

**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. 2.2 DATE June 30, 2014

TC/TG/MTG/TRG TITLE Plant & Animal Environments  
DATE OF MEETING June 30, 2014 LOCATION Seattle, WA

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Jim Coogan Chair VM	2012	Yuanhui Zhang VM	2011	Pete Gardner
Bill Dean Vice Chair VM	2012	Lingying Zhao VM	2012	Amanda Hickman
Chris Robbian CM				Andrés Alfonso
Dave Rausch VM	2013			Steve Skalko Std. 90.1 Env. Chair
Kristin Schaefer VM	2013			Scott Rusk
Carol Donovan VM	2013			
Henry Hays CM	2012			
Larry Howlett CM (e)	2012			
Joe Zulovich CM	2007			
(e)				

**DISTRIBUTION**

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

TAC Section Head:	Tom Sobieski
TAC Chair:	Walter Grondzik
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters:	
Manager Of Standards Manager Of Research & Technical Services	Stephanie Reiniche Mike Vaughn

### Call to Order

Meeting called to order at 4:35 EST by Chairman Jim Coogan. E-meeting was not started easily.

### Welcome and Introduction / Attendance Sheet

All in attendance introduced themselves and signed in.

Quorum: 5 of 7 voting members in attendance.

2 attended by web meeting. Noted by (e) beside the name on the cover sheet.

### Revise and Accept Agenda

Agenda reviewed.

Motion: to accept the agenda as distributed.

Moved: Kristin Schaefer Seconded: Carol Donovan; **Approved 4 – 0 – 0 CNV**

### Approve Minutes from the Previous Meeting

Minutes reviewed, no errors reported.

Motion: That the January 2014 minutes be adopted as circulated.

Moved: Dave Rausch Seconded: Carol Donovan. **Approved 4 – 0 – 0 CNV**

### Report from Section Head

Tom Sobieski attended. Announcements will cover the major issues. Feedback on meeting set-up will be communicated in the activities form.

### Announcements

- There is a new section in the ASHRAE Bio for employment sub-categories that should be completed by all members. This will be used in the future for committee balance.
- List of reviewers was requested for programs.
- Thank-you letters were offered for volunteers.
- Sub-committee chair training was announced.
- The deadlines for program submissions were reviewed.
- The dates for ASHRAE Conference submissions were reviewed.
- Other ASHRAE sponsored conferences were reviewed.
- Members should review the ASHRAE Code of Ethics. <http://www.ashrae.org/codeofethics>

### Standard 90.1 input requested

Steve Skalko Standard 90.1 Envelope Subcommittee Chair and Amanda Hickman from the Greenhouse manufacturers association attended and requested information concerning the requirements for processing buildings that come under 90.1 purview. What should or shouldn't be done with greenhouse structures. TC 2.2 could help. Amanda Hickman consultant, styles and types of greenhouses. What are the types of greenhouses? Rough draft prepared. A few styles of greenhouses have been identified, primarily retail horticulture and crop research.

**Roster & Status of the committee**

The electronic meeting is helping the committee to include the corresponding members and that support is appreciated.

Jim Coogan reviewed the committee roster after July 1. All of the positions were reviewed by those in attendance.

**Handbook – Bill Dean**

Handbook Applications 2015 - Bill reported on the status of the handbook chapters and the pending deadlines. The chapter revisions are due immediately. To date he has not received any revisions from any of the individuals that had requested to review and revise the chapters. Bill has made some changes to the plant section of Chapter 24 but nothing has been added from our research project to the animal section of the chapter.

Carol Donovan & Jim Coogan will look at the vivarium section. Bill Dean will look at the lighting section. AALAR and AALAC references should be checked.

Bill will check on publication dates and revision submissions dates.

**Research – Henry Hays**

RAC Liaison Harvey Sacks came to update us on RAC issues. Final report has not been issued. Jim and Henry will complete the form.

The new RTAR form is now a simple on-line form. RTARs should come to Liaison prior to the TC voting to ensure there are no major issues. New responses are accept and reject. Both will allow for some editing prior to work statement or resubmission. New strategic plan issued will be tied to the old strategic plan until RAC has more of an opportunity for a new plan.

RTARS:

Is there any new research we should consider? It should be linked with handbook review.

Energy Use in Agricultural Buildings: The committee focus would need to be limited to agricultural and research plant and animal environments. We need to break buildings down by type, age, size, use, and type of energy source. Do we want current or trends? Current will be the focus.

Ag energy use is 2 to 4% of total cost of production. A discussion was held to help everyone understand the needs of the research might be. Some of the data might be available but it is not in an easily accessible place. Joe Zulovich will rewrite RTAR.

Seed Storage Conditions: Larry Howlett and David Rausch have a draft RTAR that still requires some work. Larry has done a lot of work on optimal seed storage but all work was done in the 1850's. He has looked at vapor pressure. Osmotic pressure is more important than vapor pressure. What is vapor pressure? All of the vapor pressure materials are from empirical data was done in the 1850's. He believes that there are better methods to do this. Today it is based on temp and humidity of the seeds. Curves are set by seeds in an atmosphere. It can be split from the vapor pressure of the seeds and the atmosphere.

Ultimately this can reduce energy use in seed storage. Kristen Schaefer will look at the revised RTAR.

Demand Control Vivarium Ventilation: Current Air Changes per Hour (ACH) Rates for live animal vivariums use rule of thumb numbers. There does not appear to be an approved demand based ventilation system in the marketplace. What is acceptable IEQ (air quality & limits) in a vivarium? Is it dependant on the animal type? What are the criteria that effect performance based ventilation for research animal holding facilities?

Objective: What are the air quality parameters that pertain to demand control ventilation for a vivarium? The end goal will be to save energy (money). How would this apply to actual installations? What parameter would be measured, what types of rooms, what types of functions, where are the current requirements? Interested organizations NIH, AAALAS , ALAC, ALAR. What are the issues that designers need to know to design vivarium ventilation systems? Protection of the workers? How can we measure air change effectiveness in vivaria? Should we reduce the scope? What is the risk in the space?

Carol Donovan will lead the group. Doug Friedman, Joe Zulovich and Rich agreed to work on this potential RTAR. Chris Robbian had previously agreed to work on this.

Gordon Sharp will be consulted to see if he is aware of what the need is in this area of application. Carol will follow up with Gordon and determine what are the characteristics of a properly ventilated vivarium. Swine buildings have been studied for particulates and should be reviewed. We could also contact alas to see what is missing. TC 9.8 will also be approached as a co-sponsor.

## **Program**

Conference Paper abstracts are due September 22 for the Atlanta Conference in June 2015.

A seminar was held Sunday morning on Demand Control Ventilation vs. Traditional AC rates in vivaria.

Program ideas:

- Discussed a lab design mini-conference for Laboratory design and operation for the Atlanta Annual Conference, June 2015. Led by 9.8, 2.2 can co-sponsor.
- Energy Use in Agricultural Buildings – Chicago Conferences 2015. Carol will be the session chair.

## **Standards**

Request from SSPC 90.1 covered above. No other standards issues.

## **Old business**

None

**New Business**

None

**Adjourn**

Motion to adjourn at 6:43 by Kristin Schaefer; Seconded: Carol Donovan; **Approved.**