

1. **Quorum check.** At the start of the meeting we had 7 of 14 voting members present including the chair. Quorum not present.
2. **4/7 Minutes**
 - a. Minutes are posted at <http://tc99.ashraetcs.org> The motion was received to accept the minutes from 4/7 as written.
3. **Recommendation for 90.1 changes – Status**

Summary results of the meeting in Atlanta were shared. At that meeting four members of TC 9.9 (Dave Quirk, John Bean, Greg Jeffers, Fred Stack) presented a draft proposal and a work in progress proposal for how to modify the 90.1 standard to be inclusive of traditional data center cooling equipment. Both documents include minimum efficiency standards for such equipment as measured by ASHRAE Standard 127. The 90.1 mechanical subcommittee provided good discussion and guidance for changes to our documents and suggested improvements to the ASHRAE Standard 127. (On this matter I have formally requested of ASHRAE permission to reestablish the SPC 127 committee to address their recommendations. More details on this in Louisville). The main area of contention is how we address the prescriptive path requirement that requires economizers be used. I shared the proposal presented by our subcommittee and the suggestion by the 90.1 subcommittee. Requests for opinions / preferences between these two approaches and two that would be compromises between these two were discussed. Note: these four approaches were later sent to all on the call for feedback along with a prioritization vote from all voting members was sent via email. A firm voice of disapproval for this approach taken to provide guidance to the subcommittee was received from one caller. There will be a subcommittee meeting early next week.
4. **RTAR work statement Status -**

The subcommittee is meeting this Thursday to begin the effort to address the reasons the original work statement was rejected in January. Independently, I have approached the group of IT equipment suppliers that have worked with us in the past on the thermal trends book and the expansion of the thermal envelope to get them to embrace the work statement. My logic if they do not embrace its findings and recommendations the research effort will be a waste of money as nothing will change. This group is trying to schedule a meeting for Thursday May 21 to develop potential recommended changes to the current work statement. This recommendation will be worked through our research sub-committee. We need the work statement revised for a vote in Louisville.
5. **Program for Louisville and Orlando –** The table below shows the current schedule . There is also a Tutorial session on Saturday 8:00 – 3:00 sponsored by DOE jointly with ASHRAE on data Center best Practices. It will be delivered by Don Beaty, Jack Glass, Roger Schmidt and Bill Tschudi.

Louisville	Transactions	Free Cooling Opportunities for Data Centers	Terry Rodgers	Bill Tschudi, Steve Greenberg, Amit Khanna Jeff Stein Robert Sullivan	High Performance Computing with High Efficiency ----- Waterside Economizing in Data Centers: Design and Control Considerations ----- Introducing Using the Heat Wheel to Cool the Computer Room
Louisville	Transactions	Cooling of Telecom Centers	Magnus Herrlin	David Quirk Herman Chu	Convergence of Telecommunications & Data Centers ----- Hurdles in Deploying Liquid Cooling in NEBS Environments
Louisville	Seminars	DOE Certified Energy Practitioner (CEP) Program for Data Centers	Jack Glass	Bill Tschudi Paul Scheihing (DOE) Magnus Herrlin	This seminar will be presented as part of the TC 9.9 main meeting Monday PM
Orlando	Transactions	Recent Advances in Monitoring of Data Center Energy Efficiency	Terry Rodgers		Data Center Efficiency Metrics Evaluation ----- Data Centers' Energy Auditing and ----- Benchmarking - Progress Update ----- Data Centers' Energy ----- Numeric Analysis of Telco & Data Center Cooling & Humidification Options ----- Design Consideration of Airside and Waterside Economizer for Data Center Project
Orlando	Transactions	High Density Cooling Issues Update	Ecton English		Top-Level Dashboard for Data Center Monitoring ----- TBA TBA
Orlando	Transactions	Contamination Issues in Data Centers	Joe Prisco	 Chris Mueller	Contamination in the Data Center: the Impact of CRAC Belt Dust ----- What's Creeping Around in Your Data Center
Orlando	Seminar		Bob Sullivan		

6. DOE / ASHRAE Seminar Program – Bill Tschudi

Significant progress has been made on the training material for the DOE seminar program. Several sections of this material is available for review. The first usage of some of the material is planned for the Saturday Tutorial in Louisville. There has been interest expressed by several organizations to be hosts for this DOE sponsored training. Two were discussed -- Gov't Energy in Providence in August and Labs 21 in Portland, OR in September. It was pointed out there are two big steps which need to start soon:

- The defining of the process that will be used to identify and certify the required trainers, and
- The process that will be used to identify and qualify potential hosts

7. Update on Books

- Contamination – Final editing issues are being resolved today so we can get a rush printing for display in Louisville. Joe Prisco did a great effort resolving the final issues to get this book printed. He will try to do a lessons learned so future books are less painful between approval and actual printing.
- Measurements – Tahir Cader -- Significant progress is being made. All chapters except one are at 90% complete. It does not look like it will be complete for review this month, but it will be distributed ASAP with a potential hope we can vote it approved in Louisville soon there after
- Green Tips – No update at this time
- Economizers—No update.

The next conference calls are scheduled for 4:00 PM EDT on

- June 9

The schedule in Louisville is:

Louisville is June 20 – 24

- Sunday 5:00 – 7:00PM Programs subcommittee meeting
– Lead Vali Sorrel
- Monday 2:00 – 3:00PM Seminar DOE Certified Energy Practitioner (CEP) Program for Data Centers
- Monday 3:00 – 6:00PM TC 9.9 General Session
Reports from various sub committees
 1. Handbook
 2. Programs
 3. Research – Planned vote on new work statement
 4. DOE / ASHRAE training Program
- Monday 7:00 – 9:00PM TC 9.9 Strategic Planning
- Tuesday 2:00 – 5:00PM TC 9.9 Working Session
 - i. Review and write Green Tips book
 - ii. Review and enhance DOE / ASHRAE training presentations