

1. 5/12 Minutes review

- a. Minutes are posted at <http://tc99.ashraetcs.org> There were no suggested changes or corrections.

2. The Schedule in Louisville

Louisville is June 20 – 24

- Saturday June 20 Data Center best Practices Training based on the NYSERTA material
- Sunday 5:00 – 7:00PM
 - i. Programs subcommittee meeting 75 min
Lead Vali Sorrel
 - ii. Research Committee review RTAR Work statement 45 min
Lead Robin Steinbrecher
- 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. Research – Planned vote on new work statement Robin
 2. Handbook Don McLean
 3. Programs Vali Sorel
- Monday 7:00 – 9:00PM TC 9.9
 - i. DOE / ASHRAE training Program Bill Tschudi
 - ii. Strategic Planning Fred Stack
- Tuesday 2:00 – 5:00PM TC 9.9 Working Session
 - i. Review and enhance DOE / ASHRAE training presentations

3. RTAR work statement Status - Robin Steinbrecher

The working group had several phone conferences since last months update. The last two had significant participation from several members from the IT Equipment community. This participation was beneficial and appreciated. The results are a new draft work statement that should be ready for distribution before the end of the week. The plan is to discuss any last minute changes during the Sunday evening session in Louisville so a final draft can be presented to the voting members on Monday for a vote. Two other topics will be discussed in the Sunday evening session:

1. The research priorities listed on our website – It has been a while since these were reviewed so please check them out and come prepared to discuss them.
2. A research proposal on contamination needs to be developed. Who should lead this work group and who will participate?

4. Recommendation for 90.1 changes – Richard Pavlak

This work group also had several conference calls. There has been progress, but there is still great disagreement regarding the best way to address the topic of economizers being a prerequisite for data center applications for most climate zones. The work group has strong beliefs on both sides of this discussion. In an

effort to find the consensus of the full committee as well as the vast user community a questionnaire was developed and a third party is being used to survey the TC 9.9 members as well as a group of 1200 called the Data Center User Group. The result of these surveys will be shared first with the working group this Friday at 2:00 EDT and then with all of you, probably by posting it on our website. We do still hope to have a final recommendation from the working group by Monday / Tuesday of next week to send to the voting members prior to sending it on to the ASHRAE 90.1 committee.

5. DOE / ASHRAE Seminar Program – Bill Tschudi

The training presentation material that I sent a link out last month for review and comment (LBNL url site) received no feedback. That link will be reestablished tomorrow for all interested parties to down-load and review. It is very important that all those coming to the Tuesday session in Louisville review these documents prior to the meeting and come to discuss. There is not time in Louisville to review all the presentations so we will focus on review by exception. Please come prepared to state exactly the presentation and slide number you want to discuss or recommend changes.

The program will be fully presented to the committee on Monday evening. The content is the responsibility of ASHRAE while the administration of the various events will be done by DOE. DOE is also proposing a method and structure to the certification program for the trainers (Yes 17 of you have volunteered, but we need to see the rules from DOE before you are accepted.)

The first event is not July 20 in Louisville since the material has not yet been finalized. The first three events are firm at this point and we have three more in process of being approved (a DOE process) Those events are:

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|---------------------------------|------|
| 1. Gov Energy in Providence RI | Aug |
| 2. Lab 21 Indianapolis, IN | Sept |
| 3. DC Journal Atlanta, GA | Oct |
| 4. NYSERTA two events requested | |
| 5. 7x24 Phoenix, AZ | Nov |

6. Program for Louisville and Orlando – Vali
There is no change from the presentation last month

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
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		

7. Update on Books Vali Sorel

- Contamination – Will be in the bookstore in Louisville
- Measurements – Tahir Cader -- Meeting weekly. New format is implemented and graphics are in process. One month away from second review that will be posted for all to view and comment.
- Green Tips – Jack Glass We originally targeted 22 -26 TIPS. Nine are now very near final and eight are almost complete. That leaves 4 -5 yet to complete. Those that committed to these are late and may be replaced by other volunteers if they do not respond soon.
- Economizers—No update except we have received a suggestion and a volunteer for another chapter that contains case histories of successes and challenges.

See you in Louisville.