



IAB News

Newsletter of the Industrial Advisory Board, Power Systems Engineering Research Center

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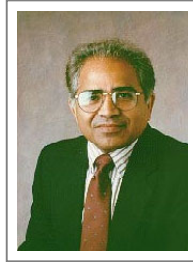
Last December, some 80 industry members, faculty and students met at Georgia Tech University for a semi-annual meeting of the IAB. The meeting provided opportunities to get caught up on the status of on-going research projects and to make recommendations on future projects. Conversations were lively on industry issues, and on research and education activities. Our thanks go to Hamid Elahi at GE Power Systems for his assistance in arranging a most fascinating tour of the GE Greenville Gas Turbine Manufacturing Plant. In addition, we thank Sakis Meliopoulos for being our local host, and Duke Energy and Southern Company for their support of meeting events.

At the IAB closed meeting, the following actions were taken:

- approved [bylaws](#) revisions
- recommended four [new projects](#)
- recommended ways to increase value from project reports
- suggested a review of PSERC's commercialization policies and procedures to advance commercialization opportunities.

The [meeting minutes](#) are available on the PSERC web site.

Researchers Honored!



Anjan Bose and Peter Sauer elected to membership in the National Academy of Engineering (NAE)

Several PSERC faculty members have received distinguished honors. Anjan Bose, Washington State University, and Peter Sauer, University of Illinois at Urbana-Champaign, were elected to membership in the National Academy of Engineering (NAE), the highest professional distinction in engineering. Anjan was cited for the development of training simulators and computational tools for reliable power system operation, and for contributions to education and research on power systems. Pete was recognized for technical contributions to the modeling, simulation, and dynamic analysis of power systems and leadership in power engineering education and research.

The IEEE Fellow Committee named two PSERC faculty members, Ali Abur of Texas A&M University and Ward Jewell of Wichita State University, as IEEE fellows. The Committee noted Ali's contributions to state estimation methods for power systems. Ward was recognized for his contributions to power engineering education, power quality laboratory development, and industry solutions to power quality problems.

Congratulations to all!

Editor's Comments on Industry Involvement on Project Teams

Industry involvement in projects makes significant contributions to PSERC research projects. From the creation of research ideas to the analysis of results, industry advisors play an important role in assisting university researchers in achieving quality research. PSERC's collaborative nature also requires that at least two industry advisors commit to each project; however, many projects have more than two advisors, so do not hesitate to indicate your interest in a project even if other advisors have already been listed.

What does an industry advisor do? At the proposal stage, an advisor should be willing to actively participate in developing a research proposal that meets industry needs along with needs of the advisor's company. Typically, this person is a subject matter expert in the field of study and has business knowledge of industry needs for such research.

Once a project is approved, the range of involvement by industry advisors varies by project. In some projects, the advisors serve as information sources and reviewers of project publications. In other projects, industry advisors work with the researchers to obtain and analyze field data from their company, or to test prototypes.

In general, advisors should be in regular communication with the project leader. Logistics can be a consideration. Due to the large distances that may be involved, participation might be accomplished through available electronic or written media. Individual project specifics dictate the most appropriate means of communications. Concerns about

distance participation should be discussed with the project leader.

If you are considering getting involved, if you have a research need, or if you see a project in which you would like to participate, then do start a dialogue with the project leader. PSERC meetings, stem meetings, and the summer research retreat are excellent opportunities to get to know the researchers and to learn about the current topics. Certainly, industry involvement can strengthen PSERC's work and the value of the results.

Summer Research Planning Retreat

Mark your calendars for this summer's planning retreat. The retreat provides a terrific opportunity for PSERC researchers to meet with industry members to discuss research needs and develop research plans in each stem. The retreat also affords the opportunity for developing proposals and planning project work.

This year's retreat will be held from July 28 to July 31 in Lake Delton, Wisconsin. This is not only a time for work, but also for getting to each other better. The location has great family-oriented recreation activities. Details about the retreat will be forthcoming.

PSERC News Items

Bob Thomas gave the U.S. DOE Energy Information Agency Seminar in Washington D.C. on February 25. The title of the talk was "Monitoring Electric Markets by including Effects of the Interconnecting Network on Market Power."

PSERC student Sathibabu Chakka won the first prize in the IEEE-PES Student Paper Contest at the IEEE Summer Power Meeting in Chicago, July 2002. Jerry Heydt, Arizona State University, was advisor for the work, "Loop Flow in Interconnected Networks." The paper was on a CERTS project. Mr. Chakka is completing a MSEE at ASU in May 2003.

Tech Transfer News

Bob Lasseter, University of Wisconsin-Madison, has invented a control system using power electronics interfaces on microsource controllers to insure stable operation of a large number of distributed generators in a microgrid by only using locally available information. A patent application has been filed by the Wisconsin Alumni Research Foundation (WARF: <http://www.warf.org>). Anyone with a commercial interest in this invention should contact WARF (**Jerry Schattuck**, licensing manager). This work was part of PSERC-leveraged, U.S. DOE funding from the Consortium for Electric Reliability Technology Solutions (CERTS).

Mani Venkatasubramanian, Washington State University, has developed an automatic slow voltage controller for coordinating the switching of discrete voltage control devices, including capacitor/reactor banks and autotransformers, in any large power system. The controller also can handle generator voltage scheduling by modeling the high side terminal voltage as discrete voltage taps. The controller's development was motivated by operational needs associated with voltage dispatch of the western Oregon subsystem, operated by Bonneville Power Administration (BPA). Mani has worked in close collaboration with BPA planning and operating engineers as well as with system operators. BPA has approved the controller for prototype implementation.

Rahmat Shoureshi and **Marcelo Simoes** at Colorado School of Mines, and **Mladen Kezunovic** at Texas A&M, in cooperation with Tri-State G&T and the Western Area Power Administration (WAPA), are developing an intelligent substation with sensors for health assessment of transformers. Initial implementation is occurring at WAPA facilities.

Power Engineering Education Opportunities

PSERC universities are leaders in innovative education approaches. For example, Iowa State University offers undergraduate and graduate courses in electric power system engineering via videostreaming directly to home or office computers, with each class archived so that it can be watched at convenient times. Courses in the fall of 2003 include distribution systems, power systems analysis; steady state analysis, economics, and markets; and advanced power system dynamics. More information about this ISU offering is available at <http://www.ede.iastate.edu/pse.asp>. Information about education programs at other PSERC universities is available through the [PSERC web site](#).

New Reports Available!

New project reports are now available on the [PSERC web site](#). Topics of the reports include:

- accurate fault location in networks
- enhanced state estimation by substation monitoring
- market mechanisms
- mobile agent applications for power apparatus monitoring and maintenance
- robust control of large scale power systems.
- state estimation and measurements for multi-utility operations

Calendar in Brief

Internet Seminars from 1:00-2:00 p.m. Central time on the first Tuesday of month through April

May 28-30, Industrial Advisory Board Meeting in Pullman, WA (host: Washington State University)

July 28-31, Summer Planning Retreat, Lake Delton, WI

July 13-17, IEEE Power Engineering Society

December 10-12, IAB Meeting in Scottsdale, AZ (host: Arizona State University)

(A [complete calendar](#) is on the PSERC website: <http://www.pserc.wisc.edu>.)