

Life is too short to spend it harboring small grievances.

the guru



Kuala Lumpur, Malaysia: Stan, Prof. Phadke and Prof. Long



The Horowitz family: Randy Lynn Arner, Sibby (Sylvia), Stan, Marc and Willa

I have always been conflicted between engineering and writing.



Stanley Horowitz



Attwood Associate - 1997



Karapetoff Award - 2008

I think individuals should be, more proactive, step up and contribute as individuals.



2008 IEEE Lifetime Achievement Award



Biography:

Stanley H. Horowitz is a consultant, author and lecturer. He joined American Electric Power Service Corp. (then American Gas and Electric) in 1950 and retired in 1989, having served as head of the System Protection Section, Assistant Head of the Electrical Engineering Division and Consulting Electrical Engineer.

He is a Life Fellow of the IEEE, and a member of the National Academy of Engineering. He was chairman of the IEEE Power System Relaying Committee from 1975-1978 and chairman of Study Committee 34-Protection & Control of the International Conference on Large High Voltage Electric Systems (CIGRE) from 1980-1986. He co-authored a textbook with A.G.Phadke entitled, "*Power System Protection*", edited the IEEE Press book, "*Protective Relaying for Power Systems*", and has authored over two dozen technical papers. He was the editor-in-chief of the Power Engineering Society magazine "*Computer Applications in Power*" from 1996 to 2002.

He has been awarded the P5RC Distinguished Service award, the CIGRE Atwood Associates award, the ETA Kappa NY Victor Karepetoff Award and the 2008 PES Life Achievement Award.



We have been

married for fifty

nine unforgettable
years.

PAC World: You were born in New York City in 1925. What is the first memory that you have from your childhood?

SH: I lived in a resort area of New York City, Rockaway Beach, and my earliest memory of growing up was very traditional. In the summer we were host to the many city dwellers trying to escape the heat but the rest of the year we were close-knit, my schoolmates were my friends, we knew everyone. I played all sports, participated in school and community activities.

PAC World: Do you think there is something specific in your childhood that influenced your decision to become an engineer?

SH: Not really. I think most of my friends were math or science oriented and that may have had an impact on me but I was also strongly attracted to writing. This conflict in a

career choice eventually was reconciled by doing both.

PAC World: What were your interests while you were in school and college?

SH: In High School I was on the school paper, eventually becoming an assistant editor. I also worked as a NY Times delivery boy, delivering the paper to students before classes began and then a Long Island Press newsboy, delivering that paper throughout the area every afternoon. This experience, including a work and learning ethic was invaluable. In Far Rockaway High School I was exposed to remarkable teachers. For example, the chairman of the Math Department, Dr. Augsbury, often cited his experiences with Richard Feynman who was a FRHS student and eventual Nobel Prize winner and that certainly influenced me toward the sciences and engineering. The same attraction was obvious in the other teachers I had.

PAC World: What do you consider the most important events or highlights of your professional career?

SH: Without doubt AEP's emphasis on "inventing the future" gave me the desire to be part of the future changes, particularly in power system protection. The work at AEP and the opportunity to be active in both the IEEE Power System Relaying Committee and the CIGRE Study Committee 34 led to my becoming the chairman of both committees. At American Electric Power Co. we were encouraged to be active participants in both organizations and my role models were the best engineers around. Phil Sporn, CEO of AEP, Art Hauspurg, eventual CEO of NYC's Consolidated Edison, Howard Barnes my first supervisor at AEP were enormous influences in my life. AEP was involved with the General Electric Company in many areas of power system, particularly protection. I worked with Charlie Concordia, Russ Mason, Harold Seeley among many others and their expertise and dedication had to rub off on me.

At AEP we were pioneering in Extra High Voltage transmission systems. In 1953 we installed the first 345kV transmission system, and in 1971 the first 765kV. In both instances power system protection and the related equipment played a major role and I was privileged to be part of that effort. In 1970, I was privileged to work in a joint effort with Dr. A.G. Phadke from AEP's Computer Division to research the use of digital devices for protection. We developed the theory and conducted station tests to confirm our studies.

PAC World: You have been involved in electric power system protection for half a century. What do you think are the key technological changes during that period of time?

SH: The progression from electromechanical to solid-state to digital relays was a natural progression as the technology and equipment for each phase became available and certainly represents the key technological changes that I have been privileged to witness. However, these changes had to be introduced carefully, accepting the advantages offered without degrading system protection performance which has performed so well in the past. In particular, the increased use and acceptance of digital devices and their ability to be multi-functional will have a fundamental impact on the traditional separation of disciplines that we are accustomed to.

PAC World: What is the biggest challenge you have faced?

SH: In 1960 on a Saturday afternoon I received a phone call from Howard Barnes informing me that I was to succeed Art Hauspurg as Head of the System Protection Section. I had worked under both men for 10 years and stood in awe of their knowledge and expertise and had no idea that I could come close to replacing them. When I met with the Section the following Monday I called my best engineers in my office and asked for their support and guidance. The challenges I faced, not in just doing the engineering of a rapidly changing technology, but in directing a very talented group of engineers remains my most satisfying achievement. Without doubt it was the confidence I gained meeting



Stan with his brother.

that challenge that enabled me to tackle the technical and organizational problems I subsequently had to meet.

PAC World: What is your biggest professional achievement?

SH: I have always been conflicted between engineering and writing. Editing the magazine "Computer Applications in Power" and writing the text book "Power System Relaying" with my co-author Dr. Arun Phadke must be considered my most prized achievements since they combine both disciplines. Over the years I have been invited as a lecturer on protective relaying and using my text book added to the satisfaction that is such a basic ingredient of teaching. In addition, my role in developing computer relaying and then championing its use in a traditionally conservative discipline is, to my mind, a significant achievement.

PAC World: You have been Chairman of both the IEEE Power Systems Relaying Committee and CIGRE Study Committee 34 – Protection and Control. How do you compare the two?

SH: The two organizations are, of course, two sides of the same coin, but with very significant differences. At one time, the IEEE PES PSRC represented, primarily, the North American relaying community while CIGRE was preeminently international. That distinction has changed in that the PSRC now has a very substantial international



With Charles
Henville,

Chairman of

the IEEE PES

Power Systems

Relaying

Committee.

flavor. Nevertheless, the IEEE PSRC, in my opinion, represents the epitome of engineering excellence, dedication and effectiveness. It meets 3 times, a year which allows sufficient time between meetings to study a subject in some detail yet often enough to provide timely results. CIGRE meets in plenary session only once a year and that time is spent reporting on a limited number of topics. The Study Committee meetings are also annual events and the opportunity to produce timely results is limited. However, the importance of CIGRE, to my mind, is the opportunity to meet and talk to relay engineers throughout the world and share their experiences and knowledge.

PAC World: You have authored, edited and co-authored books and numerous papers. How do you choose a topic and what is the writing process that you follow?

SH: I try to choose topics that are timely and somewhat controversial and one that I can contribute to based on my own experience and judgment. I like to think that I research the subject thoroughly and understand what is being proposed. If I agree with it there would be little incentive to write just another paper. However, often papers are written from a limited perspective or, worse yet, as consensus from a group of engineers such as a Working Group. I think individuals should be more proactive and step up and contribute as individuals.



In addition to my natural inclination to question normally accepted concepts, at AEP I was introduced to a culture of question, improve and, if possible, enter into a dialogue with other engineers looking at the same problem. As a result many of my activities resulted in writing and presenting papers. This attitude has continued to this day.

I believe we should present our questions, doubts and /or conclusions for the industry at the appropriate forums and be prepared to defend them. I have no set formula for writing. I gather my thoughts in whatever form is appropriate. i. e drafts, outlines, or simply statements to be enlarged upon after giving all of the aspects due consideration.

PAC World: You were the Editor-in-Chief of the IEEE magazine "Computer Applications in Power". Why did you decide to do that and what did it give you?

SH: Ted Hissey, a major actor in the PES executive office, cornered me at a PES meeting and told me that Bill Brownlee was retiring as Editor-in-Chief of CAP and that I should replace him. I was on the editorial board but had no wish to take over. I told him I was not capable. Bill was a role model, well-known and respected and I simply couldn't replace him. Much like when I became head of the AEP Relay group, I doubted I could do it. Ted was pretty forceful and persistent. Of course I will never regret accepting the challenge. Being Editor-in-Chief gave me an entirely different perspective. I worked with engineers from every country, presenting technologies and perspectives I never imagined. It concentrated on new technology to which I was



"This how we used to do

scheduling in the past."

attracted and worked with in its early stages. It was the most fruitful 6 years of my life.

PAC World: This was a magazine that helped the industry in its transition from electromechanical and solid state relays to microprocessor based Intelligent Electronic Devices and substation automation systems. Why did it end?

SH: There were many factors involved. First the subject of computers in the industry was no longer a novelty or a technically new topic. Then the economics were obvious. We published CAP every 3 months. i.e. 4 issues a year. The companion magazine Review was an informative magazine with reports, schedules, etc that were now accessible on the IEEE or PES web pages. The Review was issued monthly. That meant we had 16 magazines published yearly attracting the same audience and advertisers. Switching to the bi-monthly magazine, Power and Energy we expanded the subject matter beyond computers, eliminated subjects that were more readily available on the Internet and greatly reduced production costs.

The new Editor-in-Chief would be Mel Olken, recently retired as chief-executive of the PES, an engineer and editor

knowledgeable in all the facets of the organization. The success of P&E proves this was an eminently successful move.

PAC World: What do you consider your biggest personal achievement?

SH: Being honored in so many ways by my colleagues.

PAC World: What is your favorite food?

SH: I am basically a steak and potatoes man although I have been known to enjoy, Italian, Mexican, Chinese and Mediterranean.

PAC World: What type of music do you enjoy?

SH: I was brought up in the big band era and Glenn Miller, Tommy Dorsey, Benny Goodman, et al are still my favorites to listen and dance to. However, Columbus has world class Symphony and Jazz bands and Sibby and I are constant attendees at their concerts. I think I might like Rock and new age if I could understand the words.

PAC World: Do you have any hobbies?

SH: I used to love all sports and played, in my youth, volleyball (we had a local championship team), softball and later tennis and golf. More recently however these are just pleasant memories and I am now an avid reader and traveler.

PAC World: We see you very often traveling with your wife. How long have you been married and what is the secret of being together for such a long time?

SH: We have been married for 59 unforgettable years. You have to be lucky as I was in choosing a mate. My only recommendation is to be a friend, compromise if there are any differences and do not sweat the small stuff. Life is too short to spend it harboring small grievances. Always go to bed with a kiss and no hard feelings.

PAC World: You are still actively involved in the IEEE Power Systems Relaying Committee. What keeps you participating?

SH: Great friends and a love of the technology.

PAC World: You have been a lecturer in several universities in the United States and Europe. Do you see a difference between students on both sides of the Atlantic?

SH: Not really. The European and Asian engineers that attend my courses may be more mathematically trained but American-trained engineers jump in with new ideas and out-of-the box concepts. I have more discussions about variations in whatever I am saying that non-American trained engineers. But remember, I teach a specialty, power system protection, that many of our students are not familiar with and they tend to go with what they know from their own experience. I have to introduce new ideas so, regardless of their country of origin; these may be a little daunting and might tend to stifle free discussion.

PAC World: Have you observed any changes in the students throughout the years?

SH: Certainly their expertise in computer technology is greater than previous generations. Their familiarity with this new technology is significant but, on the other hand, they are not comfortable with electromechanical devices.



You have to be lucky in choosing
a mate.

We love art -
visiting galleries or
going to a concert of the Columbus
Symphony Orchestra.

Surprisingly also, many students are very sketchy with symmetrical components.

PAC World: There is a global problem with the loss of expertise in our industry and the lack of interest from students in taking electric power systems related classes. Do you agree with this and, if so, do you think that there is a solution to this problem?

SH: I agree that we have seen a period of disinterest on the part of students but I believe that is changing. The recent blackouts and the resulting publicity have raised their interest in power systems and its complexity and certainly the increased use of computers and the integration of relaying



and communication have made the study of electric power systems more attractive. The electric utilities and related manufacturers must be more involved, giving research money to universities, appearing on campus and providing jobs.

PAC World: What is the advice that you would give to young people working in the field of protection and control?

SH: Get involved. Join industry associations, either locally, nationally or internationally. Stay abreast of the technology and have a dialog with other protection engineers. They are the best source of knowledge and inspiration.