To: Members of Center for Power Systems Studies  
Associate Members of Power Systems Studies  
Guests in attendance

The Center for Power Systems Studies is entering its 42nd year of operation. Below is a summary of some of the past years’ power-related activities and events, since the spring meeting.

I. Summer 2009: Faculty and Student Summer Projects/Research Update

Hietpas
a. As Electrical Engineering Program Coordinator
   i. worked on orientation with students during June and part of July
   ii. prepared the 2009 ABET self-study report
   iii. sought bids for and purchased a significant number of new instrumentation for our undergraduate labs
b. Conference committee planning for 2010 CPSS South Dakota Regional Power Conference.
c. Supervised one MSEE graduate student (Monish Chitrakar) in the design of an FPGA Based Induction Motor Drive – who finished in August 2009
d. Supervised one MSEE graduate student (Madhab Paudel) on power fault location for distribution systems, in collaboration with Cooper Power – who finished in August 2009
e. Supervising one MSEE graduate student (Milan Maharjan) in the design of a Permanent Magnet AC Motor Drive (still working on it)
f. Continuing to serve on the board for the South Dakota Electrical Council
g. Served as a paper reviewer for IEEE Transaction on Education, IEEE REPC, IEE, and ASEE.
h. Took 9 students on the 5-day Power Technology Tour, August 10-14.

Ropp
a. Officially half-time on the Alternative Power Technologies (APT) project, sponsored by the U.S. Army Space and Missile Defense Command (SMDC). This project will, we hope, ultimately result in the building of a relatively large microgrid test and experimentation facility north of campus.
c. Supervise two power-related MSEE graduate students, and the first Ph.D.-seeking power student.
d. Currently participating in two DoE Solar Energy Grid Integration Systems (SEGIS) projects, an Xcel Energy RDF-sponsored project, and a project with Bonneville Power Administration, through an off-campus startup.
e. Balloting member of IEEE-1547; contributing member of the IEEE-1547.7 subcommittee.
f. Working with WECC officials and other industry leaders to define procedures for large-scale modeling of grid-tied PV systems at high penetration levels.
g. Initiated activity in the area of positive and negative impacts of electric vehicles on power systems.

h. Continuing to serve on the board of the South Dakota Energy Infrastructure Authority. (Activity currently suspended; no budget from the State.)

II. Power-Faculty Course Update

Hietpas

Fall 2009:
- EE464 (2 cr) Senior Design I, 14 students
- EE430/430L (3+1 cr) Electromechanical Systems and Lab, 15 students

Spring 2010:
- EE221 (3 cr) Circuits II
- EE315 (3 cr) Linear Systems

Ropp

Fall 2009:
- EE492/592 (3 cr) Power Electronics, 16 students

Spring 2010:
- No Teaching Assignments

III. Scholarship Activity – Power Company Sponsored Scholarships

Recipients for 2009-2010 Academic Year

The department awards approximately $42,250 in scholarships. Approximately 56% of these funds are a direct result of the power community.

The Center for Power Systems Studies Scholarships

Cozine, Steven Addison

CPSS General Scholarships*
- Pierson, Benjamin Charles Senior
- Albares, Neil James Junior
- Joanne, Chaker S Junior
- Zimmerman, Gregory Philip Junior
- Onnen, Jared Riley Sophomore

Bradley D. Schultz Power Engineering Scholarship
- Braaksma, Mark Senior
- Cozine, Steven Senior
- Geerdes, Landen Senior
- Mathews, Mark Junior
- Seely, Bradley Junior

DeWild Grant Reckert & Associates Scholarship
- Henning, Bradley Sophomore
East River Electric Power Coop Scholarship in Honor of Virgil Hanlon
  Breeschoten, John (Nick) Junior

Heartland Consumers Power District Scholarship
  Pierson, Benjamin Junior

Interstates Electric & Engineering Scholarship
  Galinat, Derrick Senior

Jeffrey L. & Trudiann Nelson Scholarship
  Stanga, Alexander Sophomore

John G. Kappenman Scholarship
  Jasinski, Benjamin Junior

Otter Tail Power Company Scholarship
  Kampmann, Benjamin Senior
  Stanton, Kaitlin Marie Junior
  Dudley, LJ Sophomore
  Waldner, Derek S Sophomore
  Bill Wermers Freshman
  Emily M. Neely Freshman
  Jenelle L. Vickberg Freshman
  Zach Sanderson Freshman

Robert W. Crawford Scholarship
  Onnen, Jared Sophomore

Xcel Energy Services Scholarship
  Geerdes, Landen Senior

* Spring 2010 General CPSS Scholarships will be awarded later in the fall 2009 semester.
IV. Status of Power Students

I. Power Graduates Update

<table>
<thead>
<tr>
<th>Student</th>
<th>Graduated</th>
<th>Place of Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aric Lowe</td>
<td>Spring 2009</td>
<td>ECI (Mankato)</td>
</tr>
<tr>
<td>Kirby Wicks</td>
<td>Spring 2009</td>
<td>Seeking employment between Huron and Watertown</td>
</tr>
<tr>
<td>Jon Aus</td>
<td>Spring 2009</td>
<td>ECI (Billings)</td>
</tr>
<tr>
<td>Eric Boese</td>
<td>Spring 2009</td>
<td>ECI (Billings)</td>
</tr>
<tr>
<td>Brady Nesvold</td>
<td>Spring 2009</td>
<td>Monticello Nuclear Power Plant, Xcel Energy</td>
</tr>
<tr>
<td>Corey Kramer</td>
<td>Spring 2009</td>
<td>NorthWestern Energy (Aberdeen)</td>
</tr>
<tr>
<td>Todd Bockorny</td>
<td>Fall 2009</td>
<td>DeWild Grant Reckert</td>
</tr>
<tr>
<td>Jay Groninger</td>
<td>Fall 2009</td>
<td>Augusta Systems, Inc. (Sioux Falls)</td>
</tr>
<tr>
<td>Mark Braaksma</td>
<td>Fall 2009</td>
<td>RH2 Engineering, Washington</td>
</tr>
</tbody>
</table>

Of the 21 students that graduated in 2008-2009, 8 obtained employment in the power sector, which is 38% of this graduating class. Since the spring of 2000 to present, 58 of 253(approximately 23%) of SDSU EE graduates either obtained or have pursued a career in the power industry.

II. Power Engineering Student Internships, Expected Graduation, and Recent Internships

<table>
<thead>
<tr>
<th>Student</th>
<th>Expected Graduation</th>
<th>Internship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Cozine</td>
<td>Spring 2010</td>
<td>Black Hills Power</td>
</tr>
<tr>
<td>Jesse VanOverbeke</td>
<td>Spring 2010</td>
<td>American Science and Technology (Brookings)</td>
</tr>
<tr>
<td>Tim Rysavy</td>
<td>Spring 2010</td>
<td>Jostens, MN</td>
</tr>
<tr>
<td>Derrick Galinat</td>
<td>Spring 2010</td>
<td>Daktronics</td>
</tr>
<tr>
<td>Ryan Schneider</td>
<td>Spring 2010</td>
<td>Daktronics</td>
</tr>
<tr>
<td>Nick Meisinger</td>
<td>Spring 2010</td>
<td>Automation Controls System Solutions (Eden Prairie)</td>
</tr>
<tr>
<td>Landen Geerdes</td>
<td>Fall 2010</td>
<td>Wurth Electronics, Inc.</td>
</tr>
<tr>
<td>Ben Pierson</td>
<td>Fall 2010</td>
<td>Sioux Valley Energy</td>
</tr>
<tr>
<td>Kevin Bullis</td>
<td>Spring 2011</td>
<td>Construction firm</td>
</tr>
<tr>
<td>Joseph Dold</td>
<td>Spring 2011</td>
<td>Larson and American Science and Technology (Brookings)</td>
</tr>
<tr>
<td>Matthew Bult</td>
<td>Spring 2011</td>
<td>SDSU Energy Lab Analysis</td>
</tr>
<tr>
<td>Zimmerman, Gregory</td>
<td>Spring 2011</td>
<td>SDSU Energy Lab Analysis</td>
</tr>
<tr>
<td>Neil Albares</td>
<td>Spring 2011</td>
<td>Monticello Nuclear Power Plant, Xcel Energy</td>
</tr>
<tr>
<td>Alex Richter</td>
<td>Spring 2011</td>
<td>T &amp; R Electric</td>
</tr>
<tr>
<td>Alex Stanga</td>
<td>Spring 2012</td>
<td>Midcontinent Communications</td>
</tr>
</tbody>
</table>
V. Review of CPSS Impact

1. CPSS scholarships – immediate attraction and attention getter
2. Internship and/or Cooperative opportunities -- can have a positive or negative effect depending on the challenges provided to the student
3. Power Systems Analysis and Lab (EE434/434L) -- First course dedicated just to power
4. Applied Photovoltaics and Lab (EE436/436L) -- Alternative energy is appealing to a broad set of students
5. Power Electronics (EE 492)
6. Power Technology Tour – great exposure to a variety of power-related industries.
7. PV in the Parks Field Trip – a fantastic hands-on experience
8. Biannual Regional South Dakota Power Conference – An excellent professional setting the introduces power students to the big picture
9. Mini-Power Job Fair – special attention given to students and immediate connection between industry and just power students
10. CPSS-Sponsored Design Project – hands on challenging designs
11. Fall Awards Banquet – A glimpse into the future for our students and shows importance of remaining connected to academia

VI. Membership Growth

- Currently 11 member companies and 17 associate members
- Minnesota Power Company became the 11th Member company, starting 2009-2010
- In discussion with the following companies to consider Associate Membership
  - Sega, Inc. – Scott Sibson (Stilwell, KS)
  - ABB -- Pete Famighetti

Respectfully submitted,

Steven M. Hietpas, Ph.D., P.E.
Coordinator, Center for Power Systems Studies