IEEE Madison Section Newsletter

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Practical System Protection Issues with Wind Generation Substation Design

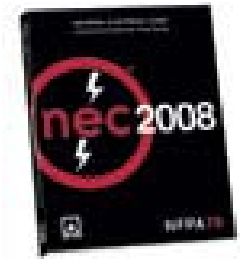
Date/Time: Wednesday, February 20, 2008, 5:30 PM - 7:00 PM
(NOTE: evening meeting, atypical day of the week and different location!)
Speaker: Dave Herbst, Manager of Commissioning and Testing Services, Realtime Utility Engineers, Madison, WI
Location: Engineering Centers Building, Research Presentation Room 1025, 1550 Engineering Drive, Madison, Wisconsin
Parking in lot 17, adjacent to Mechanical Engineering Building and near the Centers Building is FREE, after 4:30 pm
Menu: Mexican Buffet and soft drinks (cost $10.00, free for UW-Madison student members)
RSVP: by February 18th to Subhadra Ganti via e-mail (sdganti@ieee.org) or call 608.664.2008 ext 172

Non-member guests are always welcome!

The growth in the Wind Generation industry in the US has been accelerating for about 10 years with the most growth has been in the past 5 years. Wind generation and the associated substation designs present a few interesting issues not encountered in traditional substation designs. System Protection examples from several different wind projects will be presented and discussed.

Dave Herbst the Manager of Commissioning and Testing Services at Realtime Utility Engineers in Madison. Mr Herbst has nearly 25 years of experience as a System Protection and Control Engineer. His work as both a design engineer and field testing engineer has given him the opportunity to be involved with wind generation projects from 5 kW to 300mW. Dave is a 1983 graduate of the University of Wisconsin Madison with a degree in Electrical Engineering. Mr. Herbst is proud to be an avid outdoorsman who grew up on the frozen tundra of Northern Wisconsin.

National Electrical Code (NEC) 2008 Code Changes Seminar



A National Electrical Code (NEC) 2008 code changes seminar is being sponsored by the IEEE Industry Applications/Industrial Electronics Societies joint Chicago Chapter on February 23rd. The speakers for this seminar are from the National Fire Protection Association (NFPA), which publishes the NEC. The Chicago chapter has had the NFPA provide speakers for previous seminars, including this same topic when prior editions of the NEC were released, and have been uniformly pleased with both the technical knowledge and the "stage presence" of the speakers that the NFPA has provided.

Included in this presentation are a softbound copy of the 2008 NEC, the 2008 NEC code changes handbook, plus a few other NFPA trinkets. This seminar provides 0.7 CEU (7 PDH) of continuing education credit that is accepted in all states that require continuing education for PE licensure. We provide a continental breakfast, plated lunch, and continuous coffee service. The seminar location is in Northbrook, Illinois, a little south of O'Hare airport and less than an eighth of mile from the Tri-State tollway (I-294). For $200 per member or $250 per non-member, you're getting this package for not much more than you'd pay for those two books and the per-person room and catering costs.

The registration form for this seminar can be found here: <http://ewh.ieee.org/soc/ias/chicago/022308.pdf>. For nearly all of our events we accept reservations on a "good faith" basis, but due to the expense involved and the limited number of seats available, we have had to adopt a payment in advance policy for these seminars. Since we are not able to process credit cards, we request payment via check. We apologize for any inconvenience these policies cause.

Submitted by: David E. Mertz, PE, d.e.mertz@ieee.org.

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To register call Carol at 847-537-6400 or email her at cgorowski@dlsemc.com. For more information click on <http://www.dlsemc.com/class301.htm>.

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Energy Bill an Important Step Toward Energy Independence

By Bill Williams

On 19 December 2007, President Bush signed into law the Energy Independence and Security Act (H.R.6). The bill passed with overwhelming support in both the House of Representatives (314-100) and the Senate (86-8). The most significant component of the comprehensive legislation is a provision to require the auto manufacturers to boost fuel economy standards for cars, light trucks and sports utility vehicles to an average of 35 miles per gallon by the year 2020. The bill also mandates a roughly five-fold increase in ethanol production to 36 billion gallons a year by 2022.

Left out of the final bill, however, were provisions contained in earlier versions to require investor owned utilities to produce 11 to 15 percent of their power from renewable sources by 2020, and a $22 billion energy tax incentive package for renewable energy, efficiency measures and other technologies. The tax incentives were contained in earlier versions of the bill, but were dropped due to opposition from the Bush Administration and others in Congress because they

were to have been paid for by raising taxes on oil companies. Congress failed to reach consensus on these sections of the bill and they were eventually abandoned to help smooth the way for passage of the final legislation.

The energy bill also contained two provisions that are of particular interest to IEEE members. The first is language that authorizes $95 million to develop a competitive grants program to encourage the use of plug-in electric drive vehicles or other emerging electric vehicle technologies. The grants will be provided on a cost-shared basis to state and local governments, metropolitan transportation authorities, or even private or non-profit entities. Also included in this section are provisions to develop a nationwide electric drive transportation technology education program, which will include an electric vehicle competition and financial assistance to colleges to create new or support existing degree programs to ensure the availability of trained electrical and mechanical engineers to work on plug-in electric or other forms of electric drive transportation vehicles.

IEEE-USA's advocacy effort on Capitol Hill for PHEVs was concerned that the legislation came up short in promoting plug-in hybrid technology. "Many in the technology community feel strongly that plug-in hybrid vehicles can play a significant role in promoting U.S. energy independence, mitigating global climate change and enhancing our national security," said Tom Gentile, chair of IEEE-USA's Energy Policy Committee. "We encourage Congress and the President to follow up on this legislation in the coming year to provide incentives to facilitate a greater adoption and penetration of plug-in electric hybrid vehicles." [For more information on IEEE-USA's position on Plug-in Hybrid Vehicles, go to http://www.ieeeusa.org/policy/positions/PHEV0607.pdf.]

The second item of interest to IEEE members calls for the National Institute of Standards and Technology (NIST) to coordinate with the IEEE and other organizations to develop protocols and standards for the nascent Smart Grid technology for the nation's electricity grid. Additionally, the bill contains measures phasing out inefficient incandescent light bulbs, improving appliance efficiency standards as well as other conservation measures.

A more subtle, but just as important aspect of the legislation, according to Gentile, is the emphasis on the use of energy efficient products and processes to reduce reliance on imported energy sources. "Over and above the obvious bill language," he said, "there is an implied message to the American people that energy efficiency is very important to our society and we must make changes in the way we live. In gen-

eral, any new products, system design, re-design, or network integration needs to take efficiency into consideration."

IEEE-USA President Dr. Russell Lefevre agrees that the bill is an important first step but cautioned that much more still needs to be done to move the United States towards true energy independence. "We are at a critical juncture in our nation's history," said Lefevre. "We can continue our reliance on energy from a volatile, unstable region of the world, or we can start utilizing the technology that is available here and now to reduce the nation's demand for imported oil." What is needed, according to Lefevre, is "bold leadership from Congress and the Administration, and the innovative, pioneer spirit that has made the United States the historical technological leader of the free world."

Bill Williams is IEEE-USA's legislative representative for technology policy activities. Comments may be submitted to todaysengineer@ieee.org.

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