approached EPA to update Section 608 of the Clean Air Act to include HFCs. This section addresses technician certification. It was also reported the Canada is proposing HFC reductions in line with the delisting. The TC then had a discussion about the problem of the sale of dry equipment for use in existing R-22 equipment, and that it was adversely extended the life of these systems. There was a strong sense from the committee that ASHRAE should speak up in support of resolving this problem. TC Chair Bill McQuade agreed to bring this issue to Tech Council. **See AI 1.**
- 3.4. China and Rest of Asia- It was reported that China is having problems using the Multilateral Funds for replacing refrigerants with flammable ones because of safety and other regulations. Japan is having similar issues with converting to flammables. R32 systems are being produced but only those with small charge sizes.

## 4. UPDATE ON CLIMATE CHANGE POSITION DOCUMENT

Wayne Reedy reported that the Climate Change Position Document had been reaffirmed in 2013 and would expire in 2016. Thus the committee would need to start thinking about what action to take in order to meet the deadline. Cynthia Gage, who had been on the original PD drafting committee and involved in the discussion before the 2013 reaffirmation, reminded the TC that at the time of reaffirmation the TC felt that a revision would be needed after the release of the IPCC AR5 report. Matt Ritter moved and Don Brundage seconded that TC2.5 vote to have the document revised to include the latest data from AR5. The motion passed 3-0-0-CV. Wayne Reedy would take the motion to Tech Council and convey to the TC what its next steps should be.

*Note: Wayne has reported back that the TC can move ahead with the revisions, but the document must be converted to the new PD format. See AI 2.*

## 5. LIAISON REPORTS

- 5.1. **TAC** - Tom Sobieski, Section Head for Section2, mentioned that TC 2.5 may be interested in using the E&P meetings to assist us in meeting quorum.
- 5.2. **RAC** – Harvey Sachs reported that ASHRAE has available funds for research. He also noted that climate zone maps have been changed for Std. 90.1.

## 6. SUBCOMMITTEE REPORTS

- 6.1. Program [Eric Sturm] – TC 2.5 sponsored a seminar at Chicago “What the F-gas is Going on in Europe: What the HFC Phasedown means for our Industry.” The seminar was very well attended with standing-room only. The TC discussed that it would be a valuable asset to TC 2.5's webpage if the seminar presentations were posted. Two of the seminar speakers agreed to make their presentations available for posting. **See AI 3.**  
The TC discussed possible topics for the next two meetings as shown below. A subcommittee was set up to discuss specific topics and potential speakers, and will report back to the TC in Atlanta. **See AI 4.**
  - 6.1.1. Atlanta, June 27 – July 1, 2015: Nothing ready for Atlanta.

- 6.1.2. Orlando, January 23-27, 2016: Several potential topics for the winter meeting include: EPA SNAP delisting of some HFCS, Japanese fluorocarbon management program, new building codes in response to changes in climate (i.e. CA water restrictions for AC), and the need for 2L training.
- 6.2. Handbook [Baxter/Ritter] – Van Baxter reported that with regards to the two existing sections in Fundamentals, the TC’s work was completed for the 2013 release.
  - 6.2.1. 2013 Handbook of Fundamentals, Chapter 29 Refrigerants, GEP section
  - 6.2.2. 2013 Handbook of Fundamentals, Chapter 34 Energy Resources (TC 2.8 cognizant TC)  
Van also reported that our request for a dedicated chapter on Global Climate Change had been approved by the Handbook Committee about 18 months ago. He then turned the discussion over to Matt Ritter who had volunteered to be the lead for the new chapter.
  - 6.2.3. Discussion of Climate Change Handbook Chapter – Matt Ritter reported that while there appeared to be a good number of people to help with the chapter, response was low when material was sent out. There were additional volunteers who came forward at the TC meeting, and it was noted there were 18 months available to write and approve the chapter for the 2017 Fundamentals Handbook. Matt Ritter agreed to send out the outline again to the new and old volunteers. Due to Matt’s upcoming position as TC Chair, Brian Smith will be the new lead for the chapter. **See AI 5.**
- 6.3. Web Site [Don Brundage] – Don reported that the website was up to date as of the TC meeting.
- 6.4. Research [Jibonananda Sanyal] – no report
- 6.5. Standards [Bill Walter] – Bill reported that ASHRAE Standard 34 and ISO Standard 817 are under review. ASHRAE Standard 34 has about 21 more refrigerants than ISO817. In addition requirements for the use of 2L refrigerants are being developed for ASHRAE Standard 15, ISO 5149, EN 378, ICE 60335-2-40 and several UL standards.
- 6.6. MTG Update [John Karakash] – John is TC 2.5’s liaison to MTG LowGWP, but was not in attendance at the TC meeting and so no report was made. **See AI 6.**

7. **OTHER BUSINESS** none

8. **ADJOURN** It was moved and seconded to adjourn at 3:15.

**Table 1: Action Items**

Item	Responsible Party	Action
1.	Bill McQuade	Convey to Tech Council a request for ASHRAE to speak out against the sale of dry equipment for use in existing R-22 systems which is adversely extended the life of R-22 equipment.
2.	Joel Hall	Assemble a balanced subcommittee to revise the Climate Change Position Document reflecting the latest information from AR5 and converting to the new PD format.
3.	Don Brundage	Post Ritter and McQuade seminar presentations to the TC 2.5 webpage.
4.	Eric Sturm	Convene subcommittee to detail program ideas for Orlando and report back to TC in Atlanta. See 6.1.2
5.	Matt Ritter	Send Global Climate Change Outline and re-solicit volunteers to contribute to development of the chapter.
6.	Bill McQuade	Prior to the summer meeting, request a report from John Karakash on activities of MTG LowGWP.