



THE POCKET SCOPE



The Institute of Electrical and Electronics Engineers, Inc.

Volume 54, Number 5

January 2004

SCOPE NOTES

February Houston Section News

Where:
HESS (Houston Engineering and Scientific Society)
5430 Westheimer@Yorktown

When: Thursday, February 26, 2004
6:00 - 6:30 p.m. Social
6:30 - 7:30 p.m. Dinner
7:30 - 8:30 p.m. Speaker

Cost:
\$10.00 - IEEE Members with 48-hour advance reservations.
\$20.00 - non-members
\$5.00 - students
Call (713) 207-IEEE to make your reservations.

See Page 4 for the Continuing Education Schedule!

IEEEWEB ADDRESS
<http://www.ieee-houston.org>

IEEE Houston Section
P.O. Box 460014
Houston, Texas
770668014

The Chairman's Message

Gilroy Dolor



As we enter this new year, let me extend a warm welcome to our membership on behalf of the Executive Committee. We had a strong 2003 with improved membership and increased participation and I look forward to continuing this trend with the able and welcome support of the many volunteers on the Executive Committee. I strongly encourage

you to become engaged in the section, participate in its many activities, and take the opportunity to grow yourself both personally and professionally. As you all know, the section survives and grows due to the efforts of volunteers and any progress for the future can only be made with your help and dedication.

I would also like to express my appreciation to the membership for the opportunity to serve as Chairman for 2004. I am confident that with the continued efforts of the many outstanding individuals on the Executive Committee and the ever improving participation of our membership that we can capitalize and even improve on the excellent performance and accomplishments of the past year.

As we move forward, let us take a moment to acknowledge some of the many accomplishments made in 2003 under the able and dedicated stewardship of Dwayne Lowry. We moved forward on many fronts, such as establishing the Houston Section GOLD (Graduates of the Last Decade) Affinity group, revitalizing PACE and Engineering Council of Houston (ECH) groups, significantly increased membership over 2002, and the continued success of the Houston Section annual golf tournament which increased the number of scholarships for this year from three to five. None of which would have been possible without the enthusiastic, dedicated, and personable leadership of Dwayne. Thanks, Dwayne, for your leadership and commitment from all of us in the Houston Section.

Looking forward, we have a number of exciting events scheduled and endless opportunities for volunteers to contribute to the Electrical and Electronics Engineering community and the continued success of our section. The opportunities for 2004 include the annual OTC and

CONTINUED ON PAGE 2

Chair Message-CONT

SWEE Conferences, Women in Engineering group, and the aforementioned, PACE and ECH groups. As you are all aware, the IEEE is a volunteer organization. The primary success of any “volunteer” organization is getting the volunteers. Please take the time to consider volunteering in some capacity. You will find your time was well worth it. If you are interested, please contact an Excom member.

We will kick off the general meetings with a very interesting session on real time systems. Dr. Albert Cheng will make a presentation titled “Formal Analysis and Verification of Embedded and Real-Time Systems.” His presentation deals with the use of practical formal analysis and verification techniques to ensure that the implemented systems performed as required. Dr. Cheng is currently a tenured Associate Professor in the Department of Computer Science at the University of Houston.

Gil Dolor

Houston Section Chair

February 26 Section Meeting

The next meeting of the IEEE Houston Section will be held Tuesday, December 2nd, 2003.

Please RSVP via calling (713) 207-IEEE to make your reservations by Friday November 28th, 2003. Please include your name and company name in the voice message. You can also send an e-mail to P.J. Donner at pjdonner@ieee.org to confirm your reservation.

Time and date: 6:00 PM to 6:30 PM Social, 6:30 PM to 7:30 PM Dinner and 7:30 PM to 8:30 PM Presentation.

Program: **Formal Analysis and Verification of Embedded and Real-Time Systems**

The correctness of many systems and devices in our modern society depends not only on the effects or results they produce, but also on the time at which these results are produced. These real-time systems range from the anti-lock braking controller in automobiles to the vital-sign monitor in hospital intensive-care units. For example, when the driver of a car applies the brake, the anti-lock braking controller analyzes the environment in which the controller is embedded (car speed, road surface, direction of travel) and activates the brake with the appropriate frequency within fractions of a second. Both the result (brake activation) and the time at which the result is produced are important in ensuring the safety of the car, its driver and passengers.

This presentation will review how recently developed computer hardware and software products are increasingly embedded in a majority of these real-time systems to monitor and control their operations for both functionality and safety. These computer systems are called embedded systems, real-time computer systems, or simply real-time systems. Unlike conventional, non-real-time computer systems, real-time computer systems are closely coupled with the environment being monitored and controlled. Professor Cheng will provide an introduction to formal techniques and tools (such as model-checking, Statecharts, and real-time logic) that are practical for actual use.

December 2 Section Meeting

Speaker: **Prof. Albert M. K. Cheng** Director, Real-Time Systems Laboratory, Associate Editor, IEEE Transactions on Software Engineering Senior Member

Albert M. K. Cheng received the B.A. with Highest Honors in Computer Science, graduating Phi Beta Kappa, the M.S. in Computer Science with a minor in Electrical Engineering, and the Ph.D. in Computer Science, all from The University of Texas at Austin, where he held a GTE Foundation Doctoral Fellowship. Dr. Cheng is currently a tenured Associate Professor in the Department of Computer Science at the University of Houston, where he is the founding Director of the Real-Time Systems Laboratory. He has served as a technical consultant for several organizations, including IBM, and was also a visiting faculty in the Departments of Computer Science at Rice University and at the City University of Hong Kong.

He is the author/co-author of over sixty refereed publications in IEEE Transactions on Software Engineering (TSE), IEEE Transactions on Knowledge and Data Engineering (TKDE), Real-Time Systems Symposium (RTSS), Real-Time and Embedded Technology and Applications Symposium (RTAS), and other leading conferences. He is serving and has served on the program committees of many conferences in his areas of research. He is a frequent reviewer for the IEEE-CS Publications Office as well as for many international journals and conferences. One of his recent work presents a timing analysis of the NASA X-38 Space Station Crew Return Vehicle Avionics, which contains a fault-tolerant distributed system.

Dr. Cheng has received numerous awards, including the National Science Foundation Research Initiation Award (now known as the NSF CAREER award). He is very active in fostering undergraduate research through the NSF Research Experiences for Undergradu-

New IEEE Fellows!

Congratulations on Recent Fellow Member Upgrades!

DOUGLAS PETER VERRET

Texas Instruments, Inc.
Stafford, TX, USA

For leadership in the commercialization of bipolar and BiCMOS technologies.

THOMAS TURNER WILHEIT

Texas A&M University
College Station, TX, USA

For contributions to passive microwave remote sensing of geophysical parameters of Earth's surface and atmosphere.

The grade of Fellow first appeared in the AIEE constitution of 1912. In that year, the AIEE revised its membership structure and established the grade of Fellow for those engineers who had demonstrated outstanding proficiency and had achieved distinction in their profession. Potential Fellows had to be at least thirty-two years of age, with a minimum of ten years experience. When the IRE established its Fellow grade in 1914, the requirements were clearly modeled on those of the AIEE. Much of the wording in the relevant sections of the IRE constitution is identical to the corresponding wording in the AIEE constitution.

IEEE CONTINUING EDUCATION ON DEMAND

2003-2004 REGISTRATION FORM

Name:
 Company:
 Mailing Address: (where certificate will be delivered)
 City/State:
 Zip:
 Email:
 Telephone Voice:
 Telephone Fax:
 IEEE Membership Number:

Seminar Title	Code	Date	Amount
Acceptance and Power Factor Testing	902	Oct. 7/8	\$
Lightning and Surge Protection	320	Oct. 21/22	\$
Medium Voltage VFD's	505	Nov. 4/5	\$
Residual Bus Auto Transfer System	111	Nov. 18/19	\$
Synchronous Motors	610	Feb. 3/4	\$
Synchronous Generators	609	Feb. 17/18	\$
Isolated Generator Systems	611	Mar. 2/3	\$
System Protection	304	Mar. 16/17	\$
Low and Medium Voltage Cable	113	Mar. 30/31	\$
Communication System Integration	112	Apr. 13/14	\$
Low and Medium Voltage Switchgear	207	Apr. 27/28	\$
Total Paid:			\$



IEEE

IEEE Houston Section

2003-2004

Continuing Education On Demand



Mail a copy of your completed registration form along with your check payable to **IEEE CED SEMINARS** at the following address:
 IEEE CED SEMINARS
 PAT ROGERS
 SOUTHWEST POWER
 425 BLUEBERRY STREET
 HOUSTON, TX 77018
 progers@swpower.com

Registration receipts will be available upon request at the seminars.

For a cancellation refund, telephone Pat Rogers by the Friday before the seminar at: Phone: 713.696.9922 Fax: 713.696.9983 Email: progers@swpower.com

IEEE Continuing Education on Demand Completion Certificate with Continuing Education Units (CEUs) is provided after receipt of both nightly questionnaires and seminar evaluation sheets.

Please direct seminar questions to Paul Barrett at 713.598.0790

Please check the IEEE Houston Section website for the latest schedule and course information.

<http://www.ieee-houston.org>

IEEE CONTINUING EDUCATION ON DEMAND

The purpose of IEEE Houston Section Continuing Education On Demand is to provide a two-year repeating program sequence of practical industrial power application topics that supplement the daily work activities of the practicing graduate electrical engineer.

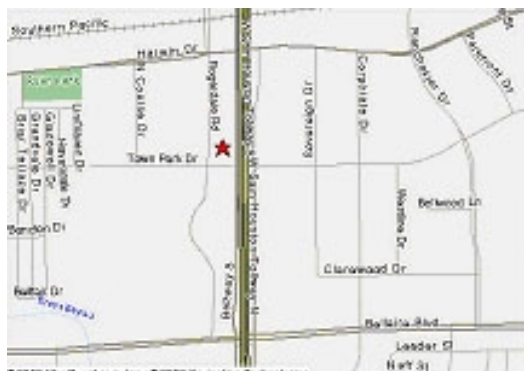
The seminars are intended to stimulate further study and discussion for learning continuance throughout the working career. Topics apply to heavy industries: oil and gas, petro-chem, cogen, pulp and paper, etc.

Instructors are application engineers, manufacturing specialists and expert consultants who provide a blend of diverse engineering perspectives.

The cost of each seminar is \$120.00 for IEEE members. "Early Signup" is \$60.00 and the check must be received the Friday before the seminar start date. The cost for non-IEEE members is \$200.00. Signup the week of the seminar does not guarantee seminar presentation documents or meals. For IEEE membership application information, contact Ray Schmidt at (281) 468-2978.

The following 2003-2004 seminar schedule defines the topics, dates and times. A course syllabus is available on request. Minimum class size is twenty for each seminar. Seating is limited and filled on an as received basis. Presentation documents are provided. A buffet is served from 5:00PM-6:00PM.

Seminar location:
 Jacobs Engineering
 5995 Rogerdale Road
 Houston, TX. 77072



Enter amount for each seminar:

IEEE member registration: \$120.00
 IEEE member early signup: \$ 60.00
 Non-member registration: \$200.00

Fall of 2003 IEEE Seminar Schedule

Acceptance and Power Factor Testing (902)
Randall Baker, Dashiell Corporation and Keith Hill, Doble Engineering Company

Oct. 7/8, 2003 6:00-8:50PM
Phasors, instrument transformer testing and load testing of relays/meters are performed. Additional testing topics include Sweep Frequency Response Analysis and power factor testing. [0.5 CEU]

Lightning and Surge Protection (320)
William Nichols, Siemens Westinghouse Technical Services

Oct. 21/22, 2003 6:00-8:50PM
Reviews theory and application of surge protection. Capacitor selection and application is examined. [0.5 CEU]

Medium Voltage Variable Frequency Drives (505)
Richard Osman, Robicon Corporation

Nov. 4/5, 2003 6:00-8:50PM
Theory and application of medium voltage variable frequency drives is reviewed. [0.5 CEU]

Residual Bus Auto Transfer System (111)
James Bowen, Powell Elect. Mfg. Co. and Roy Cossé, PowITech, a part of Powell Elect. Mfg. Co.

Nov. 18/19, 2003 6:00-8:50PM
Reviews fundamentals of a traditional transfer scheme. A modern transfer approach provides guidance for enhanced residual transfer scheme applications. [0.5 CEU]

Spring of 2004 IEEE Seminar Schedule

Synchronous Motors (610)
Chris Schartner, GE Canada and Michael Costello, Chevron Texaco Corporation

Feb. 3/4, 2004 6:00-8:50PM
Practical applications are examined. [0.5 CEU]

Synchronous Generators (609)
Derek King, Brush Electrical Machines Ltd.

Feb. 17/18, 2004 6:00-8:50PM
Generator theory, physical construction, and application are reviewed and discussed. [0.5 CEU]

Isolated Generator Systems (611)
Peter Evjen, Mustang Engineering, L.P.

Mar. 2/3, 2004 6:00-8:50PM
Isolated generator system applications are investigated. [0.5 CEU]

System Protection (304)
Roy Cossé, PowITech, a part of Powell Elect. Mfg. Co.

Mar. 9/10, 2004 6:00-8:50PM
Relaying overview of a complete power system including a brief discussion of primary and backup protection. [0.5 CEU]

Low and Medium Voltage Cable (113)
Donald Voltz, Mustang Engineering, L.P.

Mar. 30/31, 2004 6:00-8:50PM
Theory, applications, field and factory testing are discussed. [0.5 CEU]

Communication System Integration (112)
Alan Pilcher / Harrison Combs, PowITech, a part of Powell Elect. Mfg. Co.

Apr. 13/14, 2004 6:00-8:50PM
Reviews modern concepts for integrating meters and relays into one communicating system. [0.5 CEU]

Low and Medium Voltage Switchgear (207)
James Bowen, Powell Elect. Mfg. Co.

Apr. 27/28, 2004 6:00-8:50PM
Reviews theory and application design basics. [0.5 CEU]

New IEEE Fellows-Cont.

For the first several years after the establishment of the Fellow grade, both the AIEE and the IRE allowed Members to make direct application for transfer to Fellow. In both cases, applications had to be accompanied by references from five existing Fellows, and required the approval of the Board of Directors. In 1939, the IRE modified its procedure to make admission or transfer to the Fellow grade possible only by direct invitation of the Board of Directors, a policy it maintained until the merger in 1963. In 1938, the AIEE modified its constitution to provide that 'Applications to the grade of Fellow shall result only from a proposal of five Members or Fellows.' In 1951, the AIEE prohibited applications for Fellow grade altogether, and adopted a policy of direct invitation similar to that of the IRE.

As noted above, numerous electrical engineers were members of both the AIEE and the IRE, and many of these became Fellows of both organizations. When the two institutes merged in 1963, all AIEE and IRE Fellows automatically became Fellows of the IEEE. In 1942, the IRE had begun to issue citations to new Fellows, briefly describing their accomplishments. The AIEE followed suit in 1952, and the IEEE continued the practice after the merger.

As it stands today, the IEEE Grade of Fellow is conferred by the Board of Directors upon a person with an extraordinary record of accomplishments in any of the IEEE fields of interest. A brief citation is issued to new Fellows describing their accomplishments and the total number selected in any one year does not exceed one-tenth percent of the total voting Institute membership.

What are the qualifications for being nominated an IEEE Fellow? The candidate must meet the following three basic qualifications: hold Senior Member grade at the time the nomination is submitted; be an "active" member (that is, dues must be current); and must have completed five years of service in any grade of IEEE membership. Note: IEEE affiliate membership within an IEEE society does not apply.

Can I nominate myself for Fellow grade? No, self-nomination is NOT permitted.

IEEE Fellow Grade References. A nomination must be supported by at least five, but no more than eight references from active IEEE Fellows

How many new IEEE Fellows may be recommended each year? According to IEEE Bylaw I-308.2, "The total number of Fellow recommendations in any one year must not exceed one-tenth percent of the total institute membership, exclusive of Students and Associates, on record as of 31 December of the year preceding."

The IEEE Fellow Grade is bestowed on individuals who have an extraordinary record of accomplishments in any of the IEEE technical fields of interests. A member is nominated by his peers and must have a minimum of five Fellows submit a detailed reference listing the member's accomplishments. The Fellow Grade is the highest honor an IEEE member can achieve within the Institute and recognizes an individual's achievement within the IEEE profession.

Congratulations are extended from the Houston Section to Douglas and Thomas for this esteemed accomplishment.

Conference for Protective Relay Engineers

CONFERENCE FOR PROTECTIVE RELAY ENGINEERS on March 30-
April 1, 2004 at Texas A&M University in
College Station, Texas.

CONFERENCE FOR PROTECTIVE RELAY ENGINEERS
TEXAS A&M UNIVERSITY
College Station, Texas
March 30-April 1, 2004

The Planning Committee of the 57th Annual Conference for Protective Relay Engineers invites you to attend the conference at Texas A&M University on March 30-April 1, 2004. The Protective Relay Conference provides a forum for engineers to discuss protection technology and related subjects. Both tutorial presentations on fundamental concepts and papers on new technology are included. The program will include the following:

- * New protection equipment descriptions
- * Relay application ideas and new concepts
- * Case Studies and "Horror Stories" (When the relays worked - and when they didn't!)

Registration Information

Pre-Registration: \$215 (begins January 7, 2004)

After March 2, 2004: \$250

Manufacturers

For hospitality suites, please contact Lydia Godfrey at the College Station Hilton and Conference Center at (979) 694-4903

Special offerings

In conjunction with the 57th Conference for Protective Relay Engineers special pre-conference offerings are available Monday, March 29, including a tutorial and manufacturer's presentations. Please see the website for more details.

This conference offers Continuing Education Credits

<<http://engineering.tamu.edu/prorelay/>>

For Registration

Ms. Sharon Loe

Conference Registration

238 Wisenbaker Engineering Research Center

Texas A&M University

3128 TAMU

College Station, TX 77843-3128

Phone: (979) 845-7912

Fax: (979)458-1139

<<mailto:s-loe@tamu.edu>>

For Information

Dr. B. Don Russell

Regents Professor

College of Engineering

Texas A&M University

College Station, TX 77843-3128

(979) 845-7912

NEW CED Program ComSoc/Computer Sponsored

NEW!!! Communications and Computer Society CED Class

January 20 & 21.

IEEE Communications and Computer Society CED Course on "PIC Microcontroller", Tuesday & Wednesday - January 20 & 21, 2004

Purpose: The purpose of IEEE Houston Section Continuing Education is to provide modern practical application topic that supplements the daily work activities of the practicing graduate electrical engineer and expands his or her knowledge of an electronic device that is at the heart of many devices we use daily. The seminars are intended to stimulate further study and discussion for learning continuance throughout one's working career. This topic should appeal to communications, computer, instrumentation, and electronic engineers working in a variety of endeavors.

Course Content: Historically, adding a microprocessor to a design required specialized equipment and a significant design cycle. However, modern micro-controllers, like the Microchip PIC, use flash memory and are highly integrated and they are very easy to add to nearly any design.

This course will help you get over the steepest part of the learning curve for applying Microchip PIC processors. You'll learn how to select a PIC, where to obtain free development tools, and the basics of PIC assembly language programming. Topics will include the instruction set, the PIC memory map, bank switching, and more.

Required Laptop: Course participants will be required to provide their own laptop with Windows operating system. The laptop must have a CDROM drive and a free DB9 serial port which can be connected to the PIC micro-controller programming interface. The laptop needs a terminal program (like Hyperterminal or TeraTerm, both available free).

Instructor: The Instructor for this course is Al Williams. Al Williams is a long-time hardware and software designer. He's authored articles in Embedded Systems, Dr. Dobb's Journal, and many other magazines, as well as over a dozen books including "Embedded Internet Development" from McGraw Hill and "Microcontroller Projects with Basic Stamps" from CMP Books. You can find Al on the Web at <http://www.al-williams.com>.

Course Cost: The cost of the seminar is \$120.00 for IEEE members. The cost for non-IEEE members is \$200.00. Because hardware and instruction materials are needed for this course, you must register for this course by 5:00 p.m. Monday, January 12, 2004. Each participant will receive an APP-II PIC microcontroller, CDROM course materials, and a meal each evening. An additional fee of \$10 will be charged for those participants desiring a 0.5 CEU certificate to be issued.

Registration: Please complete the registration form that is on the Houston Section Website: http://www.ieee-houston.org/Meetings/IEEE%20COMSOC-PICClass-CEDinfov1_2.doc

Date & Locations: The course will be hosted at the Shell facility located at 1500 Old Spanish Trail, Houston, TX 77054. The course dates are two consecutive evenings January 20/21, 2004 from 6:00 pm - 9:00 pm. [0.5 CEU]

[http://maps.yahoo.com/
maps_result?ed=PPb_6.p_0Trd_t3.F2C_7D_aVoqkmcCbaYS0CBEoA--
&csz=Houston%2C+TX+77054&country=us](http://maps.yahoo.com/maps_result?ed=PPb_6.p_0Trd_t3.F2C_7D_aVoqkmcCbaYS0CBEoA--&csz=Houston%2C+TX+77054&country=us)

IEEE Houston Section Scholarships 2004



IEEE - Houston Section

2004 Scholarship Selection Criteria

In order to promote the interests of the Institute of Electrical & Electronics Engineers (IEEE) - Houston Section, and in support of its dedication to Engineering and Science, scholarship(s) will be awarded annually to selected applicant(s). For 2004, due to the success of the 2003 IEE - Houston Section Annual Scholarship Golf Tournament, up to three (3) \$1,000 scholarships each, will be awarded to both incoming freshman and full time college students who meet the following criteria:

ELIGIBILITY: Limited to a full time student enrolled in an accredited college or university who:

- Is a IEEE - Houston Section member's child or grandchild
****OR****
- Is a member of IEEE (Student Branch or other)

DISCUSSION: By restricting eligibility as above, scholarships are made available to those full time students who have an association with IEEE. This places applicants on a "level playing field" before selection criteria are applied to determine the scholarship recipients. All scholarships will be awarded on merit.

SELECTION CRITERIA:

Merit

- Candidate is enrolled / planning to enroll in an Engineering or Science Curriculum
- His/her cumulative GPA (High School GPA for entering college freshman), SAT or ACT scores
- Discussion paper

DISCUSSION PAPER:

This document will be a key element in the scholarship selection criteria. Topics should include, but not be limited to the following:

- Employment experience
- Activities/elected positions
- Career goals
- Honors/Awards
- Personal information
- Why are you seeking this scholarship

To apply, please complete the attached form and mail to:

IEEE Houston Section Scholarships 2004



IEEE - HOUSTON SECTION SCHOLARSHIP APPLICATION

Applicant's Full Name: _____ Phone No.: _____

Home Address: _____ City: _____ Zip: _____

IEEE - Houston Section Member (Sponsor's Name): _____ Member No: _____

Student Status for _____ High School Sr. _____ Jr. _____ Soph. _____
Fr. _____

_____ College or University

Cumulative Collegiate GPA (Based on 4.0 max.) substantiated by copy of transcript(s):

High School GPA - for applicant entering college as freshman:

- If High School Student - please provide SAT / ACT Score:

College or University: _____ Location: _____

Major or anticipated major:

IEEE Student Chapter Member: _____ Yes _____ No

Attach one (1) page essay by student covering:

1. Employment Experience
2. Activities/Elected Positions
3. Personal Information

IEEE-NEWS

NEWS FROM IEEE EDUCATIONAL ACTIVITIES AND THE HISTORY CENTER (1st Quarter 2004)

IEEE VIRTUAL MUSEUM LAUNCHES NEW EXHIBIT.

The IEEE Virtual Museum has a new exhibit titled "World War II: How War Impacted Technology; How Technology Impacted War." It contains information on:

- * the causes of the war
- * the technologies impacted battle and changed how war is now fought
- * technologies that grew out of wartime urgency, such as radar, the jet engine, nuclear weapons and rocket technology
- * individuals who created and used wartime technology in new and innovative ways.

Visit the museum at <http://www.ieee-virtual-museum.org/>.

THREE HISTORIC ACHIEVEMENTS EACH NAMED AS AN IEEE MILESTONE.

The IEEE History Center's program most closely geared to IEEE Sections is the Milestones in Electrical Engineering and Computing. A Section proposes a local achievement of significance, prepares a carefully documented nomination, and, if approved by the IEEE History Committee and IEEE Executive Committee, dedicates a bronze plaque recognizing the honor. At their November 2003 meeting, the ExCom approved three more Milestones recommended by the History Committee, from three different Sections in three different Regions. This brings the total number of Milestones in the program to 54.

The newest additions are:

- * EXPERIMENTAL BREEDER REACTOR I, 1951 (IEEE Eastern Idaho Section in Region 6)
- * DECEW FALLS HYDRO-ELECTRIC PLANT, 1898 (IEEE Hamilton Section in Region 7)
- * FLEMING VALVE, 1904 (IEEE UKRI Section in Region 8)

All three sections are planning late spring or early summer dedication ceremonies. Visit http://www.ieee.org/organizations/history_center/milestones_program.html to learn more about the Milestones Program in general and also about these specific dedications as more information becomes available.

NOMINATE A DESERVING PRE-COLLEGE EDUCATOR FOR THE EAB PRE-COLLEGE EDUCATOR AWARD.

This award recognizes current pre-college classroom teachers who have inspired an appreciation and understanding of mathematics, science and technology and the engineering process in students and have encouraged students to pursue technical careers. To learn more about this award or to submit an application, please visit <http://www.ieee.org/eab/EBAwards/awardprecollege-2004.htm>.

CALL FOR 2004 EAB AWARD NOMINATIONS

The IEEE Educational Activities Board is accepting nominations for the 2004 IEEE EAB Awards. Complete information and nomination forms are provided on the IEEE EAB Awards web site at <http://www.ieee.org/organizations/eab/arc/awards/callnominations.htm>.

The deadline for nominations is 30 April 2004. Award names and descriptions are provided on the web at <http://www.ieee.org/organizations/eab/arc/awards/descriptions.htm>.

ABOUT IEEE EDUCATIONAL ACTIVITIES

The IEEE Educational Activities Board is responsible for coordinating the educational activities of the IEEE. The volunteer and staff members of IEEE Educational Activities carry out this responsibility by developing educational programs to ensure (1) The technological literacy of pre-college students, (2) the continuous maintenance and improvement of engineering education programs through active participation in accreditation activities, and (3) the development of continuing education products and services that serve the professional development and lifelong learning needs of electro-technology professionals worldwide. For more information, visit <http://www.ieee.org/organizations/eab/> or email education-services@ieee.org.

ABOUT THE IEEE HISTORY CENTER

The IEEE History Center is a staff unit of IEEE that is located not at the IEEE Operations Center, but on the nearby New Brunswick campus of Rutgers, the State University of New Jersey, which cospon-

IEEE-NEWS - CONT.

sors the Center's activities. The Center's mission to preserve, research, and promote the legacy of IEEE technologies is overseen by the IEEE History Committee, a standing committee of the IEEE Executive Committee. Since most of the activities in carrying out this mission are educational in nature, the Staff Director of the History Center reports to the IEEE Managing Director for Educational Activities, and Center staff work closely with EAD staff on many programs. Those interested in more information are invited to look at the Center's website (http://www.ieee.org/history_center) or to email the Center at history@ieee.org.

IEEE-USA President's Column

Jim V. Leonard

2003 IEEE-USA President

President's Column, December 2003

My dear U.S. IEEE members, I wish to thank you for giving me the opportunity to serve as your 2003 president. As the year closes, I'd like to look back at some of IEEE-USA's major 2003 achievements. These could only be accomplished with the help of our many volunteers and dedicated staff.

On Capitol Hill, we held two Congressional Visit Days, including one on engineers' careers, and a nanotechnology briefing for Senate staffers. We've started a grassroots movement that provides an opportunity for our members to participate in shaping government policies.

Ron Hira, chair of the IEEE-USA Research and Development Policy Committee, delivered testimony on offshoring before the House Committee on Small Business. As president, I have communicated with every member of Congress and the President that we want American engineering jobs to remain in America for Americans.

Our Board of Directors passed many new policy position statements, including one on reverse engineering that served as a basis for an *amicus curiae* brief that we filed with the U.S. Supreme Court in June.

After WKMG-TV in Orlando, Fla., did such a wonderful job on their "Stolen Jobs" series, which showed how offshoring and temporary workers were hurting employment opportunities for U.S. high-tech professionals, we reproduced the series onto CD and distributed it to the media, other societies and members of Congress.

In March of 2003, we held another successful IEEE-USA Leadership Workshop and Professional Development Conference in Seattle. Next year's workshop is slated for Atlanta.

When the blackout of 2003 struck in mid-August, IEEE-USA spokespeople drew national coverage. We were quoted in the Wall Street Journal and the Washington Times, heard on CBS and BBC radio and seen on CNBC and MSNBC, to name a few. IEEE-USA continues to look into the cause and provide policy recommendations for preventing future problems.

Throughout the year we have been preparing for the IEEE's role as lead society of National Engineers Week in 2004. We have a number of fun and educational activities planned to promote engineering awareness and public understanding of the profession. I urge your participation in EWeek '04.

In July, I was particularly pleased to represent IEEE-USA at the centennial of powered flight celebration in Dayton, Ohio. Working with the IEEE Aerospace & Electronics Systems Society, we sponsored a display that featured a 100-year timeline on avionics. I was so impressed with the display that I arranged for it to appear at the Digital Avionics Systems Conference in Indianapolis in October. Successful engagement between IEEE-USA and other IEEE organizational units (RAB, TAB, EAD, PUBS, Standards) is ongoing.

IEEE-USA President's Column-CONT.

I am involved with an IEEE Board-level committee that is striving to improve our industry relations by defining what the IEEE can do to help industry. And we will ask its leaders to continue to support our IEEE volunteers.

I'd like to thank past president LeEarl Bryant and the IEEE-USA Board of Directors for their help and support this year. I know that the presidency of IEEE-USA is in good hands with John Steadman, who will succeed me on 1 January. And again thanks to each of you, the 235,000 U.S. members of the IEEE, for allowing me to serve you as your top IEEE-USA volunteer leader in 2003.

Comments on Blackout Report

PRESS RELEASE

December 8, 2003

Experienced Engineers Criticize Government Blackout Report

Jack Casazza

**IEEE Life Fellow, Educator, Former Utility Executive and
Author**

(703 569 3579)

Frank Delea

Former Utility Executive and Author

(770 645 4604)

George Loehr

**N.Y. State Electric Reliability Council Executive Committee,
Chairman Reliability Compliance Monitoring Subcommit-
tee, Educator and Author**

(505 792 0643)

Raymond Maliszewski

IEEE Life Fellow, Former Utility Executive and Consultant

(614 885 8683)

Four nationally known engineers and former utility executives, having no political or commercial affiliations or financial support, have found the government blackout report omits many key factors in the cause of the August 14, 2003 blackout, making it difficult to separate facts from politics. Although based on data obtained by many competent engineers, the report is the sole responsibility of the Federal government. All participants involved in the investigation were required to sign confidentiality agreements that pre-

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vent them from discussing their findings or presenting contrary or differing views as to the reasons for the blackout.

The report focuses on actions or inactions of the First Energy Company, the Midwest Independent System Operator, mistakes by the system operators, and deficiencies in tree trimming. This new independent analysis has concluded the immediate key to the blackout was the failure of the First Energy EMS system and the lack of training of the operators to operate without this system when a series of electrical contingencies put the system in an unreliable state.

The material presented in the initial Report is too narrowly focused to provide a basis for drawing conclusions, assigning blame or making policy recommendations. While listing the many increasing complexities and operating difficulties caused by government policy, particularly the huge increase in the number of participants involved in power system operations, it does not address how these factors not only increased the probability of the blackout but even made one probable. Making recommendations without further analysis would be a disservice to the general public.

Of major concern is the failure to discuss the roles of NERC and FERC in the months leading up to the blackout and the many other conditions that contributed greatly to the blackout. Of specific concern is the report's criticism of the operator performance and the control room facilities at First Energy without mention that NERC had approved the facilities, supervised the training of the operators and qualified them as system operators. It fails to mention that FERC had approved the establishment and initial operation of the MISO organization after certification by NERC and without verification to see if the necessary facilities, operating procedures and trained personnel were available in MISO for it to perform its role. Many other conditions that set the stage for and contributed to blackout were incorrectly dismissed as unimportant, including low system voltages, heavy flows through the region to Canada, and poor communications.

There are also issues concerning the contribution to the blackout of certain electrical phenomena that are not reported or downplayed in the Report. Among these phenomena are the voltage and frequency transients starting in the morning of August 14, the increase in transmission line currents as a result of low system voltages, the impact of low voltages on the operation of the impedance relays that tripped many lines, and other technical concerns.

Further, the Report completely fails to address the efficiency and adequacy of restoration procedures.

Following most major blackouts, reviews have been conducted in order to learn how better to plan, operate and maintain the electric system. The August 14th blackout occurred at a time that the electric utility industry is undergoing its most massive restructuring in the last 75 years. It is doubly important that this post blackout review be broad in scope as well as in depth, and free of the influence of political or commercial interests. The report must result in corrective actions that consider all the contributing factors to insure that the evolving industry structure is capable of dealing with massive incidents that could result in blackouts if not recognized and responded to properly.

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