

Center for Power Systems Studies
Fall Meeting
MINUTES (Unofficial)
Brookings SD – October 16, 2006

1. **Call to Order:** Steve Hietpas called the meeting to order at approximately 7:20 pm.

2. **Recording Secretary:** *Jay Dring – Nebraska Public Power District*

3. **Roll Call:**

Steven Hietpas	CPSS Coordinator – SDSU
Jim Edwards	East River Electric Power Cooperative, Inc.
Jay Dring	Nebraska Public Power District
Dave Muggli	Basin Electric Power Cooperative
Paul Melby	Brookings Municipal Utilities
Mike Sydow	NorthWestern Energy
Nate Jones	Heartland Consumers Power District
Jerry Tielke	Missouri River Energy Services
Blair Metzger	DeWild Grant Reckert & Associates, Co.
Terry Texley	Western Area Power Administration
Ralph Hagge	Cannon Technologies, Inc.

4. **Approve Agenda:**

Jim Edwards moved and Jerry Tielke seconded to accept the agenda as submitted. Motion carried.

5. **Approve Minutes of April 20th, 2006 spring meeting:**

Nate Jones moved and Mike Sydow seconded to accept minutes. Motion carried.

6. **Coordinator:**

- **Annual Report:** See full report on CPSS website. Some of the highlights were:

- * **Summer of 2006: Faculty and Student Summer Projects/Research Update**

Hietpas:

- As Electrical Engineering Coordinator, worked on student orientation in June/July.
- Worked on conference materials and on-line registration
- Attended the NSP Power Systems Education workshop at U of M.
- Chaired committee to hire permanent technician for the WRAN project Ropp:
- Took 10 students to Wrangell-St. Elias NP in Alaska to install PV –July 2006
- Working to adding 3 more WRAN sites by end of 2006, possibly another East River tower
- On sabbatical to Sandia Nat'l Labs until spring 2007

- * **Power Faculty Course Update**

- Fall 2006:
 - EE420 (3cr) Electronics III – 10 students
 - EE430 (3cr) Electromechanical systems – 19 students (course was previously known as Energy Conversion)
- Spring 2007:
 - EE315 (3cr) Linear Systems
 - EE434/EE 434L (4cr) Power Systems Analysis

- * **Fall 2006: Scholarship Activity Update**

- Recipients : Seniors – Jack Winters, Austin Hoekman, Daniel Lewis- Coomes
Juniors – Lowell Dolney, Trevor Howard, Molly Houck, Derek Bryant
Sophomores – Corey Kramer

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- * ***Power Student Status – See coordinators report***
 - Of the 18 students that graduated in the spring, 3 declared power as their career path, which is 17% of the graduating seniors. Since the spring of 2000 to present, 22 of 116 (approximately 19%) of the SDSU EE graduates either obtained or have pursued a career in power.

- * ***Other scholarly/research activities related to power***
 - Hietpas – serves on the paper review committee of IEEE Rural Electrical Power Conference, also serves on review committee of IEEE Transactions on Industrial Applications associated with Rural Electric Power Conference
 - Ropp – Actively working on the NSF-CAREER award for next several years, Advising five power-related graduate student projects (renewable energy topics), Serves on the review board for IEEE-1547.

- ***CPSS Student Project Update***
 - Distributed energy resources (DERs) such as photovoltaic systems, wind generators, and stand-alone diesel generators are becoming more prevalently connected to the electric grid. Some of these DERs are dependent on variables uncontrollable by humans (i.e. sunlight and wind speed), and are thus referred to as ‘nondispatchable’. As these DERs are connected, the power output of the dispatchable generators in the system needs to be tailored to the system demands. Thus, the variable output of nondispatchable DERs needs to be monitored to ensure power is always available. The output of these nondispatchable DERs should be coupled with dispatchable generators with high ramp rates so if power output of some DERs drops or DERs go offline, the slack can be quickly picked up to ensure power availability. Often, DERs are located in areas where no coaxial or optical cables are present so the power line must be used for communication within the system. It is also advantageous to automate a DER system to eliminate the need for human dispatch of rotating generators
 - A system must be designed to emulate three distributed energy resources (DERs) and to communicate via power line carrier modems. The system must be automated such that one DER will be the dispatchable and must act as a rotating generator that can produce any power output, up to its rating. It also needs to display the status of the system using a computer. The two other DERs must emulate nondispatchable renewable energy sources, such as a photovoltaic array or wind turbine. These two DERs must provide the dispatchable DER with notification once present on the system and continuous status information

- ***Membership List Update:***

Steve Hietpas passed around the current membership list and asked those present to update the list.

- ***Who’s Who in Power Engineering:***
 - Plans are to update the Excel information to a SQL database and put on-line. CPSS members would be updated on-line similar to the on-line registration for the conference. There were group discussions and authorization for Dr. Hietpas to obtain quotes for the data conversion to SQL database. The plan is to send quotes via email to get approval from the members.

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7. ***Selection of New Conference Committee Member:***

2 year commitment

Outgoing member(s): John Knofczynski (Heartland Consumers)

Remaining member(s): Ralph Hagge (Cannon)

New Member(s): Nate Jones – Heartland Consumers Power District

8. ***Special Project Committee:***

Outgoing member(s): Corey Kasuske (Sioux Valley Energy)

Remaining member(s): Mike Sydow (NorthWestern Energy)

New Member(s): Terry Texley – Western Area Power Administration

9. ***Budget Committee:***

Outgoing member(s): Vance Crocker (BHP)

Remaining member(s): Jim Edwards – East River Electric Power Cooperative, Inc.

New Member(s): Blair Metzger - DeWild Grant Reckert & Associates, Co

10. ***Old Business:***

• ***Scholarships Awards Report:***

- Dr. Hietpas discussed the scholarship process – see scholarship form posted on CPSS website.
 - Application is on-line, Freshman-Seniors are eligible, GPA > 2.0/4.0
 - There were discussions of extra funds within CPSS are available due to the lower number of power students.
- Promotional Information – there were discussions on how CPSS could increase the awareness of Engineering Today in the electric utility. A brochure with the different aspects and technology available in the electric utility was discussed. The brochure could be used as a recruiting tool for students interested in engineering. The brochure could outline the next 5 years and the demand for engineers in the power field. Jim Edwards volunteered to work on the draft of this brochure and then seek feedback from the members.

• ***CPSS Guidelines (Bylaws):***

- The group discussed the changes to the Bylaws – main change was to rename semi-annual to Spring/Fall. The ByLaws are on the CPSS web page.

Jim Edwards moved and Nate Jones seconded the changes to the ByLaws. Motion carried.

• ***Conference Report:*** See conference report

- The committee met approximately 2-3 times a year to plan the conference. The estimated cost was set at \$50.00 per registrant, which included the conference registration, 2 meals, breaks, and conference materials. A web developer was paid 500.00 to create the on-line registration.
- There were 93 registered attendees for the conference with 28 being PE's and 45 being IEEE members, and the remaining were students.

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11. *New Business:*

- **FY 2005-2006 Financial Report**

- The financial report was reviewed. There were discussions on the actual amount of funds directed towards the field trip to install the Photovoltaic's. Some of the costs were associated with the rescheduling of airfare; also some addition equipment was purchased for this project.
Vance Crocker and Lloyd Linke reviewed the financial report.

Jerry Tielke moved and Mike Sydow seconded the 2005-2006 financial report.
Motion carried.

- **Place/Date for spring 2006 Semiannual Meeting – April 19th, Basin Electric Power Cooperative**

12. *Adjourn:*

The meeting adjourned at approximately 9:12 pm with a motion by Mike Sydow and seconded by Dave Muggli. Motion carried.

Respectfully submitted,
Jay Dring, Nebraska Public Power District
Recording Secretary
October 16, 2006
Typed and Submitted November 6, 2006