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Volume 50, Issue 8



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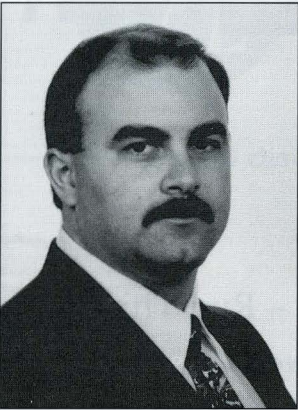
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Chairman's Message



Howard W. Penrose
IEEE Chicago Section,
Chairman

September has been another exiting month with the IEEE Chicago Section!

Region 4 held its executive committee meeting over the weekend of September 11 through 13 at the O'Hare Marriott. I was only able to attend the Sunday morning meeting, but was able to get some valuable insight into the present direction of Region 4. Chicago Section attendance included Jack Sherman, Bert Orszula, and Jim Fancher (Region 4 Past Director). One of the more important aspects of the weekend had to do with education of the region, section, and sub-section officers, including the development of an officers' manual. This manual will be used for training of officers and for outlining each officer's job function. This was the last official Region 4 Committee meeting for Harry Bostic as Region 4 Director while Robert Adams takes over as Region 4 Director for the next two years. For more information on Region 4 activities, please see the Region 4 website at <http://sandbox.ieee.org/r4>.

On Friday, September 18, I attended

the UIC IEEE Student Chapter meeting. I happened across a note on the door outside of my classroom earlier in the week and decided to see how the meeting went (besides, the pizza and soda was a good incentive, as the meeting were just before my class). While I do not have a complete count of attendance at the meeting, I estimated well over 50, conservatively. The meeting focused on membership, meetings, and what types of technical meetings were available, including tours. Also, there was an introduction of officers, including Emanuel Stoia, president, Jon-Paul DesJardins, vice president, Miguel Dowgopoluk, treasurer, Ronald Rudniski, secretary, Christopher Gonzales, membership, and Kevin Kwan, web page manager, as well as many more of the students and advisors. This student section is looking for donations of equipment. If you wish to donate any equipment, please contact Emanuel Stoia at estoia1@uic.edu for a list of the equipment they are looking for. The UIC IEEE Student Chapter website can be found at <http://www.eecs.uic.edu/~ieee> for a complete list of officers, activities, and advisors.

Another area of interest is the Chicago Section website, <http://ieee.fnal.gov>, where you can find information and links to areas of interest for our membership. This information also includes technical meeting information several months out.

Please contact myself or any of the other Chicago Section Officers with any IEEE activities you are involved in so that we may include some recognition for your efforts on behalf of IEEE.

Impacting the World Around Us



by Richard Weingardt, P.E.,
Excerpts from his 1998 National
Engineers Week Luncheon Address

If you had a mirror, if you could look into a mirror right now, what would you see? They say engineers are the masters of the obvious. Going beyond that, the obvious, what do you see when you look at engineers around you? You see leaders, or someone who will be, or can be one. (There are exceptions!)

Engineers, you and I and our colleagues, have the right stuff to be leaders. Leaders not just in our companies, not just in this industry, but leaders in our communities and in society. What we do adds value. We make things work and run and that's great. But I know we have the talent to do more than that. We have the talent to run things as well as to make things run (and work). Our potential for helping determine public direction and for impacting the world around us in a major way is enormous.

David McCullough, the prize-winning author who frequently narrates history specials on PBS TV, is one of my favorite historical writers, especially when he writes about engineers (which he does often). Have you read his books on history of the building of the Brooklyn Bridge or the Panama Canal? They are exciting and wonderful. In them, engineers are the heroes and heroines, which is a little different than the best-selling novels by Sidney Sheldon or Harold Robbins (where the star performers are definitely not engineers).

McCullough tells about the greatness of engineers, about our intelligence and problem-solving skills. And how what we do is so uplifting and so uplifting to the human spirit. And how what we do plays such an important role in getting things built.

And not only that. McCullough does a lot of research for his books. He says he has found out something else remarkable and

fascinating about engineers. He says he has found evidence, evidence in history, of the existence among a few engineers of a sense of humor.

So there you are: engineers are intelligent, uplifting, and even a few among us have a sense of humor. What a combination! What a combination of skills needed for being a leader and a role model for young people. So bring on leadership. Bring on serious involvement in the broader community. We're ready for it. We can handle it. We can be stars at it!

Or Can We?

What are the basic, core strengths of the engineering profession? What are the things that make engineers powerful and significant? Three of them might be:

- Our sheer numbers
- Our technical expertise
- Our honesty

There are a lot of engineers in the world, more than 10 million around the globe. There are more than two million here in the United States. Worldwide we out-number lawyers 10 to 1. Unfortunately, most of the world's one million lawyers work right here in America so we only outnumber them about 2 to 1 in this country. Not great odds against that pesky group, but it's still better than having them outnumber us, don't you think?

So there are a lot of us. This is good. It's good because we live in a world dependent on technology, and getting more and more dependent on it by the minute. And engineers are the people educated and trained to deal with such a world. Which is how our second strength, our technical expertise, comes into play.

We have the skill, ability and knowledge to do something constructive, like design a bridge, a treatment plant, an intelligent building, a super-sonic airplane. Just the word engineering – to engineer – has a ring

Continued on page 4.

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to it, a feeling of excitement.

Whenever a star quarterback, like John Elway of the Super Bowl Champion Denver Broncos, brings his team from sure defeat to victory with a last-minute rally, sports writers say he engineered a miracle, he engineered a winning drive. He did something in a most skillful and masterful way.

That's what engineering is all about, and what engineers do. We do things in most masterful and skillful ways. We are problem solvers par excellence. We take ideas and turn them into reality: a computer chip into a machine that does something, laboratory experiments into products or something useful. Einstein and his buddies knew about the laser for years. But its potential laid there dormant until engineers came

up with ways to harness it. (The first practical application of the laser was invented by an engineer using a simple bar of ruby.) Now laser technology is everywhere, laser surgery, guidance systems, and so on. How would the U.S. forces have fought and won the Gulf War without it? (How will we win the next one without it?)

Without engineers, such sophisticated (laser) technology would not exist. Without engineers, modern high-rises and sports stadiums would not be possible, nor long-span bridges. Without engineers we wouldn't have satellites, the information superhighway, clean water, clean air, indoor toilets.

Think of all the other engineered products and systems people use, the things that allow Americans to enjoy the greatest standard of life the world has ever seen. This is what makes engineering such a wonderful profession. We are wealth creators, major contributors to the economic well-being of our communities, the nation and the world. And we probably do more than any other single group to protect this planet for future generations. Because of this, having an expertise that truly adds value, we are blessed with tremendous potential for public leadership.

Add to this a third strength, our honesty in dealing with facts, and don't you think that potential seems even more clear? We don't use smoke and mirrors to solve problems. We use

logic and scientific methods. And we don't change our numbers to make our answers come out right. We don't change the value of gravity, for instance. It's an absolute that we accept and work with.

We are known and respected for this, for using sound reasoning and common sense when coming up with solutions. In public surveys, in poll after poll, engineers are always at the top of the list when it comes to: Who has high ethics? Who do you trust? Who is honorable? Who is a notable problem solver? The public sincerely believes we are honest, intelligent, and

hard working.

Now these are some extremely powerful strengths, certainly ones that cry out for us to be leaders, to run things and not just make them run. What do you think? Don't you think most people want to follow someone who is honest and capable, who can contribute, and knows what he or she is doing?

So what's the problem?

Why don't engineers come to mind or to the forefront when the average person-on-the-street thinks of a leader, a policy maker or someone capable of running things? Even when engineers have played a primary and critical role, they tend to be forgotten.

We celebrated the 40th anniversary of the Interstate Highway System a couple of years ago. Many call it the greatest construction project of the century. During the celebrations there was little mention of engineers or engineering. Likewise, landing a man on the moon about 25 years ago is still hailed as the greatest scientific feat in modern history, again, with virtually no mention of engineering or engineers.

The same scenario occurs over and over again on a daily basis when the media reports on the completion of a new building or structure. The success of which we know depends on engineering. The only designers who usually get any recognition are the architects.

Who's to blame for this, that engineers fail to get mentioned for their contributions? I guess we could say it's the media's fault – they just don't get it. Or it's the public's fault because they just don't understand how important our work is. I'm sure there is some truth in both of those statements. But much of the blame, I strongly believe, belongs to us.

We spend too much time talking among ourselves, preaching to the choir, and not enough time reaching out beyond our own industry. And, don't you think we tend to downplay our importance and our accomplishments, stay behind the scenes?

Engineers are building great works. Let's say so! Let's speak out and, not in a shy way, tell the world about the great things we are doing!

If all we know is engineering stuff, and if all we do is stay locked in our ivory towers avoiding public debate on issues affecting society, our importance is severely curtailed. Especially when it comes to running things and impacting the larger issues, and, even when it comes to controlling our own destiny.

Engineers have the stuff needed for public leadership. Failing to use that talent to impact our own future is unfortunate, to say the least. By being focused only on our industry (only on our little world of things),

we limit ourselves.

Shouldn't we take action? Shouldn't you and I make major efforts to get more involved and get more visible? (Actually, the two go hand in glove.)

If we would supplement our core strengths with these two efforts, don't you think the public's call for us to fill leadership roles and for the media to notice us would dramatically increase? I'm firmly convinced it would. How can we accomplish this?

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“Bring on serious involvement in the broader community. We're ready for it. We can handle it. We can be stars at it!”

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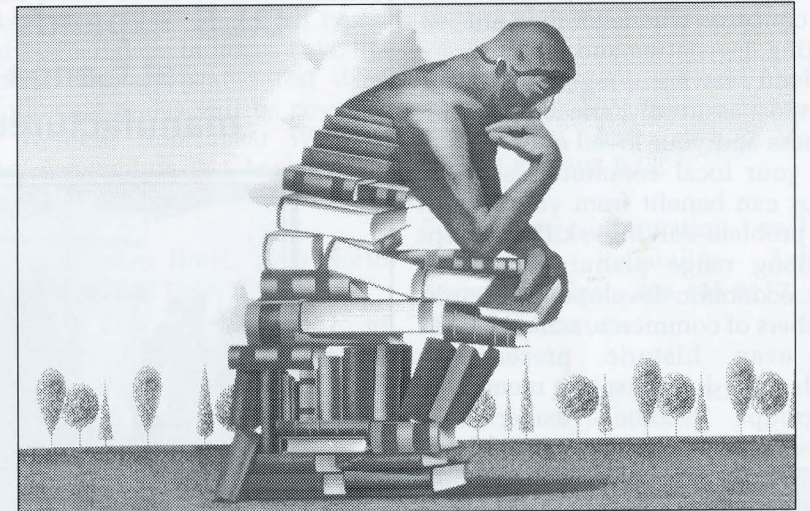
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Basically, what you have to keep in mind is that the world is run by those who show up. So, how do you and I show up and get involved? What, for instance, can you do to have input into public policy and direction?

To start with, you don't have to hold elected office to impact broad-issue decisions, be a leader and run things. If you yourself have no desire for political office, then support worthy candidates. Help get them elected. We need all the good ones we can get. Once they are in office, stay in touch. Keep reminding them of your concerns whenever they are debating, legislating and crafting those nifty laws and regulations that will, most assuredly, affect you, your business and your loved ones.

In your local communities, many groups can benefit from your talents and problem-solving skills, groups like long range planning commissions, economic development boards, chambers of commerce, school boards and even historic preservation boards. But don't just be a member of the group. Become a leader! Take classes to improve your natural leadership and communication skills. Take courses outside of engineering to broaden your perspective so you can, in fact, be a leader and not a follower. Run things, don't just make them run!

What about we "seasoned" engineers who may already be publicly active - what more can we do? Become mentors. Help young engineers get involved in meaningful ways. We need to leave them with a great legacy so they can be even greater and more effective than we were.

How can you be more visible? By reaching out to the masses! By writing for and speaking to those outside our profession, you and I can humanize and demystify engineering and the complexities of what we do. We can make it understandable and relevant to the average person-on-the-street.

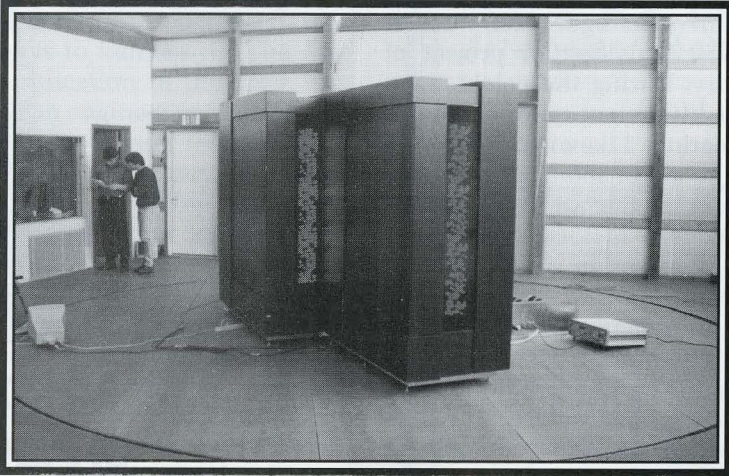
To run things and favorably impact others, and to improve the status of this profession, requires that each of us shows up and leads. And, for you to be an effective public leader requires three things: involvement, visibility and commitment - a commitment to be the best you can be,

outside as well as inside your profession. ■

Richard Weingardt, a visionary in image enhancement for engineers, has for many years, been challenging them to get involved in leadership roles in society. He lectures internationally and is the author (or co-author) of five books and more than 300 papers on engineering, business, leadership and creativity. His firm, Richard Weingardt Consultants, Inc., which he founded in 1966 has com-

pleted more than 3,000 major projects worldwide. Long active in professional associations and community affairs, he was the 1995-96 president of the American Consulting Engineering Council (ACEC) representing 190,000 engineers and technicians. He is on the engineering advisory boards for the universities of Colorado, Texas and Denver and is a Fellow in both ACEC and the American Society of Civil Engineers. Weingardt lives with his wife, Evie, in Aurora, Colorado.

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IEEE RELIABILITY SOCIETY CHICAGO CHAPTER EASY WEIBULL ANALYSIS

November 5, 1998

**James A. McLinn, CRE, CQE, CQMgr., Fellow ASQ,
President of Rel-Tech**

Sponsored jointly with the ASQ Chicago Section and the following IEEE Society Chapters: Communications; Computers; Systems, Man, and Cybernetics; Engineering Management/Professional Communication; Components, Packaging, and Manufacturing Technology; and Northwest Subsection

About the topic:

Weibull is one of the quickest and easiest ways to analyze data of all types, including field data, in-house data, life test data, and accelerated test data. The following topics will be covered: Basic Weibull, Non-Linear Weibull, and Accelerated Life Test Analysis.

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Wyndham Garden Hotel, 1200 North Mittel Blvd., Wood Dale, IL.
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DINNER MEETING

on Thorndale Road immediately East of I-355.)

Time: Social: 6:00 pm.
Dinner: 7:00 pm.
Presentation: 7:00 pm.

Registration:

Cost: \$17 includes the presentation and your choice of a chicken sesame, top sirloin beef brochette or vegetable dinner. All entrees include salad, dessert, tax and gratuity.

Make your reservation and choice of entree by not later than noon, Monday, November 2, 1998. Call IEEE Message Desk at 800-898-IEEE.

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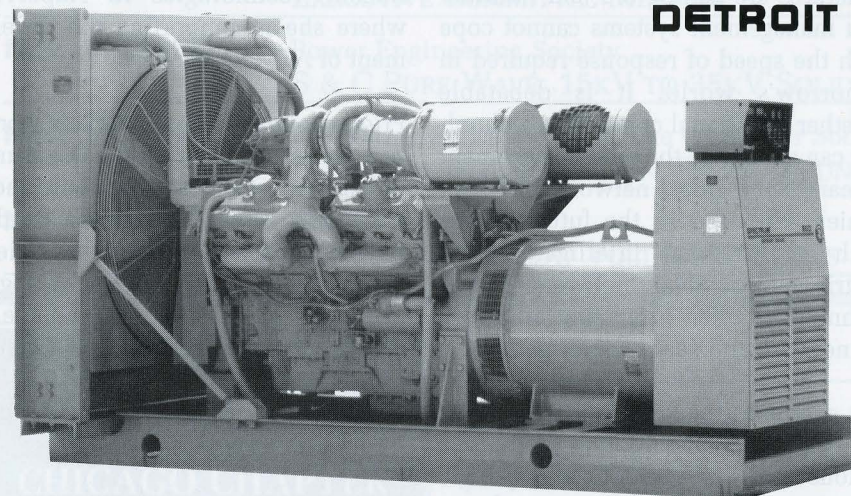
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IAS/IES

Application of Low Voltage Busways

**Wednesday,
November 18, 1998**

Stephen L. Flee, Marketing Engineer, Square D/Groupe Schneider

About the topic:

Mr. Flee will present some of the recent innovations and applications of low voltage busways. The applicable sections to the National Electric Code (NEC) will also be discussed and proper application and installation to ensure code compliance will be reviewed. A question and answer session will follow the presentation.

About the speaker:

Mr. Flee served in the U.S. Air Force from 1967 to 1971 where he worked in Special Electronics. He earned a BSEE from the University of Cincinnati in 1973. He started his career with Square D in 1973 working with busway and wire management systems and has been with Square D for the last 25 years. He worked for 19 years in the Design Engineering department and has been with the marketing department for the last 6 years. As a Square D representative, Steve was a member of the committee that rewrote Chapter 13 (Busways) of the IEEE Red Book, Electric Power Distribution.

Location:

Como Inn, 564 N. Milwaukee Ave, Chicago, IL
Directions: The Como Inn is located on Milwaukee Avenue just off the expressway on the east side of 90/94.

Time: Social: 5:30pm.
Dinner: 6:00pm.
Presentation: 7:00pm.

For reservations:

Cost: \$20 includes the presentation and your choice of a chicken or pasta four course dinner. Please call the IEEE Business Office at (800) 898-IEEE or (630) 493-4333 with your entree preference.

NOTE: Attendance at IEEE Technical Meetings is acceptable as one PDH (Professional Development Hour) per meeting, where continuing education is required for renewal of the P.E. licenses.

Upcoming meetings:

The 1998/99 IEEE - IAS meeting dates are: Nov. 18, Jan. 20, Mar. 24, Apr. 21, and May 12.

High-performance flat-panel display developed

Designed to a demanding transportation specification, the new SK is ideal for inventory logistics, embedded systems, and industrial applications.

Planar Systems, Inc. announced the EL640.200-SK electroluminescent flat-panel display developed for high-performance embedded industrial and transportation applications. This product addresses customer demands in the inventory logistics marketplace for computer-equipped forklifts, inventory control and data collection units, and automatic identification (Auto ID) equipment. "As this type of equipment becomes more sophisticated, the need for a high quality display becomes critical," says Tom Kingsley, Vice President, Global Marketing and Product Development. "The quality, environmental durability, and visual

characteristics of this new display will improve the performance and ease of use of inventory logistics equipment."

The suppliers in this market have traditionally relied on off-the-shelf LCD technology. The SK supplements these displays with a ruggedized panel designed to withstand the abuses of the environment, including wide ambient temperatures (storage from -50° to +105°C) and lighting conditions, including direct sunlight. The new EL panel was designed for complete mounting and 4-bit interfacing compatibility with the LCDs.

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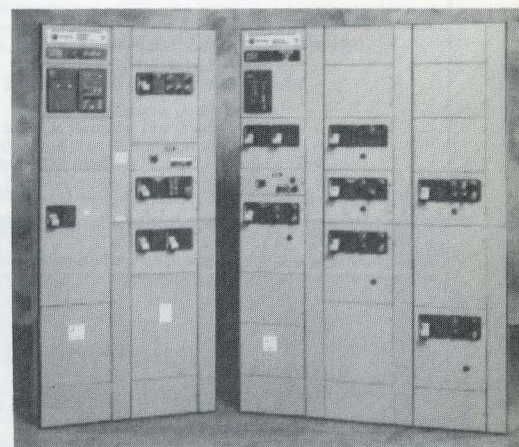
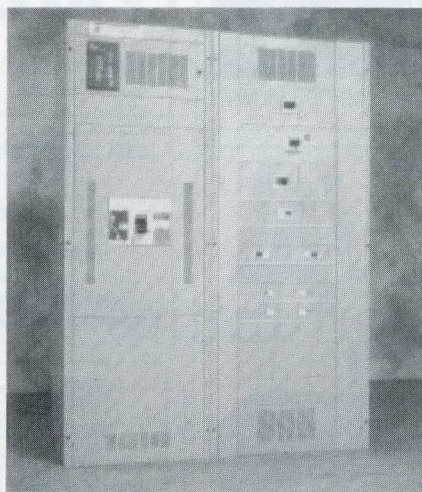
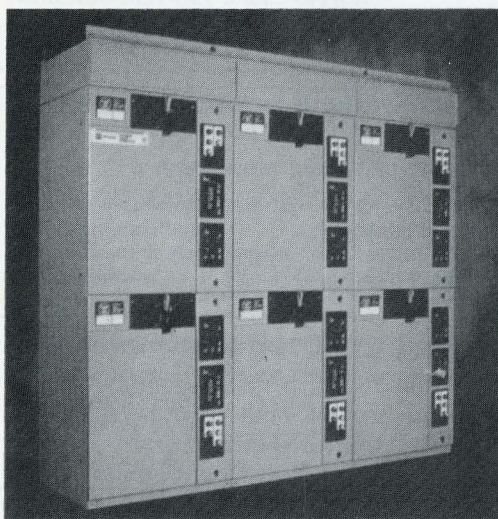


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