IEEE STANDARDS BEARER

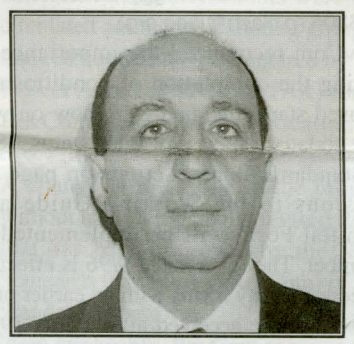
Vol. 10, No. 4 October 1996

Standards Developers...Contributors to Inventions

by Rochelle L. Stern

As a group, IEEE standards developers have been instrumental in establishing the procedures, tests, and rules required for their field. As individual experts, there can be no doubt that many standards developers are also contributors to important and widely used inventions or concepts. Whether the directives in a standard are based upon a piece of equipment, a computer language, or the complex processes of a power plant, it is certain that some standards writers also play a major role in inventing the objects or fundamental concepts of the very standard on which they are working.

Take Moe Shahdad as an example. A



Moe Shahdad

past chair VHDL* Standards Steering Committee for the US, Europe, and Japan, and Strategic Program Manager at Viewlogic in Marlboro, MA, Shahdad helped to originate VHDL, the widely used hardware description language. The first VHDL standard was *IEEE Std 1076-1987, IEEE Standard VHDL Language Reference Manual.*

The initial motivation for the language was in defense weapons systems. During their long life of 20 years or more, electronic subsystems need to be upgraded to take advantage of new technology. "The initial objective of the project was to develop a high-level language to specify digital electronics so that you could later use the specifications to replace the old components," recalled Shahdad.

The development of the VHDL language was a large coordinated effort. Starting in 1982, meetings were held mainly in the US as the project was sponsored by the US Air Force, but some conferences were also held in Europe and Japan. Many meetings were devoted to coordination and communication. For the 1993 revision of IEEE Std 1076, the group worked via e-mail and monthly worldwide teleconferencing.

For Shahdad, who lives in the US, working with experts from different cultures was a learning experience in itself. Shahdad said that the Japanese working and meeting procedures contrasted with the US practices in terms of debate and resolution. "Their debates were more consensus-based, and they yielded to their managers for the priority order in a discussion," he explained. "The Europeans' style was closer to Western culture with respect to the process of decision-making," he added.

Shahdad sees the possibility of VHDL being replaced in the future with other languages. "But VHDL will stay around a long time because electronics will be in use for a very long time," Shahdad said.

Although he is no longer actively working with IEEE committees, Shahdad currently contributes to the goal of promoting VHDL in standardization efforts and educational initiatives as a member of the Board of Directors of VHDL International, a non-profit industry organization.

Stuart Garland, a standards developer of

(Continued on page 3)

IEEE Standards Publications Score High Marks

According to the results of the Spring 1996 Member Opinion Survey Report, IEEE Standards received a very positive rating. The survey is the first in a series designed to ascertain to what degree IEEE products and services are meeting the needs and expectations of members and volunteers. The report is intended to provide a scorecard as well as a means for improvement.

Overall, the satisfaction rating for standards products and services was high, averaging 88%. The breakdown of member/volunteer average satisfaction ratings of the surveyed products and services is as follows:

- Standards Publications (95%)
- Standards Catalog (93%)
- Standards Press (92%)
- Standards Development (86%)
- Providing timely publication of standards (84%)
- Providing information about standards (76%)

Standards publications were rated as high in quality and awareness, while Standards Press and the Standards catalog were rated as moderately high in quality and awareness.

Volunteer satisfaction with the standards development process was ranked third among 11 other IEEE departmental units in the area of communications and processes.

A total of 850 randomly selected surveys were mailed to the general membership with a 51% response rate. Overall, the survey indicated a 94% satisfaction rating with IEEE membership. While this survey illustrated the potential for improvement, it also showed that IEEE staff is perceived as doing a good job in providing services to members and volunteers.

Complete survey information is available on the IEEE Web site at http://www.ieee.org/opinion/. ◆

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Piscataway, NJ 08855-1331, USA

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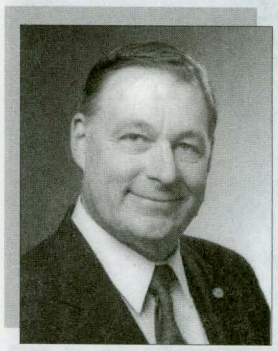


Message From The Chair

by Donald Loughry

Standards Engagement: Global Horizons

One of the Institute's goals is to serve the IEEE regions on a global basis. Our emerging IEEE-Standards Association approach has, as one of its aims, a strengthening of linkages throughout the globe. What is happening on the regional front these days?

As your VP of standards I've been privileged to have regional interaction this past summer. First, I attended the IEEE 802 LAN/MAN Standards Committee meeting in Enschede, The Netherlands, in Region 10. I can assure you that Region 10 is alive and well and participating in technology standards in a professional, enthusiastic, and productive way.

In early August, I had the opportunity to visit Region 1's meeting in Syracuse, NY. More than 100 volunteers throughout the region were gathered for workshops, training, and business sessions. A presentation on our IEEE standards program sparked several interesting discussions. Many persons in the region are involved in the use of standards. We talked about a potential new type of newsletter dealing with standards specifics for the typical working group environment and we explored how individuals interested in starting new standards activities might accomplish their goals.

The next stop was Sao Paulo and Buenos Aires in August to explore what the needs for standards engagement in Latin America, Region 9, might be. Carlos Fronterotta, IEEE Section Chair in Sao Paulo helped us establish links with the Abinee, ABNT, and BRISA standards and trade associations, where we discovered a great interest in information technology standards (see June/July *IEEE Spectrum* articles). There is definite interest in what the SPAsystem® has to offer. In Buenos Aires, Luis Remez, the local IEEE Section President, facilitated dialogue on standards activities by hosting important meetings with SADIO, IRAM, and Telecom Argentina. At SADIO, some 25 persons (users of and contributors to standards activities) at an evening session to explore IEEE standards activities and how they might be more engaged in them. Attendees were from industry, university, and government environments. Again, the interest in present and future standards was high on the list and plans are now in motion to cultivate further linkages with our Latin American neighbors. In summary, Region 9 discussions in Brazil and Argentina were most fruitful.

My reflections on this summer's journey in three Regions is that the interest in and need for IEEE Standards engagement is alive and healthy, vibrant and inquisitive, and ready for more extensive involvement in IEEE standards work. To those of you involved in IEEE standards programs, I encourage you to think about standards on a global basis and engage our colleagues around the world in yet more creative and supportive ways. Your comments, ideas, and insights are most welcome. Feedback to d.loughry@ieee.org is encouraged. ◆

SPAsystem is a registered trademark of the Institute of Electrical and Electronics Engineers, Inc.

Editor's Notes

The Standards Bearer will be reaching a significant milestone in the next year—its tenth anniversary of publication. Over the years we have made both graphical and format changes, adding new features and columns to address information needs. But over the course of the past nine years, the scope and direction of IEEE Standards activities has continued to expand.

As we enter our tenth year of publication, we think it's time to ask you what you think about the articles and information contained in this newsletter, specifically, if you would like to see more technical and/or market driven articles. This question is explored further in the article "Is the Right Word Getting Out?" on the back cover. Please take a few minutes to fill out the attached survey card on page 5. We will also e-mail the survey questions to you if you send us an e-mail at stdsbrsurvey@ieee.org.

Speaking of surveys, IEEE is performing an on-going series of surveys designed to measure member and volunteer satisfaction with IEEE products and services. We're proud to report that the results of the first membership opinion survey pertaining to IEEE standards publications were quite positive. Even with our high marks, we continue our efforts to make sure our standards products and services meet users needs.

And one significant way to continue these efforts is through the IEEE SPAsystem®. Since our last SPAsystem update we have much to report. More information is now made available weekly on the IEEE Standards program and its projects and products via our Web site. And we're excited to announce the development of on-line subscriptions to standards with the availability of the first subscriptions during the second quarter of 1997.

One more note, in the last issue we reported that the IEEE Standards Board officially endorsed the proposed formation of an IEEE Standards Association—a semi-autonomous organization in which the Standards Board can improve the effectiveness of its oversight of the standards process. Since then, the Standards Board has continued its ongoing work developing the foundation for the Standards Association. Look for updates in this issue and in future issues of the *IEEE Standards Bearer.*

If you access the *IEEE Standards Bearer* on-line and would like to discontinue receiving printed versions or need to update your mailing address, please let us know. You can provide us with this information by e-mail: stds-maillst@ieee.org or call (908) 562-3800.

Look out for the January 1997 edition of the Standards Bearer that will include all the highlights of the December Standards Board meetings. Enjoy the issue and happy holidays! ◆

Board Actions News Flash

Reported by L. Bruce McClung, IEEE Standards Board Seminar Committee Chair

The New Standards Committee (NesCom) approved a Web-based Project Authorization Request (PAR) form that will be available for use by the end of the year. The form will be easier to use and to read than the current electronic PAR form. NesCom also reminds working groups and submitters that all new PAR submittals must be provided on the 1996 form, in either paper or electronic form. For more information, contact Rona Kershner at (908) 562-3808 (r.kershner@ieee.org).

A review of the IEEE Standards Association (IEEE-SA) Bylaws distributed 3 September 1996 generated much discussion and revisions. All results will be subject to ratification by the Standards Board. For more information, contact Terry deCourcelle at (908) 562-3807 (t.decourcelle@ieee.org).

The Standards Review Committee (RevCom) Conventions were distributed for input and will be an action item at the December Standards Board meeting. Conventions are internal practices by which the committee makes decisions to ensure consistent treatment of standards. For more information, contact Peggy Blash at (908) 562-3806 (p.blash@ieee.org).

RevCom recognized the importance of tracking the completion of conditionally approved standards, and from now on will issue updated reports on their status. (See the Standards Board Actions on page 4.) Revisions to the Working Guide and Submittal Form will be implemented in December. The form dated 9/96 is effective immediately; any forms with an earlier print date will not be accepted after 1 July 1997. For more information, contact Peggy Blash at (908) 562-3806 (p.blash@ieee.org).

The seven leadership training presentation modules are available on the Standards Web Site and can be downloaded via ftp://stdsbbs.ieee.org/training/. For more information, contact Tina Alston at (908) 562-3816 (t.alston@ieee.org).

Unapproved minutes of IEEE Standards Board meetings will be posted on the Standards Web Site (http://stdsbbs.ieee.org/) with a notice indicating that the material is subject to change. For more information, contact Terry deCourcelle at (908) 562-3807 (t.decourcelle@ieee.org). ◆

IEEE Standards Style Manual

Available this fall is the 1996 edition of the *IEEE Standards Style Manual.* This version has been extensively restructured for easier reference. To receive your free copy of the *IEEE Standards Style Manual*, call (908) 562-3800; fax: (908) 562-1571; e-mail: stdsinfo@ieee.org.

STANDARDS BEARER

The *IEEE Standards Bearer* is published quarterly by the IEEE Standards Department. **Vice President of Standards,** Donald C. Loughry; **Publisher,** Donald C. Fleckenstein; **Managing Director,** Andrew Salem; **Staff Director,** Judith Gorman; **Publishing Manager/Editorial Advisor**, Kristin Dittmann; **Editors-in-Chief,** Rochelle Stern and Karen McCabe; **Design,** Esaleta Corbin; **Contributors,** Bruce Barrow, Harry Epstein, and Jim Isaak. If you would like to contribute articles to the *IEEE Standards Bearer*, please write to the *IEEE Standards Bearer*, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331, USA. Third class postage paid at Piscataway, NJ. ISSN 08960-1425.

Making the Submittal Process Painless

by Harry Epstein

Approval of a proposed standard by the IEEE Standards Board can be a relatively easy and painless process if the procedures outlined in the *IEEE Standards Operations Manual* are followed. When the project is submitted for approval, it is reviewed by the Standards Board's Review Committee (RevCom). Once the review is completed, RevCom, at one of its quarterly meetings, makes a recommendation to the Standards Board for approval or rejection of the submittal. That recommendation is based on a thorough review of the proposed standard and the documentation included in the submittal. If the review identifies inconsistencies between the submittal and the procedures in the *IEEE Standards Operations Manual,* the submittal may be rejected. Some common reasons for rejection of a submittal are:

- Imbalance in the balloting group. No one category can be 50% or more of the balloting group with the exception of the general interest category.
- Unresolved negative ballots were not circulated among the balloting group.
- Lack of coordination as required by the Project Approval Request (PAR) form. RevCom likes to see verification of two written attempts at coordination.
- A change in the scope of the project without an accompanying revised PAR that has been approved by the New Standards Committee (NesCom) of the Standards Board.

Where applicable, RevCom requires the following documentation before approval can be granted:

a) Patent and copyright releases
b) Resolution of comments on negative ballots and letters or memos documenting the change from negative votes to affirmative votes
c) Submittal of the text in electronic medium
d) Forwarding the original ballots to the IEEE Staff if the ballot is conducted by the sponsor
e) Responses to comments contained in negative ballots and coordination comments
f) Authorization for coordination to an individual who has common membership within the sponsoring and coordinating organizations

RevCom members and the IEEE staff are available to help and assist. When assembling the submittal package for RevCom, the above items should be noted. For detailed text on the submittal process, refer to the *Working Guide for Submittal of Proposed Standards,* available from the IEEE Standards Department and through the Web site [http://stdsbbs.ieee.org/development/index.html]. For questions concerning a submittal, contact the RevCom secretary, Peggy Blash, at (908) 562-3806; fax: (908) 562-1571; e-mail: p.blash@ieee.org. ◆

Harry Epstein is the Chair of the Standards Review Committee (RevCom) of the IEEE Standards Board.

PASC Advocates Standardizing Web Portable Applications

Extracted from the PASC Executive Summary dated 2 August 1996 by Jim Isaak, PASC Member.

The IEEE Portable Applications Standards Committee's (PASC) Web Portable Applications Study Group advocated standardization of Java Byte Code as the top priority at its mid-July meeting. Standards for the byte code are expected to encourage innovation, increase consumer confidence, enable public sector investment and procurement guidelines, and help to advance the global information infrastructure.

It is believed that a byte code standard can be accomplished in a way that is fully compatible with the current Java Byte Code (essential to be a viable reference point for the diverse implementations in progress), and that such a standard could be brought through formal processes.

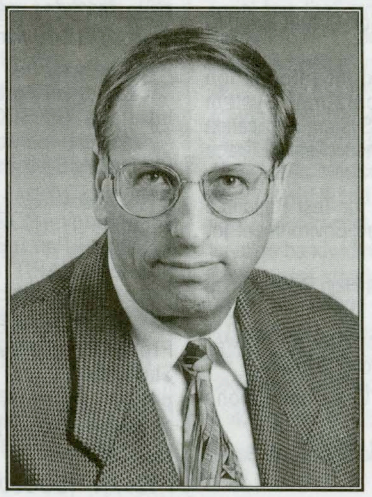
The next step in the web portable applications standardization process is to encourage Sun Microsystems to bring forward the byte code specifications and, hopefully, to provide the technical editor support required to move the document quickly though the standards processes. Eight organizations indicated an interest in participating in the byte code standardization. Three others have stated their intention to participate. The study group identified another dozen organizations that also should be encouraged to participate. The group will meet again if Sun, or one of the alternative suppliers (Microsoft [Visual Basic], Netscape [Javascript], or Lucent Technologies [Inferno]), indicates a desire to move forward on standardization.

Updates and announcements of further action in this area will be distributed on the email reflector pasc-spasg@pasc.org. Any interested person can sign up on this reflector by sending email to majordomo@pasc.org, with a message body subscribe pasc-wpasg. Minutes of the July meeting are available at www.pasc.org. ◆

Standards Developers

(Continued from cover page)

utility telemetry service standards under IEEE Standards Coordinating Committee 31 on Automatic Meter Reading and Energy Management, has contributed to many inventions during his career at AT&T. Currently an engineer at Bell Labs in Naperville, IL, Garland was onto a novel idea when he was assigned to keyboard development of the Teletype machine in the mid-1960s. After studying the machine, which was like an electric typewriter but connected to the telephone line, it occurred to Garland that a caps lock key should be created for the keyboard. The Teletype machine only generated uppercase letters, but the market was changing to a machine that generated both uppercase and lowercase letters. Both types of machines contained a numerics row with the symbol characters above them. According to Garland, in terms of operation, the shift keys for both types of machines were limited in function. In the all-uppercase letter machine, the shift key acted only on the numerics. In the uppercase and lowercase machine, its function caused the letters to go to uppercase, and the numerics to symbols. As with a typewriter, the shift lock key caused a permanent change to uppercase letters and symbols.



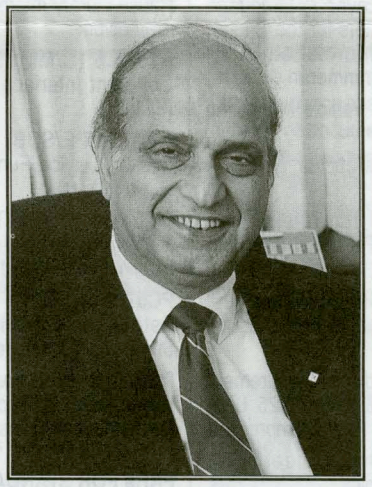
Stuart Garland

"What both of these situations required was a method to obtain the uppercase alphas and numerics in one case, and the symbols in the shifted case," said Garland. "This became the basis of the caps lock key."

Although one may say that the caps lock key has limited functions, it originally served a greater need than it does in today's implementations, according to Garland.

Garland mused about the current caps lock key function: "It's very useful. Think of the productivity that has been gained; so many seconds for each document times the number of documents produced over the last 20 years. It is a big number."

An important contributor to inventions and concepts in the power engineering field is Narain Hingorani. President of Hingorani Power Electronics in California and past chair of the HVDC Transmissions and Distribution Subcommittee, Hingorani is recognized as a pioneer in the field of power electronics and transmission and distribution systems. He has been responsible for at least 10 issued patents, and has authored at least 150 technical papers. In June of last year, he received the Lamme Medal for his leadership and pioneering contributions in the electric power field.



Dr. Narain G. Hingorani

One invention, the damping subsynchronous resonance (SSR) oscillations, is related to Hingorani's originated concept of flexible ac transmission systems (FACTS). Hingorani explained that the SSR damping scheme damps synchronous high-resonance frequency by controlling the transmission line impedance to prevent costly damage.

When the SSR damping scheme was patented 10 years ago, the Electric Power Research Institute (EPRI) had sponsored the project with Siemens. Subsequently, GE and others modified versions in their Thyristor Controlled Services Capacitor (TCSC) designs.

"That's how the electric power field works," commented Hingorani. "Manufacturers build upon intellectual property and know-how." He added that issued patents usually "don't bring much glory or money to an individual" since the patent holder in most cases works for a company. The real reward, Hingorani noted, is that one contributes to the advancement of technology, and adds something to one's resume.

Hingorani emphasized that most patents do not become commercially utilized for many years. The SSR damping scheme, patented 10 years ago, is just in its early stages of use. Another one of Hingorani's contributions, the solar cell for supplying power distribution lines to small communities, was patented in 1993. "If and when the patented idea is commercialized," he speculated, "I may not be around." ◆

Rochelle Stern is an IEEE Standards Project Editor and Co-Editor-in-Chief of this newsletter.

** The term VHDL is derived from VHSIC (Very High-Speed Integrated Circuit) Hardware Description Language.*

IEEE STANDARDS BOARD

ACTIONS

19 September 1996 **New Brunswick, New Jersey**

APPROVED PARs FOR NEW STANDARDS

P716a (SCC20) Standard for Abbreviated Test Language for All Systems (ATLAS)

P802.1Q (C/LM) Standard for Virtual Bridged Local Area Networks

P1003.1q (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX®)—Part 1: System Application Program Interface (API)—Amendment X: Trace [C Language]

P1226.11 (SCC20) Standard for Test Resource Information for a Broad-Based Environment for Test (ABBET™)

P1394a (C/MM) Standard for a High Performance Serial Bus

P1402 (PE/SUB) Guide for Electric Power Substation Physical and Electronic Security

P1473 (VT) Standard for Communications Protocol Aboard Trains

P1474 (VT) Standard for Communications Based Train Control

P1476 (VT) Standard for Passenger Train Auxiliary Power Systems

P1477 (VT) Standard for Passenger Information System for Rail Transit Vehicles

P1478 (VT) Standard for Environmental Conditions for Transit Rail Car Electronic Equipment

P1479 (SCC21) Recommended Practice for the Evaluation of Photovoltaic Module Energy Production

P1480 (SCC31) Standard for Application Layer (Open System Interchange Layer 7) Language Minimal Services and Parameters for the End-to-End Transport of Table Information in an Automatic Meter Reading Environment

P1482 (VT) Standard for Rail Vehicle Monitoring and Diagnostic Systems

P1483 (VT) Standard for Safety for Software Used in Rail Transit Systems

P1484 (C/SAB) Standard for Information Technology for Education—Personal Learning System (PLS) Learner Model

P1485 (ED) Recommended Practice for Test Procedures for Micro-Electronic MOSFET Circuit Simulator Model Validation

P1486 (BT/AV Tech) Standard for Measurement of Television Video Signals in the 525 Line Interlaced Format Which Have Been Compressed

P1487 (C/SE) Standard for Engineering of Systems: Concepts and Principles

P1488 (SCC32) Standard for Message Set Template for Intelligent Transportation Systems

P1489 (SCC32) Standard for Data Dictionaries for Intelligent Transportation Systems

P1596.8 (C/MM) Standard for Parallel Links to the Scalable Coherent Interface

P1996 (C/MM) Standard for an Extendable High Reliability Enhanced PCI Bus

PC37.104 (PE/PSR) Guide for Automatic Reclosing for Line Circuit Breakers for AC Distribution and Transmission Lines

PC62.62.1 (PE/SPD) Guide for the Use of Standard Test Specifications for Surge Protective Devices for AC Low-Voltage Power Circuits

PC62.72 (PE/SPD) Guide for the Application of Surge Protective Devices for Low-Voltage (1000 V or less) AC Power Circuits

REVISED PARs

P802.1G (C/LM) Standard for Remote Media Access Control (MAC) Bridging

P802.4h *(renumbered from 802.4)* (C/LM) Standard for Token Passing Bus Access Method and Physical Layer Specifications

P802.12e *(renumbered from 802.1q)* (C/LM) Standard for Information Technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Part 1D: Media access control (MAC) bridges—Supplement for support by IEEE 802.12

P802.14 (C/LM) Standard for Cable-TV Based Broadband Communication

P1003.1h (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX®)—Part 1: System API Amendment—Service for Reliable, Available, and Serviceable Systems [C Language]

P1003.5c (C/PA) Standard for Information Technology—POSIX® Ada Language Interfaces—Part 1: Binding for System Application Interface (API) Amendment 2: Protocol Independent Interfaces

P1148 (PE/ED&PG) Guide for Cathodic Protection of Power Plant Equipment and Structures

P1217 (PE/T&D) Guide for Preservative Treatment of Wood Distribution and Transmission Line Structures

P1232.1 (SCC20) Standard for Artificial Intelligence Exchange and Service Tie to All Test (AI-ESTATE): Data and Knowledge Specification

P1232.2 (SCC20) Standard for Artificial Intelligence Exchange and Service Tie to All Test Environments (AI-ESTATE): Service Specification

P1284.4 (C/MM) Standard for Data Delivery and Logical Channels for IEEE Std 1284 Interfaces

P1377 (SCC31) Standard for Utility Industry End Device Data Tables

P1420.1a (C/SE) Standard for Information Technology—Software Reuse—Data Model for Reuse Library Interoperability: Asset Certification Framework

P1596.6 (C/MM) Standard for the Scalable Coherent Interface for Real-Time Applications (SCI/RT)

PC37.2 (PE/SUB) Standard Electrical Power System Device Function Numbers and Contact Designations

PC57.13.5 (PE/TR) Standard for Test Requirements for Instrument Transformer of a Nominal Voltage of 115 kV and Above

PC57.110 (PE/TR) Recommended Practice for Establishing Transformer Capability When Supplying Nonsinusoidal Load Currents

PC57.138 *(renumbered from C57.98a)* (PE/TR) Recommended Practice for Routine Impulse Test for Distribution Transformers

PARs FOR STANDARDS REVISIONS

P18 (PE/T&D) Standard for Shunt Power Capacitors

P201 (BT/AV Tech) Standard Definitions of Terms Relating to Analog Television

P610 (C/SAB) Standard Dictionary of Computing Terminology

P634 (PE/IC) Standard Cable Penetration Fire Stop Qualification Test

P729 *(renumbered from 610.12)* (C/SE) Standard for Software Engineering—Fundamental Terms

P802.9 (C/LM) Standard for Local and Metropolitan Area Networks—Integrated Services LAN Interface at the Media Access Control (MAC) and Physical (PHY) Layers

P802.10 (C/LM) Standard for Interoperable LAN/MAN Security (SILS)

P847 (BT/AV Tech) Standard Definitions of Terms Relating to Digital Television

P929 (SCC21) Recommended Practice for Utility Interface of Photovoltaic (PV) Systems

P1005 (ED) Standard for Definitions, Symbols, and Characterization of Floating Gate Memory Arrays

P1202 (IA/PSE) Standard for Flame Testing of Cables for Use in Cable Tray in Industrial and Commercial Occupancies

P1232 (SCC20) Standard for Artificial Intelligence Exchange and Service Tie to All Test Environments (AI-ESTATE) Overview and Architecture

PC37.95 (PE/PSR) Guide for Protective Relaying of Utility-Consumer Interconnections

PC37.103 (PE/PSR) Guide for Differential and Polarizing Relay Circuit Testing

PC37.111 (PE/PSR) Standard for Common Format for Transient Data Exchange (COMTRADE) for Power Systems

WITHDRAWN PARs

P1347 (SCC20) Guide for the Understanding of the Artificial Intelligence and Expert System Tie to Automatic Test Equipment (AI-Estate)

ABBREVIATIONS

BT/AV Tech	Broadcast Technology/Audio & Visual Techniques
C/LM	Computer/Local and Metropolitan Area Networks
C/MM	Computer/Microprocessors and Microcomputers
C/PA	Computer/Portable Applications
C/SAB	Computer/Standards Activities Board
C/SE	Computer/Software Engineering
COM/T&A	Communications/Transmission & Access
DEI/VE	Dielectrics and Electrical Insulation/Voltage Endurance
ED	Education
IA/PCI	Industry Applications/Petroleum and Chemical Industry
IA/PSE	Industry Applications/Power Systems Engineering
NPS/NI&DA	Nuclear and Plasma Sciences/ Nuclear Instruments and Detectors
PE/ED&PG	Power Engineering/Energy Development and Power Generation
PE/EM	Power Engineering/Electric Machinery
PE/IC	Power Engineering/Insulated Conductors
PE/PSC	Power Engineering/Power System Communications
PE/PSR	Power Engineering/Power System Relaying
PE/SPD	Power Engineering/Surge Protective Devices
PE/SUB	Power Engineering/Substations
PE/SWG	Power Engineering/Switchgear
PE/TC	Power Engineering/Technical Council
PE/T&D	Power Engineering/ Transmission & Distribution
PE/TR	Power Engineering/Transformers
UFFC	Ultrasonics, Ferroelectrics, and Frequency Control
VT	Vehicular Technology
SCC20	Abbreviated Test Language for All Systems
SCC21	Photovoltaics
SCC29	Stationary Batteries
SCC31	Automatic Meter Reading & Energy Management
SCC32	Intelligent Transportation Systems

NEW STANDARDS

Note that some standards receive conditional approval and are not considered approved until specific conditions are met. In the past, these standards have been noted with an asterisk (*). Beginning with this issue, conditionally approved standards will not be listed until they have met their conditions. Standards conditionally approved in June that have since met their conditions, can be found with their approval date, under the "Conditions Met" heading. The draft standards highlighted below are available for sale while in production. You may order them through IEEE Customer Service at (800) 678-IEEE (in the US and Canada) or (908) 981-0060.

167A.2-1996 (COM/T&A) Standard Facsimile Test Chart—High Contrast (Gray Scale)

1076.2-1996 (C/DA) Standard VHDL Language Mathematical Packages
[AD129-NYV] • Price: $48.00 • IEEE Mbr: $39.00

C37.112-1996 (PE/PSR) Standard Inverse-Time Characteristic for Overcurrent Relays
[AD130-NYV] • Price: $44.00 • IEEE Mbr: $35.00

REVISED STANDARDS

112-1996 (PE/EM) Standard Test Procedure for Polyphase Induction Motors and Generators
[AD126-NYV] • Price: $44.00 • IEEE Mbr: $35.00

1043-1996 (DEI/VE) Recommended Practice for Voltage Endurance Testing of Form Wound Bars and Coils
[AD127-NYV] • Price: $42.00 • IEEE Mbr: $34.00

1068-1996 (IA/PCI) Recommended Practice for the Repair and Rewinding of Motors for the Petroleum and Chemical Industry
[AD125-NYV] • Price: $42.00 • IEEE Mbr: $34.00

C37.123-1996 (PE/SUB) Guide to Specifications for Gas Insulated Electric Power Substation Equipment
[AD131-NYV] • Price: $43.00 • IEEE Mbr: $34.00

REAFFIRMATION

563-1978 (R1990) (PE/T&D) Guide on Conductor Self-Damping Measurements

592-1990 (PE/IC) Standard for Exposed Semiconducting Shields on High-Voltage Cable Joints and Separable Insulated Connectors

666-1991 (PE/ED&PG) Design Guide for Electric Power Service Systems for Generating Stations

790-1989 (UFFC) Guide for Medical Ultrasound Field Parameter Measurements

1046-1991 (PE/ED&PG) Application Guide for Distributed Digital Control and Monitoring of Power Plants

1147-1991 (PE/ED&PG) Guide for the Rehabilitation of Hydroelectric Power Plants

C57.12.58-1991 (PE/TR) Guide for Conducting a Transient Voltage Analysis of a Dry Type Transformer Coil

C57.124-1991 (PE/TR) Recommended Practice for the Detection of Partial Discharge and the Measurement of Apparent Charge in Dry Type Transformers

CONDITIONS MET

367-1996 (PE/PSC) Recommended Practice for Determining the Electric Power Station Ground Potential Rise and Induced Voltage from a Power Fault *(16 September 1996)*
[AD131-NYV] • Price: $43.00 • IEEE Mbr: $34.00

802.3r-1996 (C/LM) Supplement to IEEE Std 8802-3: Type 10BASE5 Medium Attachment Unit (MAU) Protocol Implementation Conformance Statement (PICS) Proforma (Section 8.8) *(29 July 1996)*
[AD104-NYV] • Price: $42.00 • IEEE Mbr: $34.00

848-1996 (PE/IC) Standard Procedure for the Determination of the Ampacity Derating of Fire

Protected Cables *(5 August 1996)*
[AD119-NYV] • $40.00 • IEEE Mbr: $34.00

1027-1996 (Com/T&A) Standard Method for Measurement of Magnetic Field in the Vicinity of a Telephone Receiver *(23 September1996)*
[AD128-NYV] • $42.00 • IEEE Mbr: $34.00

1107-1996 (PE/EM) Recommended Practice for Thermal Evaluation of Sealed Insulation Systems for AC Electric Machinery Employing Random Wound Stator Coils *(8 July 1996)*
[SH94439-NYV] • $50.00 • IEEE Mbr: $35.00

1189-1996 (SCC29) Guide for Selection of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications *(31 July 1996)*
[SH94427- NYV] • $50.00 • IEEE Mbr: $35.00

1300-1996 (PE/IC) Guide for Cable Connections for Gas Insulated Substations *(1 August 1996)*
[SH94417- NYV] • $55.00 • IEEE Mbr: $38.50

1310-1996 (PE/EM) Trial Use Recommended Practice for Thermal Cycle Testing of Form Wound Stator Bars and Coils for Large Generators *(3 July 1996)*
[SH94434- NYV] • $50.00 • IEEE Mbr: $35.00

1313.1-1996 (PE/TC) Standard for Insulation Coordination—Definitions, Principles and Rules *(18 July 1996)*
[SH94445-NYV] • $50.00 • IEEE Mbr: $35.00

C37.40b-1996 (PE/SWG) Standard Service Conditions and Definitions for External Fuses for Shunt Capacitors *(9 August 1996)*
[AD132-NYV] • $40.00 • IEEE Mbr: $32.00

C37.41e-1996 (PE/SWG) Standard Design Tests for External Fuses Shunt Capacitors *(9 August 1996)*
[AD133-NYV] • $42.00 • IEEE Mbr: $34.00

CHANGED STATUS

325 (NPS/NI&DA) Standard Test Procedures for Germanium Gamma-Ray Detectors, was approved at the June Meeting. The approval was changed to a conditional approval at the September meeting.

Recent IEEE Standards Publications

IEEE Member Price applies only to the first copy of each standard ordered.
To order IEEE Standards Publications, please call (800) 678-IEEE. Outside the US and Canada, call (908) 981-0060.
For more detailed status information, call (908) 562-3800 or e-mail stds.info@ieee.org.

Communications

743-1995 IEEE Standard Equipment Requirements and Measurement Techniques for Analog Transmission Parameters for Telecommunications [1-55937-714-3] [SH94405-NYV] • $60.00 • IEEE Mbr: $42.00

Computer Science

1156.2-1996 IEEE Standard for Environmental Specifications for Computer Systems [1-55937-749-6] • [SH94426-NYV] • $51.00 • IEEE Mbr: $35.70

1596.3-1996 IEEE Standard for Low-Voltage Differential Signals (LVDS) for Scalable Coherent Interface (SCI) [1-55937-746-1] [SH94421-NYV] • $51.00 • IEEE Mbr: $35.70

1596.4-1996 IEEE Standard for High-Bandwidth Memory Interface Based on Scalable Coherent Interface (SCI) Signaling Technology (RamLink) [1-55937-745-3] • [SH94420-NYV] • $55.00 • IEEE Mbr: $38.50

Power & Energy

382-1996 IEEE Standard for Qualification of Actuators for Power-Operated Valve Assemblies with Safety-Related Functions for Nuclear Power Plants [1-55937-723-2] [SH94411-NYV] • $61.00 • IEEE Mbr: $42.70

1188-1996 IEEE Recommended Practice for Maintenance, Testing, and Replacement of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications [1-55937-747-X] •[SH94422- NYV] • $51.00 • IEEE Mbr: $35.70

1189-1996 IEEE Guide for Selection of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications [1-55937-753-4] [SH94427-NYV] • $50.00 • IEEE Mbr: $35.00

1210-1996 IEEE Standard Tests for Determining Compatibility of Cable-Pulling Lubricants With Wire and Cable [1-55937-725-9] • [SH94412-NYV] • $54.00 • IEEE Mbr: $37.80

620-1996 IEEE Guide for the Presentation of Thermal Limit Curves for Squirrel Cage Induction Machines [1-55937-751-8] [SH94424- NYV] • $49.00 • IEEE Mbr: $34.30

1050-1996 IEEE Guide for Instrumentation and Control Grounding in Generating Stations [1-55937-730-5] [SH94417- NYV] $55.00 • IEEE Mbr: $38.50

1300-1996 IEEE Guide for Cable Connections for Gas-Insulated Substations [1-55937-750-X] [SH94425- NYV] • $49.00 • IEEE Mbr: $34.30

1307-1996 IEEE Trial Use Guide for Fall Protection for the Utility Industry [1-55937-763-1] [SH94437- NYV] • $51.00 • IEEE Mbr: $35.70

1309-1996 IEEE Standard for Calibration of Electromagnetic Field Sensors and Probes, Excluding Antennas from 9kHZ to 40 GHz [1-55937-767-4] • [SH94441-NYV] • $53.00 • IEEE Mbr: $37.10

1310-1996 IEEE Trial Use Recommended Practice for Thermal Cycle Testing of Form Wound Stator Bars and Coils for Large Generators [1-55937-759-3] • [SH94434- NYV] $50.00 • IEEE Mbr: $35.00

C37.10-1995 IEEE Guide for Diagnostics and Failure Investigation of Power Circuit Breakers [1-55937-713-5] • [SH94404- NYV] • $52.00 • IEEE Mbr: $36.40

Highlighted Standards

1394-1995 *IEEE Standard for a High Performance Serial Bus* features a high-speed serial bus that provides the same services as modern IEEE standard 32-bit and 54-bit parallel buses, as well as non-bus interconnects such as *IEEE Std 1596-1992 Scalable Coherent Interface*—but at a much lower cost. Following the *IEEE Std 1212 -1994 Command and Status Register Architecture*, the Serial Bus can be used as a powerful and low-cost peripheral interconnect. The compact Serial Bus cable and connector allow bandwidths comparable with existing I/O interconnect standards. The Serial Bus has the added advantage of architectural compatibility with parallel computer buses...this leads to lower communications overhead than limited-function, dedicated I/O interconnects.

420 pages • 1-55937-583-3 • SH94364-NYV
$90.00 • IEEE Mbr: $63.00

8802-3 (ISO/IEC) (ANSI/IEEE Std 802.3-1996)

The 1996 edition of 8802-3 (ISO/IEC) (ANSI/IEEE Std 802.3-1996 Edition), Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications, was published in July. This new edition brings together standards formerly published in several separate documents and also publishes for the first time two new informative annexes and three sets of maintenance changes. Overall this reduces the number of documents that form the standard to just three—this new edition of 8802-3; IEEE Std 802.3u-1995, the 100BASE-T supplement; and IEEE std 802.3r-1996, the 10BASE5 MAU PICS Proforma supplement.

1-55937-558-8 • SH94330-NYV
$135.00 • IEEE Mbr: $94.50

The Copyright Clearance Center: A Solution for Legal Copying

by Cheryl Rowden

What do you say when someone asks you, "Can I make just one copy of this IEEE Standard for my co-worker? I know it will be invaluable to her work!" Well, first you hesitate, then you ponder and think—oh, what's so bad about one copy?

The Standards Department has worked to resolve this dilemma. IEEE Standards has entered into an agreement with the Copyright Clearance Center to facilitate the reproduction of portions of standards and standards-related material for internal use.

The Copyright Clearance Center (CCC) is a not-for-profit organization that was initiated by the US Congress in order to enable compliance with the US Copyright Law on behalf of users. CCC has existed since 1978 and serves over 8500 publishers and over 5000 users.

Users have the ability to sign up under the Transactional Reporting Service (TRS), which allows for monitored use, or the Annual Authorization Service (AAS), which provides a flat-rate license based on specific calculated methodology. In either circumstance, a user can make an unlimited number of copies as long as they are for internal use only. The caveat is that a user cannot copy the entire document; however, there is no specific percentage limitation.

The AAS and TRS also cross international boundary lines in that CCC has reciprocal agreements with the members of the International Federation of Reproduction Rights Organizations. This group includes 22 member organizations throughout the world.

CCC also has an Academic Permissions Service (APS) designed specifically for educational institutions. This service allows the institution to reproduce a limited percentage of material for use as course material only.

CCC is also in the midst of providing an electronic service. As it has been described, this service would allow the user to scan a licensed document into his or her system for electronic dissemination. The service is not yet generally available; however, IEEE is most interested in being able to provide users with the ability to access IEEE Standards through this service. The only real catch here is that the user (the person wanting to make the copy) needs to have the original document in his or her possession. CCC does not distribute documents. It merely authorizes the user to make a legal copy.

So, what are you going to do the next time someone asks you if he or she can make "just one"? You're going to ask whether they are a subscriber to a Copyright Clearance Center service. If the answer is yes, then they just need to follow whatever the established procedures are for CCC reproduction within their organization. If they're not, they can call 1 (800) 982-3887, ext. 412, for information on how to enroll in a CCC service. It's an easy way to access copyrighted material legally, quickly, and at a reasonable cost. ◆

Cheryl Rowden is the IEEE Standards Administrator of Intellectual Property.

XX Correction *XX*

In the July 1996 issue of the *IEEE Standards Bearer,* an error appeared in the article, "Gigabit LANS on the Horizon: IEEE 802.3." The reported new project, expected to be designated as P802.3z, is being drafted by the 802.3x Task Force. ◆

Correction Sheets

The following correction sheets are available from the IEEE Standards Department. Write to IEEE Standards, ATTN: Correction Sheets, for a free copy.

- IEEE Std 142-1991, IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems (IEEE Green Book).
- IEEE Std 1149.1b-1994, Supplement to IEEE Std 1149.1-1990, IEEE Standard Test Access Port and Boundary-Scan Architecture.
- IEEE Std C57.12.91-1995, IEEE Standard Test Code for Dry-Type Distribution and Power Transformers.
- IEEE Std C57.124-1991, IEEE Recommended Practice for the Detection of Partial Discharge and the Measurement of Apparent Charge in Dry-Type Transformers.
- Accredited Standards Committee C2-1997, National Electrical Safety Code® (NESC)

P
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WHY ADOPT AN IEC STANDARD IN IEEE?

by Anne O'Neill

Why would an IEEE working group adopt an IEC standard? One might think that a user could simply cite the IEC standard in procurement documents and likewise, that the manufacturing community could build and test to the IEC standard without having to go to the trouble of adopting it through IEEE. Shouldn't IEEE just do its *own* work? Here are some justifications for adopting an IEC standard through IEEE.

1. The IEEE ballot process builds consensus and aids widespread implementation.

Evaluating an IEC standard in an IEEE working group and balloting it in IEEE gives the IEC standard broad exposure and evaluation. This widespread exposure is often missing if it is developed through a national position in the typically much smaller US TAG or Canadian National Committee. The evaluation process itself raises awareness of the standard and aids in its widespread implementation.

2. Adopting an international standard helps develop a single worldwide market.

Agreement to use a single standard can help everyone. Users will have available a global list of vendors that can be compared on price, quality, and delivery. Manufacturers can provide a single design to a world market. System designers and consultants have fewer issues when interfacing to the world's variety of existing infrastructures.

3. Ease of "reverse engineering"

Why reinvent the wheel if a good international standard already exists? The organizational structure, terms, definitions, and clauses of an IEC standard may be quite appropriate for use. The IEC encourages countries to adopt their standards, just as IEEE cooperates when IEC uses our documents as a base.

4. The IEEE process can be used to identify problem areas in need of revision.

Any vague or ambiguous clauses are more apt to be identified when a single standard has undergone widespread evaluation. Changes to the base IEC standard deemed necessary by IEEE balloters can become national committee positions when the original IEC standard comes up for revision.

5. An adopted IEC standard is easier for users to differentiate and specify.

The completed standard will be recognized by a wider base of users and any differences will be much easier to identify. As IEC states in its Guide 21-1981 on the Adoption of International Standards, "a clearly identified deviation will have a tendency to disappear because as long as it remains visible, the question whether it is still necessary will arise repeatedly, while a hidden deviation may not disappear even when no longer justified."

6. IEEE often prefers to include explanations and guidelines in addition to minimum floor level specifications.

IEEE standards developers are often more interested in providing a technical service to their fellow engineers, rather than merely enabling trade. IEC specifications may be more useful with explanations and justifications of assumptions and methods. Trade-offs of reliability vs. cost and ease vs. precision can be developed in greater depth, leaving users to choose from a wider variety of limits that include the IEC ones as well.

IEEE working groups are finding that an IEC standard related to their topic of interest and identified during early literature searches can serve as their standard's base document. Starting off a new IEEE working group project with a review of the literature on the topic is good practice, and for some groups, one that is commonly employed. Literature searches can include Power Engineering Transactions articles, CIGRÉ reports, and related IEC standards. Since 1991, a TPAR form ("T" for transnational) has been in use for working groups evaluating adoption of an international standard. For information on the TPAR form, contact Rona Kershner at (908) 552-3808; fax (908) 562-1571; e.mail: r.kershner@ieee.org. ◆

Anne O'Neill is the International Program Engineer for PES.

The new IEC World Wide Web site is located at http://www.iec.ch.

North American Standardization Seminar Held in Mexico

by Jerry Walker

The first Seminario de Normalización y Certificacion Eléctrica, de Norteamérica (ANCE) (Electrical Standardization and Certification in North America Seminar) was held in Mexico City on 5–6 August 1996.

The seminar addressed standardization and certification of energy efficiency in US, Canada, and Mexico. The seminar was held to exchange information regarding the development, promotion, and fortification of standardization and certification activities within the electrical and household appliances sector.

Presenters from the US, Canada, and Mexico standards, certification, and man-

(Continued on page 8)

North American standards representatives discuss their organizations' interests.

Obituaries

Fletcher Buckley

Fletcher J. Buckley, a senior volunteer leader of the IEEE Computer Society and its standards program, died 19 August at age 63. Buckley, a software engineer at Martin Marietta's Government Electronics Systems, worked on many software development projects.

Fletcher had a distinguished 30-year career as an active Computer Society member and IEEE volunteer. He served as Chair of the Software Quality Assurance Plans Standards Working Group from 1976 to 1994, and Chair of the Software Engineering Standards Committee from 1981 to 1983. In 1984, he became the Computer Society's first Vice President for Standards Activities, at which time he helped to form the Design Automation and POSIX® Standards Subcommittees. He was also a senior member of the IEEE and a member of the IEEE Standards Board and its standing committees, serving from 1979 to 1990. His other achievements included initiating five IEEE software engineering standards seminars and writing two books, *A Guide to Standards Development* and *Implementing Configuration Management.*

Fletcher received his BS from the US Military Academy and MSEE from Stanford University. Of his many awards and honors, the Computer Society awarded him Certificates of Appreciation in 1980 and 1992, Meritorious Service Awards in 1984 and 1987, and an Outstanding Contribution Award in 1985. He also received an IEEE Software Senior Referee Award in 1988 and the IEEE Charles P. Steinmetz Award in 1991. ◆

Joseph S. Dudor

Joseph S. Dudor, stalwart IEEE standards developer and supporter, died on 19 July at his home in Westminster, CA. "Joe" to all who knew him, led the electrical engineering effort on several important projects including the pipeline and pump stations for the original Alaska oil pipeline.

After his employment with Fluor Engineers, Inc., from 1973 through 1986, he started his own practice as an independent consultant.

Joe received the IEEE Standards Medallion in 1992 and was honored by his peers as an IEEE Fellow in 1996.

In addition to authoring numerous technical papers and publications, he chaired and was a member of more than 15 standards committees. As Chair of the Standards Subcommittee of the Petroleum and Chemical Industry Committee of the Industrial Applications Society since 1984, Joe led the development of 14 IEEE standards.

Joe's commitment to his profession and IEEE standards activities will be missed by all who had the pleasure of working with him. ◆

CONGRATULATIONS

AWARDS SPOTLIGHT

Steinmetz Award

Nominations for the Charles Proteus Steinmetz Award for 1998 are due by 31 January 1997. The award is given to major contributors to the development of standards in the field of electrical and electronics engineering. Contact Maureen Quinn at (212) 705-7908 or m.quinn@ieee.org

* * * * *

The IEEE Standards Board formally congratulates the officers, as well as their working groups, on the publication of their standard.

Dennis Bodson, Chair; **Stephen Urban**, Technical Editor: *167A-1995* IEEE Standard Facsimile Test Chart—Bi-Level (Black and White)

Ivan E. Wilkinson, Chair: *382-1996* IEEE Standard for Qualification of Actuators for Power-Operated Valve Assemblies with Safety-Related Functions for Nuclear Power Plants

Nirmal K. Ghai, Chair: *620-1996* IEEE Guide for the Presentation of Thermal Limit Curves for Squirrel Cage Induction Machines

Joseph R. Jancauskas, Chair; **B. W. Crowly,** Secretary: *1050-1996* IEEE Guide for Instrumentation and Control Grounding in Generating Stations

Dennis E. Nickle, Chair; **David J. Schultz,** Vice Chair: *1074.1-1995* IEEE Guide for Developing Software Life Cycle Processes

Rudolf Schubert, Chair; **David Moore,** Vice Chair; **Elwoor Parsons,** Vice Chair: *1156.2-1996* IEEE Standard for Environmental Specifications for Computer

William P. Cantor, Chair; **Alan Lamb,** Former WG Chair: *1188-1996* IEEE Recommended Practice for Maintenance, Testing, and Replacement of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications

Jose A. Marrero, Chair: *1189-1996* IEEE Guide for Selection of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications

John M. Fee, Chair: *1210-1996* IEEE Standard Tests for Determining Compatibility of Cable-Pulling Lubricants With Wire and Cable

Philip C. Bolin, Chair; **John H. Cooper,** Vice Chair: *1300-1996* IEEE Guide for Cable Connections for Gas-Insulated Substations

Harold J. Fox, Chair: *1307-1996* IEEE Trial Use Guide for Fall Protection for the Utility Industry

John Kraemer, Chair; **Luc Trong,** Vice Chair; **Charles R. Haight**, Secretary: *1309-1996* IEEE Standard for Calibration of Electromagnetic Field Sensors and Probes Excluding Antennas from 9kHZ to 40 GHz

Chaman L. Kaul, Chair: *1310-1996* IEEE Trial Use Recommended Practice for Thermal Cycle Testing of Form Wound Stator Bars and Coils for Large Generators

Stephen Kempainen, Chair; **David B. Gustavson**, Vice Chair: *1596.3-1996* IEEE Standard for Low-Voltage Differential Signals (LVDS) for Scalable Coherent Interface (SCI)

Hans A. M. Wiggers, Chair; **David B. Gustavson**, Vice Chair; **David M. James,** Editor; **Glen D. Stone,** Secretary: *1596.4-1996* IEEE Standard for High-Bandwidth Memory Interface Based on Scalable Coherent Interface (SCI) Signaling Technology (RamLink)

Devki Sharma, Chair: *C37.10-1995* IEEE Guide for Diagnostics and Failure Investigation of Power Circuit Breakers

CALENDAR

OF EVENTS

OCTOBER

26–30 **Transformers Committee meeting** (Power Engineering Society)
Burlington, Vermont
contact—W.B. Binder (412) 656-5334; fax: (412) 656-5303

28–30 **ASC C136 Roadway Lighting Committee meeting**
St. Peterburg, FL
contact—Rosemary Tennis
(908) 562-3811; fax: (908) 562-1571; e-mail: r.tennis@ieee.org

NOVEMBER

1 *Deadline for draft and PAR submission for December Standards Board meeting*

3–6 **Insulated Conductors Committee meeting** (Power Engineering Society)
St. Petersburg, FL
contact—M. S. Mashikian
(203) 486-5298; fax: (203) 486-5916

11–15 **LAN MAN Standards Committee meeting** (Computer Society)
Vancouver, BC Canada
contact—Classic Consulting
(604) 527-1045; fax: (604) 527-1046; e-mail: 72630.107@compuserve.com

21–22 **ASC C63 Electromagnetic Compatibility meeting** (Electromagnetic Compatibility Society)
Washington, DC
contact—Rosemary Tennis
(908) 562-3811; fax: 908-562-1571; e-mail: r.tennis@ieee.org

DECEMBER

8–10 **IEEE Standards Board Committee meetings**
Marco Island, FL
contact—Terry deCourcelle
(908) 562-3807; fax: 908-562-1571; e-mail: t.decourcelle@ieee.org

11 **US TAG for ISO/IEC JTC1/SC26**
Marco Beach, FL
contact—Clyde Camp, Chair US TAG for JTC1/SC26, Texas Instruments, Inc., 2313 Merimac Drive, Plano, TX 75075, (214) 995-0407

JANUARY

12, 15 **US TAG for ISO/IEC JTC1/SC22/WG15**
San Diego, CA
contact—R.L. Pritchard, TAG Administrator
440 East 79 St., #8N, New York, NY 10021, (212) 517-9446

13 **Microprocessor Standards Committee meeting** (Computer Society)
Santa Clara, CA
contact—David B. Gustavson
(415) 961-0305; fax (415) 961-3530; e-mail: dbg@sunrise.scu.edu

22 **US TAG for ISO/IEC JTC1/SC26 (Video-conference)**
Massachusetts and California
contact—R.L. Pritchard, TAG Administrator
440 East 79 St., #8N, New York, NY 10021, (212) 517-9446

FEBRUARY

2–6 **Power Engineering Winter meeting**
New York, NY
contact—F. E. Schink
(908) 276-8847

7 *Deadline for draft and PAR submission for March Standards Board meeting*

10–12 **US TAG for ISO/IEC JTC1/SC7**
Houston, TX
contact—Leonard Tripp, Chair, US TAG for SC7
Boeing Commercial Airplane, MS 19-MM, PO Box 3707, Seattle WA 98124, (206) 662-4437

MARCH

10–14 **LAN MAN Standards Committee meeting** (Computer Society)
Irvine, CA
contact—Classic Consulting
(604) 527-1045; fax: (604) 527-1046; e-mail: 72630.107@compuserve.com

20 **IEEE Standards Board Committee meetings**
Piscataway, NJ
contact—Terry deCourcelle
(908) 562-3807; fax: 908-562-1571; e-mail: t.decourcelle@ieee.org

APRIL

13, 16, 18 **US TAG for ISO/IEC JTC1/SC22/WG15**
Jackson, WY
contact—R.L. Pritchard, TAG Administrator
440 East 79 St., #8N, New York, NY 10021, (212) 517-9446

20–22 **Rural Electric Power conference**
Minneapolis, MN
contact—Donald W. Cobb
(573) 681-7515; fax: (573) 681-7510

20–23 **Insulated Conductors Committee meeting** (Electromagnetic Compatibility Society)
Scottsdale, Arizona
contact—M.S. Mashikian (203) 486-5298; fax: (203) 486-5916

28–May 2 **Surge Protective Devices Committee meeting** (Power Engineering Society)
Myrtle Beach, South Carolina
contact—R. Dick Odenberg
(208) 772-9016; fax: (208) 772-9016

SPAsystem® Update:

Standards Program Re-engineering Continues

The Standards Process Automation (SPA) system has continued to provide more enhancements to the automation of standards development. Since our last update in 1995, the following events have occurred.

A trial of password-protected access to 28 standards from the Software Engineering Standards Committee (SESC) continues. Select users will soon provide valuable experience and feedback for accessing standards over the Internet. More importantly, now that these standards have been converted and tagged as part of our SGML database, the SESC working groups can use these same files for revision and development purposes.

All Local Area Network and Metropolitan Area Network standards are being converted and made ready for access and use in the LAN and MAN working groups. Shortly thereafter, power engineering standards will also undergo this process. This represents nearly half of the IEEE standards, and according to plan, users will begin to have access to IEEE standards via the Internet on a subscription basis beginning in the second quarter of 1997.

In addition, the Federal Highway Administration Cooperative Agreement for Intelligent Transportation Systems standards is intending to use the SPAsystem services for standards development purposes. This will extend services to other standards developing organizations that are supporting IEEE's efforts in this area.

Each week, more and more information is made available publicly* that addresses the IEEE Standards program, projects, products, Board actions, contacts, etc.

In July 1996, SPAsystem internet services provided to working groups the following volume of files:

1058 MB through the web interface and 546 MB through the ftp interface, for a total of 1604 MB (1.6 GB). ◆

**Access the IEEE Standards Web site at http://stdsbbs.ieee.org/ for more information.*

SPAsystem is a registered trademark of the Institute of Electrical and Electronics Engineers, Inc.

Is the Right Word Getting Out?

From time to time, it is important for any newsletter to reexamine its mission. *The IEEE Standards Bearer* has undergone some graphical and format changes over time, but we are now looking at the possibility of adding a new slant to its focus. For the past nine years, this publication of the IEEE Standards Board has adhered to its original raison d'être—to fulfill the legal requirement for public notice of standards activities. All the key actions of the Standards Board are published subsequent to each Board meeting, along with a variety of articles, ranging from interviews with notable standards volunteers to profiles of new standards efforts that promise to attain a strong market impact.

While this approach has been successful over the years, we believe it is time to consider providing more technical content in the newsletter. Are we doing enough to get the right word out—to provide the information you want on technology and standardization? We are asking our readers to let us know what they think.

Many sponsors of IEEE standards are overseeing activities whose outcome is of enormous interest and concern in the marketplace. Is this newsletter giving these subjects the visibility they deserve? Should our mission be to provide more detailed, technical and business information on emerging standards activities? Do IEEE members with strong technical interests realize the scope and impact of their organization's standards publications? Would such a newsletter be useful published on the same quarterly schedule as the *IEEE Standards Bearer*?

We have many questions and only a few, anecdotal answers. Please help us meet readership needs by filling out the comment response card on page 5. You may also send your comments via e-mail to stdsbrsurvey@ieee.org, or fax to (908) 562-1571 attention Karen McCabe, *IEEE Standards Bearer*. Thank you for your interest and time. ◆

Building Blocks of the Standards Association

Various topics related to the proposed IEEE Standards Activities reorganization, Standards Board 21, were presented and discussed at the Standards Board Forum evening on 18 September. The proposed entity for the future, the IEEE Standards Association (SA), was initially motivated by the IEEE Board of Directors in 1992. At that time, the IEEE Board of Directors was considering several methods for Institute-wide organizational improvement, and proposed scenarios were presented to the IEEE Standards Board at its December 1995 meeting. The IEEE Board of Directors' objectives included more autonomy for the various sub-Boards.

Several issues, including the latest draft proposal of the SA Bylaws, were presented in three parts by Donald Loughry, Donald Fleckenstein, and Dick Holleman at the September Standards Forum. According to Loughry, the new Bylaws are intended to be "lean, simple, and free," so that they will flexibly and consistently correlate with the governing Institute Bylaws and the *IEEE Standards Board Bylaws*. Key points of discussion included level of membership, financial responsibility, relationship to the Standards Board, and services offered.

In his introductory overview of the proposed SA, Loughry emphasized that the reorganization must take into account the needs of all standards "constituents." Fleckenstein presented the overview of the drafted bylaws, and Holleman illustrated examples of financial models. Loughry said he believed the SA would fulfill the Institute's vision of technical innovation/information needs, career enhancement, and a sense of fraternalism.

The proposed draft SA Bylaws will incorporate changes made as a result of discussion at the September Standards Board meeting, and are to be submitted to the IEEE Board of Directors for review at its December 1996 meeting. ◆

Mexico

(Continued from page 6)

ufacturing industries discussed their organizational interests related to technical regulation and its relationship with voluntary standards and certification.

ANCE, a private sector organization developing voluntary standards in the electrical products sector, is accredited by Mexico's ministry of commerce (SECOFI) and ministry of energy (SE). Both sectors seek to increase information dissemination, coordination, and certification or test labs to ensure international competitiveness. The Comité de Normalización de la ANCE (CONANCE) seeks to harmonize standards and testing with the US and Canada through mutual recognition agreements.

The conference ended with an awards banquet that featured North American cultural songs and dances. ◆

Jerry Walker, who attended the ANCE seminar, is the IEEE Standards Business Development Manager.

Homage to a US Metric Optimist

by Bruce B. Barrow

Chester H. Page, 1986 recipient of the Charles Proteus Steinmetz Award and first Chair of Standards Coordinating Committee 14 (SCC14) on Quantities, Units, and Letter Symbols, died on 7 August. Only a few weeks previously, he had discussed a note he had written on the structure of the metric system. This column is not an obituary for Chet, but it does present an opportunity to review the progress we have made toward adopting the International System of Units (SI).

Chet was the US representative on the international task force that invented SI, the modern metric system. SI was codified in the 1950s, and in 1964, the IEEE established SCC14 to "consider problems concerning quantities and units." The result was the first version of IEEE Std 268, *American National Standard for Metric Practice,* published in *Spectrum* in March 1966. There, IEEE unequivocally declared that "Technical and scientific data...should be given in units of the International System." IEEE was the first technical or scientific society in the US to take this position.

Looking back over the three decades that have passed since then, one can easily focus on some disappointments. The major cause for pessimism is the lack of coordination in the US, which remains firmly committed to inch-pound units in everyday life. Yet an optimist can find many reasons to be encouraged, and Chet Page was ever an optimist. All of the developed nations of the world have now adopted SI, and even the US has declared the metric system in law to be the preferred system of measurement.

For us in engineering and science, SI has represented a major simplification. The old cgs units that we older engineers had to learn, in several variations, are no longer important. Watts, volts, and amperes have conquered! Frequencies, which used to be measured in cycles and kc (only purists used cycles per second) are now consistently expressed in hertz.

Of greater practical importance is the incontrovertible fact that acceptance of SI continues to increase, nationally and internationally, in all fields of science and engineering. The apothecaries' units have become museum relics as health care has gone metric. The major US engineering societies have joined IEEE as active promoters of SI. Although much manufacturing to inch dimensions will continue, more and more engineering design work is done in SI, and SI is becoming ever more firmly established as the language to use in publishing technical information. Thanks for your help, Chet. ◆

Bruce B. Barrow is the current Chair of SCC14.