

JOHN MCDONALD: EDUCATING THOSE OUTSIDE THE POWER INDUSTRY ABOUT KEY ISSUES IS AN IMPORTANT FOCUS FOR IEEE

By Phill Feltham

The substation automation field has grown significantly in the last decade because of newer technologies and increased implementation, said Mr. John McDonald, President of the IEEE Power Engineering Society.

Mr. McDonald said new substation automation technologies have been developed which have caused the electrical industry to take notice. Now, more utilities are using substation automation because the technology is more efficient in monitoring substations.

"Substation automation is a field, six to eight years ago, that really didn't exist," he said. "Improvements in technology brought us capabilities to do things, but no one had really pulled all the technologies into an approach."

Mr. McDonald, who is also a Senior Management Consultant for KEMA Inc., has been a huge advocate for substation automation, educating the North American electrical industry on the benefits of its monitoring and operating capabilities. In 1998, he hosted a three-day seminar in Miami. He said 95 people attended the course from 16 countries, with 16 vendors involved.

"This course is what really put KEMA on the map in pulling these technologies together with an approach that made sense for utilities to realize the benefits of substation automation," he said.

Mr. McDonald has also written articles and traveled to different parts of the globe teaching courses on substation automation. Recently, he contributed a chapter on substation automation in the 2003 IEEE reference guide, "Electric Power Substations Engineering" which explains the practical application of the technology in 18 different aspects of substations.

Mr. McDonald was appointed the President of the IEEE Power Engineering Society in November 2003. He was appointed the PES President-Elect for the 2004-2005 term and PES President for the 2006-2007 term. He won this election with support from over of 72 percent of

the PES voting members. Mr. McDonald had been the IEEE PES Secretary since 2000, and a member of the PES Governing Board since 1998. Altogether, he has been a member of IEEE for over 33 years.

Mr. McDonald said an important part of his job is teaching. In early 2004, he will be among four other instructors to provide a "Blackout 101" workshop to congressional staffers, news people and congressmen in the U.S. Senate on behalf of IEEE Power Engineering Society and the IEEE-U.S.A.

"We really need to educate legislators and news organizations on the fundamentals of power systems and SCADA because we at IEEE found that during coverage of the blackout, terms like these were being thrown around without a lot of understanding of what they mean," he said.

The IEEE is a non-profit, technical professional association with more than 380,000 individual members in 150 countries. IEEE creates awareness on technical issues through its technical publishing, conferences and consensus-based standards activities.

Mr. McDonald, a senior principal consultant and manager of automation, reliability and asset management for KEMA, said these courses are aimed particularly at the U.S. Senate's congressional staffers.

"The congressional staffers are the ones that really educate their congressmen on different issues," he said. "They collect all the information, concentrate it, interpret it, and then brief the congressmen on it."

This workshop is a joint effort with the IEEE PES and the IEEE-U.S.A., a pro-active group based in Washington that lobbies the U.S. congress on a variety of technical issues. McDonald said there are many IEEE experts involved with the U.S.-Canadian task force studying the blackout.

"We really need to get to the news people," he said. "Any congressmen that

John McDonald,
President,
IEEE Power
Engineering Society
and Senior
Management
Consultant, KEMA Inc.



would like to participate would be icing on the cake."

Mr. McDonald said that a legislative approach needs to be taken to enforce mandatory reliability standards that will reduce the chances of large power outages. He said he hopes that with the added pressure and visibility on the power industry since the August 14th blackout, these standards will soon be implemented.

"I think the blackout had an impact on the utilities involved because now they are highly visible and under pressure by not only the federal government, but the state utility commissions as well. In the future, I definitely think that there will be regulatory changes within those utilities. But, the question addresses the utilities that weren't affected by the blackout. To what extent will they be impacted and how will they do things differently? What I think is going to happen for the first time when the energy bill is passed is that we will have mandatory performance criteria for all utilities."

Mr. McDonald has worked as a KEMA consultant for eight years dealing with clients from different vendors and utilities on SCADA systems, substation automation and communications protocols.

Mr. McDonald said he has always enjoyed working as a consultant. His first job was with the Bechtel Corporation, a consulting firm based out of San Francisco, California.

"There are two types of 'good' utility consultants. One is a consultant who has worked for a utility for many years, who brings the insight of working for a

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utility. The other type of ‘good’ utility consultant is one that’s worked for a number of different vendors. You need to have either a lot of vendor experience or a lot of utility experience,” he said.

A good utility consultant, Mr. McDonald said, has tremendous knowledge of utility equipment in the field. The consultant also has knowledge in designing substations, the equipment in a substation and distribution system design.

“The amount of additional information that you can gain as a consultant, as opposed to working for a vendor, is unbelievable,” he said.

A good consultant, according to Mr. McDonald, knows how vendors make decisions to justify new product development. He/she also has knowledge of vendor equipment testing procedures in the field and how those certain types of tests are implemented.

“One nice thing is, as a consultant, you’re now privy to all the product/technical details of all the vendors. In fact, vendors want you to know these details because, when you’re developing a project, they want to be favorably evaluated.”

Mr. McDonald said his experience working for a vendor was also helpful because it provided insight into how a vendor works with clients.

“Once you work for a vendor for a long time, you truly know what a vendor’s capabilities are,” he said. “If you’ve been on the vendor side, you have the knowledge of which details are important and the insight into how vendors operate. But when you’re a consultant, you know exactly what type of information you need to know about all the vendors and you also have a lot of insight into evaluating vendors. When a vendor says things to you about the demo of a system, you know right away whether it’s feasible or not, because you’ve been on that side.”

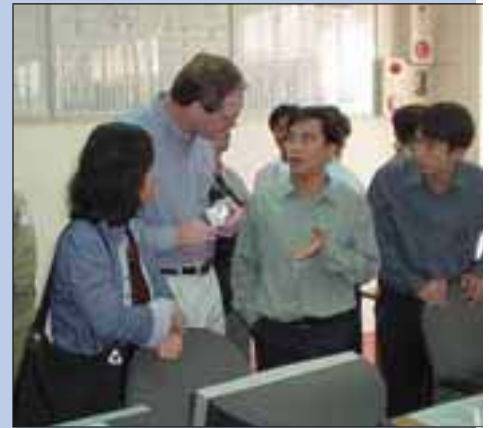
Mr. McDonald earned his engineering degrees from Purdue University in Indiana and an MBA in Finance from the University of California, Berkeley. Mr. McDonald’s son is following in his dad’s footsteps, exploring computer and electrical engineering.

During the school site visits he took with his son when his son was deciding where to attend, Mr. McDonald came to appreciate the wide range of people he’s met through the IEEE.

“The whole process of visiting

schools was a lot of fun because everywhere we went, I knew professors at those schools personally through IEEE activities and they just bent over backwards showing us the school, welcoming my son, making him feel at home and encouraging him to go there.”

“When we visited several colleges, my son was treated like a king. The network of friends that you build working in a group like IEEE, it was just so much fun to see the payoff of that with your own child.” **ET**



John McDonald [2nd from the left] feels an important part of his job involves teaching.