

**Draft minutes for 2014 PESGM PEEC Research Subcommittee meeting**  
**July 27, 2014**  
**2-4pm**  
**Gaylord National Harbor, Washington DC**

### **1. Introductions**

Chair Kai Sultz opened the meeting at 2:10pm. Those present introduced themselves.

### **2. Approval of minutes from the 2013 meeting**

Peter Sauer suggested to add the list of attendees

Sukuma Brahma moved to approve the the 2013 meeting minutes, Pete Sauer seconded, and the members present voted in favor of approving the minutes.

### **3. Announcements**

- ❖ Panel sessions related to PEEC:
  - Thursday 8-10am: Educational Tools for the Workforce Development for the Future Grid to Enable Sustainable Energy Systems one session on workforce; Chairs: Chanan Singh
  - Co-sponsored by PEEC and PSACE, Thursday 1-5pm; Faster than Real-Time Dynamics Simulation; Chair: Alex Flueck
  - Monday 4-6pm: Global Experiences in Attracting Quality Undergraduates in University Power Engineering Programs through Innovative Approaches; Chair: S. Islam
  - Wednesday 8-10am, Existing and Proposed Power Systems Laboratories for the Undergraduate Curriculum; Chair: B. Chowdhury
  - Tuesday 1-5pm, Cyber Physical Systems Challenges for the Power Grid of the Future; Chairs: A Pahwa and R. Baheti
- ❖ Ten tutorials (3 half-day tutorials and 7 full-day tutorials )
- ❖ Student poster session starts from Tuesday 7am. There will be about 300 student posters.

### **4. NAPS Report**

- ❖ The upcoming NAPS 2014 will be held at Washington State University on Sep. 7-9, 2014. A large student support program will be available. There will be undergraduate poster sessions.
- ❖ Status of NAPS 2014:
  - papers have been reviewed and acceptance notices will be sent out very soon;
  - 174 papers were submitted;
  - the undergraduate student poster sessions will be held on Sunday afternoon (Deadline for submitting a poster is Aug. 6, 2014 and this information is online);
  - Support details: graduate students will get free lodging while undergraduate students will receive both free lodging and partial travel support
  - Tours will be held on Tuesday to visit local attractions.
- ❖ NAPS 2015

- NAPS 2015 will be held at UNC Charlotte on Oct. 11-12, 2015. Sukumar Kamalasan gave a brief report: NSCAR tour on Sunday; a plenary speaker from Duke Energy will give a talk on Monday morning. There will be 4-5 breakout sessions. For student program, it focuses on mostly graduate students. The website has not been set yet.

## 5. PEEC survey

- ❖ Pete Sauer/Sukuma Brahma organize the survey. North America power faculty research interests/URL/research dollars are included in the survey. There won't be a separate database on research capacity. Marisa Crow's working group is now replaced by the survey. Denise Ray made two reports in the power globe. Dennis Ray presented this report in the NSF CPS workshop held at Arlington in the morning. It is expected to have future reports written by computers. Survey is a big success with 109 responses. Dennis Ray aims to get 140 responses.
- ❖ In future, faculty just need to update the survey. The database will record all previous information.

## 6. Activities in 2015

- ❖ Sponsored panels for 2015
  - Jerry Heyt, Brian Johnson and Sid will have a panel on education and research
  - PEEC approved a tutorial by PSERC: preventing cascading outages. The tutorial will be conducted by Marian Vairman from V&R & Milord Paptic from Idaho Power.

## 7. NSF PEEC workshop report:

- ❖ Pete Sauer briefed the NSF PEEC workshop held on Saturday and Sunday morning. Smart grid is broad area, which requires a team with fellow faculty members. It is better to break down the courses into modules. People can bring existing modules into the smart grid class. UMN is an example. It has many ISU modules included. IEEE e-learning also has modules. We can include used modules and think about new modules if we should create new modules. Sid will organize the next workshop, which will focus on evaluating existing education materials on smart grid, whether it is PSERC, UMN, IEEE e-learnings, ISU. The workshop will categorize them, evaluate them and make a book. NSF will fund creation of a new book. But this book tells people there are a lot of materials there, for example, Mani talked about ISU's modules. Denver workshop will be also on education/evaluation. We will borrow but not write a new book.
- ❖ The workshop mainly discusses smart grid curriculum and research. There were three breakout sessions.
  - Dagmar Niebur talked about Session 2. The key topics discussed are: renewable/resilience/MOOC/CPS/ Cyber security. People brainstormed about content issues and the integration of education
  - Brian Johnson also talked about Session 2. There was a resilience workshop in Idaho -- student setup a project to simulate a power system (last year) /competition with CS students included. EE and CS students worked together very well.
  - Joydeep/Chow led the third group discussion. The session discussion focuses mostly on CPS education: identification of challenges/ what kind of breadth and depth to go into/implantation of CPS courses in each university. Conclusion: we must have the fundamentals

- ❖ Anil will post all the presentations on the website. Notes from Sukuma and Sid will also be made available.

## **8. Program Manager Reports.**

- ❖ Eyaed Abed replaced George Maracas and became the new NSF program director. Abed is from University of Maryland with a Ph.D. from University of Berkley with a focus on system and control.
- ❖ QER is happening in DOE (from Anjan Bose). They are collecting a large amount of information and everything about energy. EPA and all agencies are doing this to look at the whole energy picture. Mani Venkata mentioned that DOE produces energy policy analysis and resilience reports. PES has a group to provide a response. The actual reports is due 2015 and Jeff Nelson is organizing to respond.
- ❖ Brian Johnson reported the PEEC trip with federal agencies. Chika/Brian/Pete set up a trip and met with NSF/ARPA-E.
- ❖ Tim Hargel of ARPAR-e will come to Tuesday PEEC MAIN meeting. GENE program is to end. Tim has to come up another topic: 15 M ARPA-E program. A new program manager will be in power and control area.
- ❖ Noel Shultz' suggested to have a faculty workshop to nurture new faculty. Other area has faculty workshops (every 5 years). Chemical engineering has a good model. CMMI CAREER workshop provides mock review.
- ❖ Pete Sauer suggested that the research subcommittee to propose a panel and add a CAREER panel in 2015 PESGM.
- ❖ Vijay Vittal mentioned that the emphasis on CAREER has changed with more on teaching.
- ❖ Bose mentioned that NSF directors have interest in power/control and we need to get something out of CPS.
- ❖ Dagmar Niebur suggested to get industry in the picture to identify research topics. She had 4 workshops: power electronics, CPS workshop; materials science on battery; and workforce initiative. The workshops that propose structure changes are most welcome and can receive funds

### **Action items:**

Noel Shultz volunteered to talk to NSF and start a career panel 2015 (Pete Sauer agreed to be the organizer: research proposals). A week long workshop focus on teaching and research/CAREER award. Noel will take a lead.

## **9. Status of university power program**

- ❖ UIUC has hired two faculty, one in electric machine and another in signal processing.
- ❖ ASU wants two power electronics faculty
- ❖ WSU hired two in power: one in cyber security one in protection. Another position open.
- ❖ Case Western Reserve University hired one.
- ❖ Texas A&M has a position open, targeting person with industrial experience.
- ❖ Idaho University hired one
- ❖ University of Michigan hired one.
- ❖ University of Minnesota hired one.
- ❖ Leigh hired one from Cornell;
- ❖ U. of Nevada Reno hired one.
- ❖ U of MN Duluth hired one in control & power.

- ❖ U of Washington has more positions.
- ❖ Job market is good. Software based companies, manufacturers (Black & Veach), NRG energy (market related work) have many positions.

## 9. Adjournment

There being no further business, the meeting was adjourned at 4pm.

### PEEC Research Subcommittee Attendee list (July 27, 2014)

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