

SCANFAX

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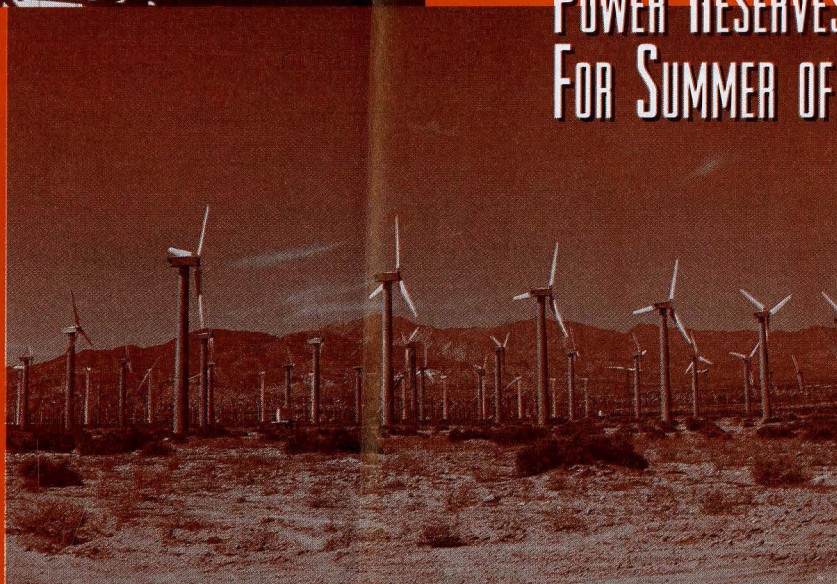
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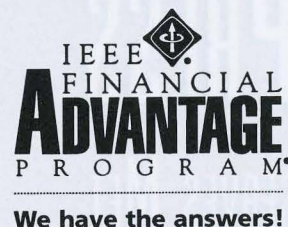
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CHICAGO SECTION EXECUTIVE COMMITTEE MEETING

Tuesday, February 13, 6:30 pm

DeVry DuPage, Room TBA, 1221 N. Swift Rd., Addison, IL

No registration needed.

ATTENTION! IEEE Chicago Section Chapter Chairpersons

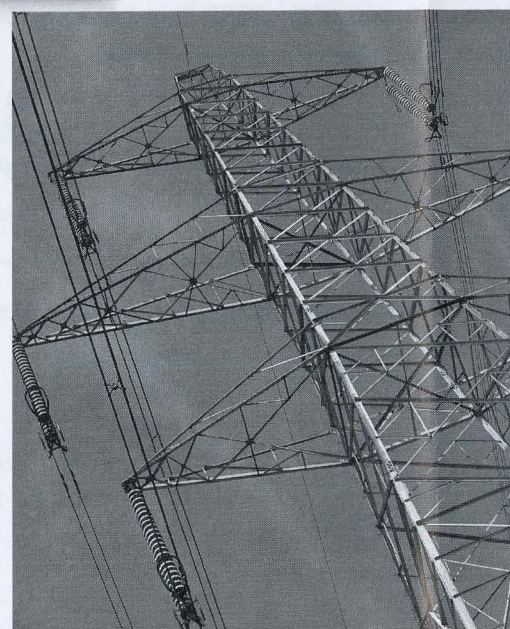
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DEADLINES: February 25 for April Issue
March 25 for May Issue

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COMED LEASES TECHNOLOGY HOT OFF THE PRESS



POWER RESERVES
MET FOR SUMMER
OF 2000



By SANDY RYAN

In October of 1999, ComEd of Chicago decided to take on an engineering project that was geared to help address anticipated reserve capacity margins for the summer of 2000. The project involved installing five temporary gas turbine generators at ComEd's TSS 13 Crawford switchyard located on Chicago's south-east side — amazingly, the construction and testing phase of the project took a mere 10 weeks to complete and the generators were ready for action.

"With tight markets for power, we were trying to look at how to meet summer reserves," said Robert Koszyk, ComEd's Director of IPP Services.

"We were the first user anywhere in the world of this technology. We just made a conscious economic decision for our customers that it was a better value to make this temporary installation than to buy more power on the market. It was a gamble using a new technology and the challenge was to install it in this incredibly short time."

"ComEd leased five TM2500 Gas Turbine Generators from GE Energy Rentals for the year 2000 summer season," said Darsey Moore, ComEd's Project Manager. "Each unit is nameplate rated at 22.8 MW and has the capability to run on natural gas or diesel fuel. ComEd ran the units on natural gas and at summer conditions rated the five units at a total of 105 MW capability. The output voltage of the generators was 13.8kV, which was stepped up to 138kV by two generator step up transformers."

The TM2500 is a trailer-mounted version of GE's LM2500 aero derivative gas turbine, introduced by GE in November of 1999. The TM2500 is a four-trailer system consisting of a turbine-generator trailer, an inlet filter trailer, an exhaust trailer and an auxiliary trailer. It can operate either natural gas or liquid fuel, for either 50-hertz or 60 hertz applications.

Key benefits of the TM2500 include:

Low Emissions. With water injection, the TM2500 on natural gas produces approximately 24 pph Nox and 27 pph CO. On distillate fuel, the numbers would be 42 pph

Nox, and 15 pph CCO. While diesel engines meet federal regulations, their emissions levels are substantially higher: roughly 22 1.25-megawatt diesel generators would be required to match the continuous output of one TM2500, and the total emissions from those 22 units would exceed 470 pph Nox, and 103 pph CO.

Speed and Mobility. The TM2500 can be easily transported by ship, rail or road and — as demonstrated by the ComEd project — can be quickly reassembled on-site for applications such as temporary peak-shaving, plant shutdowns, equipment maintenance or for bridging to more permanent power solutions. A single unit can be set up and ready to produce power with the necessary infrastructure in place, in no more than three days.

Space Saver. The total footprint for a fully assembled TM2500 trailer is approximately 100 feet by 70 feet — up to 60% less space than diesel units that achieve a comparable power output.

The Crawford site offered ComEd many advantages, including:

- Good transmission access
- ComEd owned the property — a plus when it came to zoning and permitting
- It was located adjacent to a gas supply pipeline owned by Peoples Energy
- Located in an existing industrial zone-alleviated environmental and sound issues
- Physical space was available in the yard to install the equipment

"The ability to meet environmental requirements, to obtain emissions permits required by the Illinois EPA, and to meet zoning noise restrictions, as well as support by the City of Chicago Aldermen were key to the timely installation of the units," Moore said.

Site surveys began in mid February 2000 and ground breaking took place on March 15. The turbines actually went into service the following Memorial Day weekend, just before the completion target date of June 1, 2000. Koszyk said an 18-month turbine installation schedule is typically considered aggressive, "so completing the project in 10

weeks was an impressively met schedule."

Besides a tight construction schedule, other unique challenges presented themselves. As ground was being broken in Chicago, the GE equipment was still being manufactured and the logistics of moving the turbines from the Texas manufacturer to the Crawford site became a critical consideration during the ComEd project.

Even mother nature got in on the action during construction, socking Chicago with two major storms that required ComEd to concentrate its efforts on restoring power to customers — setting back testing and construction days on the project.

When the equipment completed its journey and pulled on to the Crawford site, each turbine sat on four flat bed trucks. "The (turbines) were kind of like plug and play — they just parked the trucks in an L-shape and each unit plugged into each other for set up," Koszyk said.

The turbines operated at Crawford from June through August 2000. GE Industrial Systems provided project design and site construction, operations and maintenance of the units was provided by GE Energy Rentals. ComEd provided engineering oversight, project management, environmental and permitting support.

After overseeing a successful project such as Crawford, Koszyk said the new technology is an example of possibilities and solutions available to areas of the world currently experiencing California-like energy woes where power is needed quickly.

"You can use this (technology) where you have transmission restraints and certain areas are limited to how much power they can import — this is one solution at least on a fast basis."

"I think GE wants to expand on the opportunities they saw with us. Since we opted not to renew for another summer, they immediately found another opportunity to disassemble and send (the turbines) to Ireland. We have received calls from Ireland and we shared lessons learned with them about installation so they wouldn't have to go through the same start up issues we did." ■

LUNCH MEETING

Chicago Chapter of the IEEE Power Engineering Society RTO Business Design and Development Wednesday, February 14, 2001

Ed Lennox & Darlene Tolbert, Anderson Business Consulting, Energy Practice

About the Topic:

The rush to meet the requirements of FERC Order 2000 is well underway. Organizations are building or changing long-held operating practices to meet the needs of the altered regulatory landscape. Regional Transmission Organizations (RTOs) are the startups that have sprung from the new FERC orders. The Midwest Independent System Operator (MISO) is one such startup that promises to meet these requirements by the November 1, 2001 operational deadline.

Arthur Andersen is delivering a business infrastructure for market settlements, finance and accounting functions at the MISO. The scope of the project extends from development to outsourcing. As managers of the project, Ms. Tolbert and Mr. Lennox are responsible for creation and implementation of the business processes

required to accomplish these key features of the MISO.

In a discussion intended for an audience of power engineers either familiar or unfamiliar with the new regulatory landscape, the presenters will describe their experiences at the ERCOT and Midwest ISOs. Current developments at the MISO will be addressed. Key points to be made will enable attendees to leave the presentation having a better understanding of the role of RTOs in the bulk power marketplace.

About the Speaker:

Ed Lennox is a manager at Arthur Andersen Business Consulting. Ed held power engineering positions in the R&D Division of S&C Electric Company and in the Engineering Services Group of Skidmore, Owings and Merrill. He holds Bachelor and Master of Science degrees in Electrical Engineering and a Master of Science degree in General Engineering from the University of Illinois at Urbana-Champaign (UIUC). His thesis works focused on power engineering, control theory and mechanical dynamics. Ed holds an MBA from the University of Chicago full-time program. Ed is a licensed Professional Engineer in the State of Illinois and a member of the Institute of Electrical and Electronics Engineers.

Darlene Tolbert is a manager at Arthur Andersen Business Consulting. Ms. Tolbert began her career with Consumers Energy and progressed through various engineering positions at the Michigan Electric Power Coordination Center. She was responsible for State Estimator, Optimal Power Flow, Security Analysis, maintaining Available Transfer Capabilities (ATCs) and Open-Access Same-Time Information System (OASIS). Ms. Tolbert is a member of both the American Association of Blacks in Energy and the National Black MBA Association. She holds a Bachelor of Science Degree in Electrical Engineering and a Masters of Business Administration, both from the University of Michigan.

Location:

Chicago Bar Association, 321 South Plymouth Court (Near Jackson & Dearborn), Chicago, IL

Time:

11:30 AM Social
12:00 PM Lunch (optional)
12:15 PM Presentation
1:00 PM Adjourn

Reservations:

Lunch tickets can be purchased in the lobby bookstore (\$10.50). Please call the IEEE Business Office at (800) 898-IEEE to make your reservation.

Information:

Please visit the Chicago Chapter IEEE PES web site: www.ece.iit.edu/~flueck/chicago_pes/

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EVENING MEETING

IEEE Power Engineering Society - Chicago Chapter Careers in Power Engineering Friday, February 16, 2001

About the Topic:

What's Out There: Overview of job opportunities focusing on what engineers and computer professionals do. Positions include: research, teaching, design, manufacturing, testing and evaluation, maintenance and service. Students: Bring your resumes to include in our IEEE/PES career program book!

About the speaker:

MODERATOR & COORDINATOR:

Angeline S. Schaefer Senior Project Electrical Engineer, OWP&P Engineers, Electrical Northwestern University, Evanston, BSEE, 1986 Chair/Student Liaison of IEEE-PES, Chicago Chapter, 2000-2001.

SPONSOR: Power Engineering Society, Chicago Chapter

ENGINEERS: Edwin C. Lennox, P.E. Management Consultant, Arthur Andersen Business Consulting University of Illinois, Urbana/Champaign, BSEE 1990, MSGE 1992, MSEE 1997. University of Chicago, MBA, 1998. Recipient of the 1997 Grainger

Award for Power Engineering Excellence **Clifton Muhammad** Illinois Institute of Technology, Chicago, BSEE, 1987. University of Chicago, Master of Business Administration, present student.

Paul Young, P.E. Senior Project Electrical Engineer, Laramore, Douglass and Popham Consulting Engineers. University of Missouri, Rolla, BSEE, 1987. DePaul University, Master of Science in Telecommunications, present student.

ALUMNI: John Economou Senior Electrical Engineer, OWP&P Engineers, Inc. University of Illinois at Chicago, Bachelor of Computer Science and Engineering, 1988. University of Illinois at Chicago, BSEE 1990. Illinois Institute of Technology, Chicago, MSEE, 1992.

IEEE/PES Member: Maureen Barrera, Electrical Engineering, Sophomore at UIC, OWPP Engineers, Electrical Designer.

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Bemol Stephen; Secretary: Dawn Fuller; Membership Chair: Irey Osikanlu; Public Relations: George Balaban; Web Manager: Jimmy Solanki; Senior Advisor: Bret Bohlin; UIC/IEEE Website: www.eecs.uic.edu/~ieee

Agenda:

4:30 PM Free Refreshments
4:30 PM Main Speaker
5:00 PM Discussion and Q&A with Students
5:30 PM Mixing with Power Engineers
6:00 PM Adjourn

Location:

University of Illinois - Chicago, Chicago Circle Center-Monarch Room, Third Floor, (Parking: Halsted/Taylor Parking Structure), Chicago, IL. Directions and Campus Map: UIC's web site www.uic.edu/depts/avcad/eastmap.htm has a map of campus.

Reservations:

Please call IEEE at (800) 898-IEEE to make your reservation. Additional information: www.ece.iit.edu/~flueck/chicago_pes

CALENDAR OF EVENTS

Date	Event
February 13	Chicago Section Executive Committee Meeting
February 14	IEEE Power Engineering Society RTO BUSINESS DESIGN AND DEVELOPMENT
February 16	IEEE Power Engineering Society CAREERS IN POWER ENGINEERING
February 17	IEEE-IAS Chicago Chapter POWER SYSTEMS HARMONIC ANALYSIS
February 20	ED/CAS/SSC BROADBAND MULTIMEDIA DSL SERVICE EVOLUTION-RESIDENTIAL, SMALL BUSINESS AND TELEWORKER SOLUTIONS
February 21	EMC Chapter Meeting CORRELATION OF RADIATED EMISSIONS DATA IN A REVERBERATION CHAMBER

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IEEE-IAS Chicago Chapter Power Systems Harmonic Analysis Saturday, February 17, 2001

Lonnie C. Lindell, General Manager, SKM Systems Analysis, Inc.

About the speaker:

Lonnie C. Lindell is the General Manager of SKM Systems Analysis, Inc., an electrical engineering company specializing in power system analysis software development. He received a BS from the Iowa State University School of Engineering and an MBA from the University of Phoenix. He has over 15 years of experience in the application of engineering computer software, and is an active educator and published author. He is a member of the IEEE.

Agenda:

7:30 am Admission and Continental Breakfast
8:00 am Session I: Definition of

Harmonics - Related Terminology - Problems caused by Harmonics - Solutions to Harmonic problems
10:00 am Session II: Measurements Vs. Predictive Calculations - Data Required for Predictive Calculations - Example/Exercise using Hand Calculations methods

12:00 pm Lunch

12:30 pm Session III: Example using Computer Simulation - Effects of Capacitors, Filters and Loading
2:45 pm Session IV: Comparison between IEEE and IEC Standards - Summary - Q&A - Feedback and Evaluation of Seminar

Location:

Holiday Inn Glen Ellyn
Williamsburg Room
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Fees:

- IEEE Member Registration \$75.00 (Provide your IEEE member Number)
- IEEE Non-Member Registration \$125.00
- Late Registration \$10.00 (after January 17, 2001)
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Note: For P.E. licenses that require continuing education for renewal, attendance at IEEE Technical Meetings is acceptable as one Professional Development Hour (PDH) per meeting.

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Please make checks payable to "IEEE-IAS Chicago Chapter," and mail with this completed registration form to IEEE-IAS Chicago Chapter Attn: David E. Mertz, PE, HOH Engineers, Inc. 180 North Wabash Avenue, Chicago, IL 60601. Registrations will not be accepted without payment. Attendance limited to the first 120 registrants.

EVENING MEETING

ED/CAS/SSC (Electron Devices/Circuits and Systems/Solid State Circuits) Broadband Multimedia DSL Service Evolution - Residential, Small Business and Teleworker Solutions Tuesday, February 20, 2001

George Pitsoulakis, Westell, Inc.

About the Topic:

Broadband/DSL service offerings began in the early 1990's with video on demand trials. Migration to a mainstream technology took about 10 years, thanks to the adoption of standards and thus widespread deployment of DSL access technology. Initial focus on DSL services targeted high speed connectivity for the masses. The next Broadband/DSL evolution will feature the broadband gateway as a central access point within a home or small business. Applications include Internet Access, Home Networking, Centralized Voice Services, Video Distribution and Internet Appliances, as service offerings continue to expand.

About the speaker:

George Pitsoulakis has over 12 years experience in telecommunications ranging from broadband fixed access to mobile communications. George is currently Manager, Advanced Technology, for Westell's CPE (Customer premises Equipment) business unit. George is responsible for Westell's residential gateway and IAD products. George has also been actively involved in multiple CPE and DSLAM development activities at Westell including systems engineering and next generation product architectures.

Agenda:

6:30 PM Social (Free Sandwiches, Snacks,

and Beverages)
7:00 PM Presentation

Location:

Motorola Schaumburg Campus
1301 Algonquin Road
Enter Campus using Gate A, westmost gate off Algonquin Road, west of Meacham. Door 13 is under Motorola sign on west face of six story building. Preregistration is required.

Reservations:

Please call the IEEE Message Center at (800)898-4333 or (630)724-0200 by 1PM Monday, Feb. 19th. For information, call Norm Phoenix at (847)523-1078.

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EMC Chapter Meeting Correlation of Radiated Emissions Data in a Reverberation Chamber Wednesday, February 21, 2001

Ray Klouda, Sr., EMC Engineer, Elite Electronic Engineering, Inc.
Steve Laya, Sales and Marketing Manager, Elite Electronic Engineering, Inc.

About the Topic: This presentation will describe the correlation effort that's underway at Elite as a part of the Automotive EMC Lab Recognition Program (AEMCLRP). Radiated emissions data will be presented for Elite's new reverberation chamber and for the reference chamber at GM's Milford Proving Grounds.

The data analysis and correlation effort presented will offer a practical application for the chamber theory presented at the IEEE-EMC chapter meeting last December at Lindgren RF Enclosures. This presentation will also provide an overview of the new Automotive EMC Lab Recognition Program that has been developed by Ford, GM, and DaimlerChrysler.

In addition, Elite will offer a guided tour of it's test facility. Guests will view Elite's new reverberation chamber, whole-vehicle test chamber, 3-meter test site, full environmental stress test lab, and various other test capabilities at Elite.

Location:
Elite Electronic Engineering
1516 Centre Circle
Downers Grove, IL 60515

Agenda:
7:00p.m.-7:30p.m. Social Hour
7:30p.m.-9:00p.m. Announcements and Presentation
Facility tour immediately after presentation

Reservations:
Please R.S.V.P. to Elite Electronic Engineering, Inc. 630-495-9770 by February 16th, 2001

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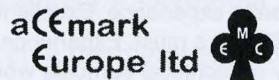
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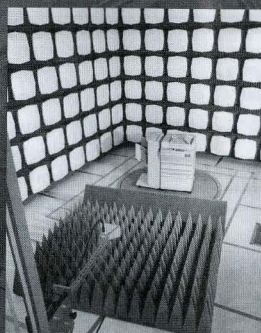
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