IEEE
STANDARDS BEARER

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Key Joint TAB/Standards Activities on Emerging Technology

by Deborah Czyz

One of the fastest growing areas of concentration for the IEEE was referred to in the June 1992 issue of the *IEEE Standards Bearer*—emerging technologies. Emerging technologies are new ideas, updates, foresights, and processes in technology. Papers are being developed on emerging technologies that are the "kindling wood" of new standards, but researchers and standards developers need to be aware of these papers and the ideas that drive them before these new technologies can be appropriately recognized. The IEEE is taking an active leadership role in the dissemination of this information that can provide a worldwide foundation for future standardization on the national, regional, and international levels.

IEEE's New Technology Directions Committee (NTDC) of the Technical Activities Board (TAB) has launched the Institute's efforts to recognize and pursue emerging technologies. The principal mission of the NTDC is to "anticipate and determine the direction of new and emerging technologies, and related issues, and to spearhead their investigation and development by IEEE." Martin Schneider, NTDC Chair, and Past IEEE Director, Division IV (Electromagnetics and Radiation), is leading a cooperative effort between the NTDC and the IEEE Standards Board. Schneider has invited the Standards Department to participate in this vital new program. IEEE Standards can help disseminate the missing link between these new technologies and their potential as new standards.

Schneider, when asked why he invited Standards to participate in this program, said, "As the TAB Delegate of the IEEE Standards Board, I was looking for the opportunity to bring the TAB mission and the Standards mission together so that IEEE activities can develop close links. We needed to spark action in the area of facilitating and creating new standards...going to the Standards Department was the right thing to do. These people are talented, display high skills of diplomacy, have good manners and respond quickly whenever you need assistance and cooperation...you never need to ask them twice."

By IEEE Standards becoming involved in the publishing and dissemination of the series of papers, tentatively titled *Emerging Technical Practices and Procedures* (ETTPs), these papers will be assured a broad audience, thereby increasing their potential to serve as the foundation documents from which new standards are developed. IEEE Standards has also embarked on this program to support the International Electrotechnical Commission (IEC) in its mission to facilitate the international standardization process. IEEE's selected papers will be made available to the IEC for its use. The maximum result will be the joint IEEE technical effort in support of IEC.

There are thousands of emerging technologies that need to be identified and publicized, and there are standards in development that can benefit from this information. Currently, R&D and standards development efforts are two areas operating almost entirely as separate entities in independent arenas. Both, however, are relevant to each other—the former serving as the precursor to the latter. According to the Office of Technology Assessment (OTA) report, *Global Standards: Building Blocks for the Future* (see the October 1992 *IEEE Standards Bearer*), "more and more industries are not only dependent on trade, but also affected by standards." Standards developers have been attempting to harmonize technological philosophies and methods at an early stage in order

(Continued on page 10)

What's Inside

Photo by P. Arnold

Letter from the editor's desk

Dear Readers,

When I go to IEEE standards meetings, I talk to a lot of volunteers who show their familiarity with issues discussed in the *IEEE Standards Bearer.* Either by commenting on an article or by asking questions about a service or program announced in this newsletter, people let me know that we are providing standards users and developers with information they need. This is as it should be, and I think this issue is as informative as any we have published recently.

In these pages you'll read about several new and exciting developments at IEEE. We've highlighted new services, new visions for the future, and new partnerships. This issue also addresses concerns many standards developers have raised about IEEE's Project Authorization Request (PAR) submittal. You'll find two related articles that can help you better understand PAR requirements.

If such information is helpful to you, please let us know. And do let us help you publicize standards activities in your area. Send us meeting dates for our calendar, or announce a new project to interest others in joining your working group. When your PAR or PARs are approved, we invite you to write a description of your activity for this newsletter.

We would also like to hear from you if you have a response to the articles presented in the *IEEE Standards Bearer.* We encourage writers with strong opinions on issues surrounding the development and dissemination of standards to express themselves in our *Windows to...* feature. Our hope is that these articles stimulate creative thinking on critical issues that will define the role of standards in developing technologies.

Thanks to those of you who have contacted me with your comments and suggestions. You can reach me at (908) 562-3830 (Internet: k.dittmann@ieee.org).

Kristin Dittmann
Editor-in-Chief

New Metric Standard Published

A new edition of ANSI/IEEE Std 268, *American National Standard for Metric Practice,* has been published by IEEE. The current edition emerges as interest in metric conversion in the US is increasing. This IEEE standard has been recognized by the American National Standards Institute and adopted by the US Department of Defense. The Metrication Operating Committee of the Interagency Council on Metric Policy has recommended this standard for use by all agencies of the US government.

This revision contains the latest recommendations of the General Conference on Weights and Measures, including the four new International System of Units (SI) prefixes that were adopted in 1991. The rules for handling unit symbols have been modified slightly to bring them more closely into conformance with international standards, and the table of conversion factors has been thoroughly revised to make it easier to use.

To order the standard, call 1-800-IEEE.

STANDARDS BEARER
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THE CHAIR'S COLUMN

The IEEE Standards Program is alive and well? Each of us may have our own answer to that question; however, my personal answer is YES! This will be the last column I write as Vice President, Standards Activities, and, I must admit, I have mixed emotions as I prepare it. In one of the first columns I wrote three years ago, I stated that the only thing we could be certain of was change. And although there has been much change since then, we can be certain it will continue.

Three years ago when I first assumed this position, I discussed the changes made to the program to solve past problems with finances, publishing delays, service to volunteers, and so forth. Solutions to these problems primarily involved staff changes and reorganizations (including the volunteer structure). Although we can always improve, new problems have been met head-on, most often with successful results, but the last three years have involved much more than just problem solving. From my viewpoint, once the major problems were addressed, the *identity* of the Standards Program needed to be re-established, if it was ever established at all. Here IEEE was, in 1990 with over 300 000 members in 140 countries worldwide, producing over 600 standards; yet most people thought (and some still do today) IEEE standards were the product of another organization. Even within IEEE, the other major boards did not really understand what the Standards Program was. The simple fact was that we were careless with the IEEE intellectual property known as standards, yet at the same time we fiercely guarded the other intellectual property produced by IEEE.

The recognition of the need to clarify IEEE's role as a major standards developer necessitated efforts to become more visible, re-establish identity, make our mission known to all, and make certain our policies reflected the program's objectives. Within IEEE, recognition of the importance of standards resulted in the elevation of the Director of Standards to Vice President and a member of the Executive Committee. It also has resulted in stronger ties to the other major boards and better cooperation between the boards. In addition, the Steinmetz Award, sponsored by the IEEE Standards Board, has been enhanced by the addition of a medal to be given for the first time in 1993.

One side effect of the effort to focus on the identity of IEEE is that it has been misunderstood by some. We must recognize that, while it's hard to reclaim your property when you've been giving credit to all but yourself, it must be done. The education and information process must continue until the task is completed.

Finally, I owe a great deal of thanks to many who have made my terms successful. I send my thanks to the Directors and Officers who have served with me and who have supported standards. The IEEE Corporate Services Staff has also provided much support and guidance on many matters. I would also like to thank Eric Herz, IEEE's retiring General Manager, for all he's personally done, including defusing me a few times, all of course for the better. I truly wish Eric and Lotte all the best as he begins his retirement. I wish John Powers well in his role as the new General Manager of IEEE. But most of all, I wish to thank the Standards Staff, who provided me with more support, guidance, insight, and counsel than I could have hoped for. I won't name them by name here, but each is a true professional, dedicated to both the program and IEEE. Their names can be found in the masthead of this newsletter. Thanks so much.

Marco W. Migliaro
Vice President, IEEE Standards Activities

Helpful Hints: *Ensuring Success in PAR Processing*

Making sure your IEEE Project Authorization Request (PAR) form is in order before you submit it can prevent a rejection that will cause frustration and unwanted delays. Michele Bauer-Zaremba, New Standards Committee (NesCom) Secretary, and Don Heirman, 1992 Chair of NesCom, offer the following tips for smoothing your way to success when you submit your PAR:

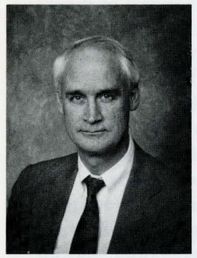
1) When submitting revised PARs, bring forward previous PAR coordination (item 12 of the PAR form). If coordination is different, attach an explanation to support the change.
2) In item 14 of the PAR form, enter the working group from item 10 in the first blank. (A common misunderstanding is to enter the sponsor committee from item 9.)
3) Item 7, "Scope," should bound the work or tell what is covered. In item 8, "Purpose," enter why the work is to be done. These are sometimes mistakenly interchanged. The *purpose* for *revising* an existing PAR should indicate the reason for the PAR change.
4) In item 4, "Project Description," a checkmark is required for all three columns.
5) In item 5, "Is this intended to be an international standard?", the box should be checked yes if your standard is intended to become an international (IEC or ISO) standard.

If you have questions about how to fill out the PAR form, call Michele Bauer-Zaremba, (908) 562-3808. ◆

Windows to ... ELECTRONIC ACCESS TO STANDARDS

IF IT'S BROKE, FIX IT!

by Paul W. Mercer, P.E.



A lot of opinions are being expressed today about what's wrong with our voluntary standards system. Maybe I'm just old-fashioned, but I was taught that if you don't like something, you can't fix it by standing on the sidelines and throwing rocks. Specifically, I'm talking about access to standards and standards information.

I believe we should focus our resources to address the voluntary standards-development process from a holistic perspective. Those of us associated with the voluntary standards system can and should play a major role in changing the process to meet user needs, but meaningful change will occur only by proactive involvement.

We need to work together to fix the system. That's how we all come out winners, by cooperating in a common cause. It's amazing how we can rally together in a common cause to make something better. That doesn't mean we will achieve utopia, but the synergistic power of teaming can work miracles that take us one step closer to our goal.

Last year, a group of people labored together voluntarily to develop a strategic plan for electronic access to standards and standards-related information. The group had representatives from the user community, associations, SDOs, vendors, and others having a vested interest in the standards system. The activity was part of the American National Standards Institute (ANSI) Standards and Data Services Committee (SDSC) commitment to "fix the system," that is, determine what the users need and help develop solutions to meet those needs.

The strategic plan, approved by ANSI's Board of Directors in December 1992, addresses four areas: *user needs* and the *development, production,* and *delivery* of standards and standards information. Implementation teams will be formed for each of the four areas to begin working together early this year to identify and facilitate solutions that will meet user needs. The intent will be to achieve a win-win situation for all parties.

How successful will this be? A great deal depends upon the common interest of those participating and their willingness to work cooperatively to effect change in an environment of continuous quality improvement. The team memberships will include ties into the international arena through the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), and other organizations. To be truly successful, any plan must address the international marketplace. Having standards and standards information *widely and easily available* for users, as needed, would be a major part of improving the system

The call is out! If you don't like the system, you have an opportunity to help fix it! The implementation teams are being formed now. Meetings are scheduled be held during the week of March 15, in conjunction with ANSI's 1993 Public Conference. If you want to participate, call Dianne Kelley at ANSI: phone, (212) 642-4911; fax (212) 398-0023. ◆

Paul Mercer is Senior Manager of Corporate Standards for the Boeing Company. He is a member of ANSI's Board of Directors and chairs the ANSI Standards and Data Services Committee (SDSC). He chaired the SDSC Working Group that developed the electronic access strategic plan.

POSIX Standards in Satellite Videoconference

IEEE will feature POSIX standards in a three-hour satellite videoconference April 22, 1992, from 12 noon to 3:00 p.m.

Entitled "Delivering Open Systems Portability—POSIX," the broadcast is aimed at technical managers and staff involved in the setting and selection of standards for use in systems and applications procurement or development, as well as applications developers responsible for portable applications software.

The video conference is sponsored by Digital Equipment Corporation (DEC) and features three standards developers and POSIX experts: Jim Isaak, Chair of the POSIX Standards Executive Committee; Roger Martin of the National Institute of Standards and Technology (NIST); and Karen Shaeffer of Sandia Laboratories.

IEEE videoconferences allow a question-and-answer format through an interactive toll-free (800) number and supply full documentation to each participating site.

IEEE has scheduled six technical videoconferences every year since the mid-1980s. Over 100 000 viewers take advantage of this training each year, either during the live broadcasts or later by viewing broadcasts from tape.

If a site currently doesn't have satellite capability, satellite dishes can be rented, or reception can be obtained through local cable companies.

For details, contact Dr. Robert Kahrmann, Manager Seminars Via Satellite, (908) 562-5491. ◆

MARCO MIGLIARO VP OF STANDARDS STEPS DOWN

Marco Migliaro, VP of Standards, and Chair of the IEEE Standards Board for three years, stepped down at the end of 1992. In appreciation of his accomplishments, the Standards Board presented him with a gift and plaque at the December meeting.

Among his accomplishments, Marco can take credit for the following:

- Becoming the first Vice President of Standards
- Restructuring the Standards Board to include members representing all IEEE regions
- Appointing members from a diverse range of organizations concerned with standards, including the United States National Committee to the IEC (USNC/IEC), International Organization for Standardization/International Electrotechnical Commission Joint Technical Committee 1 (ISO/IEC JTC 1), Accredited Standards Committee (ASC) T1 and ASC X3, Edison Electric Institute (EEI), the Federal Communications Commission (FCC), the National Institute of Standards and Technology (NIST), and the Nuclear Regulatory Commission (NRC)
- Holding the first Standards Board meeting outside of US borders

Marco received a standing ovation from the Standards Board and staff at his final December 3rd meeting. In true consensus fashion, everyone agreed that he had fostered and led a remarkably productive partnership between volunteers and staff during his tenure. ◆

The IEEE Standards Board formally congratulates the Chairs, Vice Chairs, and Special Contributors listed below as well as their working groups on the publication of their standard, collection, or interpretation.

William M. Hurst, Chair: *18-1992* IEEE Standard for Shunt Power Capacitors

Gediminas P. Kurpis, Chair: *100-1992* The New IEEE Standard Dictionary of Electrical and Electronics Terms

S. Whitesell, Chair; **Mike Watters** and **Paul Coverdale,** Technical Editors: *269-1992,* IEEE Standard Methods for Measuring Transmission Performance of Analog and Digital Telephone Sets

M. S. Zar, Chair: *384-1992* IEEE Standard Criteria for Independence of Class 1E Equipment and Circuits

Leo J. Perfecky, Chair: *487-1992* IEEE Recommended Practice for the Protection of Wire-Line Communication Facilities Serving Electric Power Stations

Robert Cram, Chair: *488.2-1992* IEEE Standard Codes, Formats, Protocols, and Common Commands for Use With IEEE Std 488.1-1987, IEEE Standard Digital Interface for Programmable Instrumentation

James R. Stewart, Chair: *656-1992* IEEE Standard for the Measurement of Audible Noise From Overhead Transmission Lines

William P. Lidinsky, Chair; and **Tony Jeffree,** Task Group Chair: *802.1B-1992* IEEE Standards for Local and Metropolitan Area Networks: LAN/MAN Management

Patricia Thaler, Chair; **Joseph S. Skorupa,** Task Force Chair; and **Geoffrey O. Thompson,** Vice Chair: *802.3k-1992* Supplement to CSMA/CD: Layer Management for 10 Mb/s Baseband Repeaters (Section 19)

Patricia Thaler, Chair; **Michael Armstrong,** Task Force Chair; **Paul Nikelich,** Vice Chair; and **William Randle,** Editorial Coordinator: *802.3l-1992* Supplement to CSMA/CD: Type 10BASE-T Medium Attachment Unit (MAU) Protocol Implementation Conformance Statement (PICS) Proforma (Section 14.10)

Paul Eastman, Chair: *802.4b-1992* Supplement to Token-Passing Bus Access Method and Physical Layer Specifications: Enhancements for Physical Layer Diversity (Redundant Media Control Unit)

Kenneth G. Alonge, Chair; **Kimberly Kirkpatrick,** Past Chair; **Russell Housley,** Vice Chair; and **L. Kirk Barker,** Technical Editor: *802.10-1992* IEEE Standards for Local and Metropolitan Area Networks: Interoperable LAN/MAN Security (SILS): *Currently Contains* Secure Data Exchange (SDE) (Clause 2).

Lewis T. Gordon, Chair: *803.1-1992* IEEE Recommended Practice for Unique Identification in Power Plants and Related Facilities—Component Function Identifiers

Floyd W. Greenway, Chair: *999-1992* IEEE Recommended Practice for Master Remote Supervisory Control and Data Acquisition (SCADA) Communications

Elio A. Mariani, Chair: *1037-1992* IEEE Standard Terms and Definitions for Surface Acoustic Wave Devices

Robert N. Sulgrove, Chair; **Christine H. Smith,** Co-Chair; and **Nicholas L. Marselos,** Editor: *1045-1992* IEEE Standard for Software Productivity Metrics

Thomas S. Key, Chair: *1100-1992* IEEE Recommended Practice for Powering and Grounding Sensitive Electronic Equipment (IEEE Emerald Book)

Ronald J. Corkins, Chair: *1129-1992,* IEEE Recommended Practice for Monitoring and Instrumentation of Turbine Generators

Sanford Wagner, Chair; and **Ronald M. Keyser,** Project Leader: *1214-1992* IEEE Standard Multichannel Analyzer (MCA) Histogram Data Interchange Format for Nuclear Spectroscopy

Gerald A. Paiva, Chair: *C57.12.23-1992* IEEE Standard for Transformers—Underground-Type, Self-Cooled, Single-Phase Distribution Transformers with Separable, Insulated, High-Voltage Connectors; High Voltage (24 940 GrdY/14 400 V and Below) and Low Voltage (240/120 V, 167 kVA and Smaller

Edgar R. Taylor, Chair: *C62.92.5-1992,* IEEE Guide for the Application of Neutral Grounding in Electric Utility Systems, Part V—Transmission Systems and Subtransmission Systems

J. L. Norman Violette, Chair: *C63.14-1992* American National Standard Dictionary for Technologies of Electromagnetic Compatibility (EMC), Electromagnetic Pulse (EMP), and Electromagnetic Discharge (ESD) (Dictionary of EMC/EMP/ESD Terms and Definitions)

Collections

John H. Brunke, Special Contributor: *Circuit Breakers, Switchgear, Substations and Fuses* Standards Collection, 1993 Edition (formally C37)

Leonard Tripp, Special Contributor: *Software Engineering* Standards Collection

Interpretations

Donald E. Hooper, Chair: *National Electrical Safety Code Interpretations, 1990-1993,* Third Interim Collection

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269-1992 IEEE Standard Methods for Measuring Transmission Performance of Analog and Digital Telephone Sets (ISBN 1-55937-234-6) [SH15404-NTQ] $42.00

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802.1B-1992 IEEE Standards for Local and Metropolitan Area Networks: LAN/MAN Management (ISBN 1-55937-263-X) [SH15701-NTQ] $28.00

802.3k-1992 Supplement to CSMA/CD: Layer Management for 10 Mb/s Baseband Repeaters (Section 19) (ISBN 1-55937-264-8) [SH15719-NTQ] $26.00

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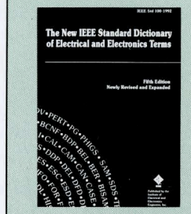
Software Engineering Standards Collection, 1993 Edition (ISBN 1-55937-253-2) [SH15602-NTQ] $105.00

The New IEEE Standard Dictionary of Electrical and Electronics Terms



Today's essential reference tool for electrotechnology terms and definitions, *The New IEEE Standard Dictionary of Electrical and Electronics Terms* has been revised to include over 30 000 technical terms from IEEE standards publications used throughout industry. In addition to this comprehensive collection of terms from every field of electrical engineering, electronics, and computer engineering, this new edition contains an extensive list of acronyms and abbreviations. A comprehensive list of abstracts for IEEE Standards is also included.

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- Product No.: SH15594-NTQ
- List Price: $90.00

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Revised PAR Form Adds New Coordination for Projects

by Mary Lynne Nielsen

As of June 1992, all IEEE standards developers were required to use the latest version (12/4/91) of the IEEE Project Authorization Request (PAR) form. This extensive PAR revision included two new groups for coordination: Standards Coordinating Committee 14 (SCC 14) on Quantities, Units, and Letter Symbols, and IEEE staff editorial review. As this coordination must be achieved for every standards project, here's some information about these groups and why they have been added as points of coordination.

SCC 14 has the task of reviewing the use of quantities, units, and letter symbols in all IEEE standards, but it also develops and reviews its own standards. Some of the well-known standards under its supervision are IEEE Std 260, on standard letter symbols for units of measurement, and IEEE Std 268, on metric practice. Since many IEEE standards contain these symbols, an SCC 14 review of standards is beneficial to ensure that they employ the correct use of this terminology.

IEEE Standards Project Editors prepare standards for publication once they are approved by the IEEE Standards Board and provide global advice to standards developers on an informal basis. Their experience in publishing hundreds of standards gives them unique insight into the pitfalls of the standards-development process. An IEEE staff editorial review ensures that the standard does not contain egregious errors that would delay IEEE Standards Board approval and publication, such as inappropriate references or use of information from copyrighted documents for which permission releases must be obtained.

Currently, both of these reviews are being done as part of the final submittal to the IEEE Standards Review Committee (RevCom) and are coordinated by the IEEE Standards Department. It is hoped that this coordination will eventually take place earlier in the development of a proposed standard.

If a working group would prefer to receive the IEEE Staff Editorial Review of its draft standard while the document is still in development, a copy can be sent to Kristin Dittmann, Managing Editor, Standards. Please clearly indicate that the draft is being submitted to achieve PAR coordination. However, a draft standard is typically not submitted for IEEE staff editorial review until it is in ballot because of the customary volatility of the document until that time. It is also preferred that the final balloting draft be the one sent for approval. For further information on this coordination responsibility, contact Linda Gargiulo, (908) 562-3806. ◆

Mary Lynne Nielsen is the Editorial Manager in charge of Standards Board documentation.

Much-expanded BBS to debut in early 1993

The IEEE Standards electronic bulletin-board system (BBS) is undergoing its first complete renovation, which has amounted to a total replacement of the existing BBS. The Standards Department expects this new system to be available early in 1993.

The new, much more capable system will evolve into the communications hub of the IEEE Standards Program. Eventually, standards developers will create documents on this system, standards users will gain access to the database of IEEE standards via this system, and everybody interested in IEEE Standards and related subjects will have a single source of information.

The new system will have a variety of features and capabilities. It will be connected to multiple phone lines and high-speed modems. At first, there will be two dialup lines, and this will expand to six or eight during the year, depending on demand. This means that multiple users will be able to use the system at once and, if they choose, interact. The new modems support speeds up to 14 400 bits per second (V.32*bis*) and standard error-control and data-compression protocols.

In addition, those persons with access to the Internet will be able to log into the system and be presented with the same interface and capabilities as the dial-in callers.

All IEEE Standards staff will use the system, which will become a clearinghouse for information relevant to the IEEE, IEEE Standards, standards in general, and so on, including text from certain Usenet news groups.

From this system will grow an on-line standards-development environment for those who participate in the IEEE Standards Program; those individuals will be provided additional services, such as conferencing, separate file areas, and a range of software to run off the BBS computer.

The *IEEE Standards Bearer* and the existing bulletin board [(908)-981-0290)] will carry any information and news about the new system as soon as it becomes available, including the new phone number, network address, and access instructions. ◆

1993 IEEE General Assembly Election Results

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VP of Technical Activities
Donald M. Bolle
VP of Publishing
Helen M. Wood
VP of Professional Activities
Dr. Charles E. Alexander
VP of Regional Activities
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Theodore W. Hissey

IEEE STANDARDS BOARD ACTIONS

APPROVED PARS FOR NEW STANDARDS

P260.4 (SCC14) Standard for Letter Symbols and Abbreviations for Quantities Used in Acoustics

P896.10 (C/BA) Standard for Futurebus+ Space-borne Systems, Profile "S"

P1244.2 (C/MSS) Standard Physical Volume Library for Storage Systems (SSS.PVL)

P1244.3 (C/MSS) Standard Physical Volume Repository for Storage Systems (SSS.PVR)

P1244.4 (C/MSS) Standard Data Mover for Storage Systems (SSS.MVR)

P1299 (PE/IC) Guide for the Grounding of Surge Arresters to Protect Insulated Shielded Conductors

P1300 (PE/IC) Standard for Cable Connections for Gas Insulated Substations

P1331 (PE/PSR) Standard for Low Energy Analog Signal Inputs to Protective Relays

P1333 (PE/IC) Guide for Installation of Cable Using the Guided Boring Method

P1335 (PE/T&D) Standard for Shoulder Live Line Extension Links for Overhead Line Construction

P1336 (PE/T&D) Standard for Zinc-Coated Spool Type Secondary Racks for Overhead Line Construction

P1337 (PE/T&D) Standard for Staples With Rolled or Slash Points for Overhead Line Construction

P1338 (PE/T&D) Standard for Threaded Zinc-Coated Ferrous Strand-Eye Anchor Rods and Nuts for Overhead Line Construction

P1339 (PE/T&D) Standard for Galvanized Steel Bolts and Nuts for Overhead Line Construction

P1340 (PE/T&D) Standard for Zinc-Coated Ferrous Lag Screws for Overhead Line Construction

P1596.6 (C/MM) Standard for Scalable Coherent Interface for Realtime Applications (SCI/RT)

PC57.12.00 (PE/TR) Standard General Requirements for Liquid-Immersed Distribution Power and Regulating Transformers

PC135.20 (PE/T&D) Standard for Zinc-Coated Ferrous Insulator Clevises for Overhead Line Construction

APPROVED PARS FOR STANDARDS REVISIONS

P367 (PE/PSC) Recommended Practice for Determining the Electric Power Station Ground Potential Rise and Induced Voltage From a Power Fault

P802.5q (C/CC) Standard for Information Technology—Local and Metropolitan Area Networks—Part 5: Token Ring Access Method and Physical Layer Specification—Media Access Control Revision

P1122 (PE/PSIM) Standard for Digital Recorders for Measurements in High-Voltage Impulse Tests

P1308 (PE/T&D) Recommended Practice for Instrumentation: Specifications for Electric Field Strength and Magnetic Flux Density Meters—10 Hz to 3 kHz

PC37.04 (PE/SWG) Standard Rating Structure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis

PC37.09 (PE/SWG) Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis

PC37.010 (PE/SWG) Application Guide for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis

PC37.30 (PE/SWG) Standard Requirements for High-Voltage Switches

PC37.35 (PE/SWG) Guide for the Application, Installation, Operation, and Maintenance of High-Voltage Air Disconnecting and Load Interrupter Switches

PC37.37 (PE/SWG) Loading Guide for AC High-Voltage Air Switches (in excess of 1000 V)

PC57.12.90 (PE/TR) Standard Test Code for Liquid-Immersed Distribution, Power and Regulating Transformers

REVISED PARS

P325 (NPS/NI&D) Standard Test Procedures for Germanium Gamma-Ray Detectors

P802.1k (C/CC) Standards for Local and Metropolitan Area Networks: LAN/MAN Management Supplement: Standard for Discovery and Dynamic Control of Event Forwarding

P1014.1 (C/BA) Standard for a Futurebus+/VME64 Bridge

P1101.4 (C/BA) Standard for Military Modules, Format E Form Factor

P1754 (C/MM) Standard for a 32-bit Microprocessor Architecture

P1212.1 (C/MM) Standard for Communicating Among Processors and Peripherals Using Shard Memory (Direct Memory Access—DMA)

WITHDRAWN PARs

P802.4c (C/CC) Thru Air Media

P802.4d (C/CC) Broadband Media Conformance Test

P802.4e (C/CC) MAC Conformance Test

P802.4f (C/CC) Phase Coherent FSK Conformance Test

P802.4g (C/CC) Fiber Optic Media Conformance Test

APPROVAL OF NEW STANDARDS

1003.3.1 *See 2003.2*

1037 (UFFC/SAC) Standard Terms and Definitions for Surface Acoustic Wave Devices

1061 (C/SE) Standard for a Software Quality Metrics Methodology

1209 (C/SE) Recommended Practice for the Evaluation and Selection of CASE Tools

1219 (C/SE) Standard for Software Maintenance

1301.3 (C/MM) Standard for a Metric Equipment Practice for Microcomputers—Convection-Cooled With 2.5 mm Connector

2003.2 (C/OS) Standard for Information Technology—Test Methods for Measuring Conformance to POSIX—System Interfaces

APPROVAL OF REVISED STANDARDS

776 (COM/TRANSACC) Recommended Practice for Inductive Coordination of Electric Supply and Communication Lines

802.6k (C/CC) Standard for Distributed Queue Dual Bus Subnetwork of a Metropolitan Area Network, Supplement to Standard 802.1D—Media Access Control (MAC) Bridges

946 (PE/ED&PG) Recommended Practice for the Design of DC Auxiliary Power Systems for Generating Stations

C37.14 (PE/SWG) Standard for Low-Voltage DC Power Circuit Breakers Used in Enclosures

C37.37a (PE/SWG) Loading Guide for High-Voltage Air Switches Under Emergency Conditions

C57.13 (PE/TR) Standard Requirements for Instrument Transformers

C62.42 (PE/SPD) Guide for the Application of Gas Tube and Air Gap Arrester Low-Voltage (Equal to or Less than 1000 V rms or 1200 V dc) Surge Protective Devices

PC62.45 (PE/SPD) Guide on Surge Testing for Equipment Connected to Low-Voltage AC Power Circuits

REAFFIRMED STANDARDS

628 (PE/NPE) Standard Criteria for the Design, Installation, and Qualification of Raceway Systems for Class 1E Circuits for Nuclear Power Generating Stations

752 (COM/TRANSACC) Standard for Functional Requirements for Methods and Equipment for Measuring the Performance of Tone Address Signal Systems

762 (PE/PSE) Standard Definitions for Use in Reporting Electric Generating Unit Reliability, Availability, and Productivity

934 (PE/NPE) Standard Requirements for Replacement Parts for Class 1E Equipment in Nuclear Power Generating Stations

1002 (C/SE) Standard Taxonomy for Software Engineering Standards

1010 (PE/ED&PG) Guide for Control of Hydroelectric Power Plants

C37.34 (PE/SWG) Standard Test Code for High-Voltage Air Switches

C37.34a (PE/SWG) Standard Test Code for High-Voltage Air Switches, Corona Tests

C37.34b (PE/SWG) Standard Test Code for High-Voltage Air Switches, Ice Tests

C37.34d (PE/SWG) Standard Test Code for High-Voltage Air Switches, Mechanical Operations Test

C37.34e (PE/SWG) Standard Test Code for High-Voltage Air Switches, Switching-Impulse Testing of High-Voltage Switches

C37.37 (PE/SWG) Standard Loading Guide for AC High-Voltage Switches (in excess of 1000 V)

C37.93 (PE/PSR) Guide for Power System Protective Relay Applications of Audio Tones Over Telephone Channels

C57.110 (PE/TR) Recommended Practice for Establishing Transformer Capacity When Supplying Nonsinusoidal Load Currents

ADOPTED STANDARDS

1298/AS3563.1 (C/SE) Software Quality Management System

WITHDRAWN STANDARDS

86-1987 (PE/EM) IEEE Recommended Practice: Definitions of Basic Per-Unit Quantities for AC Rotating Machines

145-1983 (AP/A) IEEE Standard Definitions of Terms for Antennas

620-1987 (PE/EM) IEEE Guide for Construction and Interpretation of Thermal Limit Curves for Squirrel-Cage Motors Over 500 hp

641-1987 (ED) IEEE Standard Definitions and Characterization of Metal Nitrite Oxide Semiconductor Arrays

644-1987 (PE/T&D) IEEE Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields From AC Power Lines

810-1987 (PE/ED&PG) IEEE Standard for Hydraulic Turbine and Generator Integrally Forged Shaft Couplings and Shaft Runout Tolerances

936-1987 (IA/SPC) IEEE Guide for Self-Commutated Converters

1004-1987 (MTT) IEEE Standard Definitions of Planar Transmission Lines

1030-1987 (PE/T&D) IEEE Guide for Specification of High-Voltage Direct-Current Systems: Part 1—Steady-State Performance

ACRONYMS

AES/GAP	Aerospace & Electronic Systems/Gyro & Accelerometer Panel
AP/A	Antennas & Propagation/Antennas
C/BA	Computer/Bus Architecture
C/MM	Computer/Microprocessor & Microcomputer
C/MSS	Computer/Mass Storage Systems
C/OS	Computer/Operating Systems and Application Environments
C/SE	Computer/Software Engineering
C/CC	Computer Computer Communications
COM/TRAN-SACC	Communications/Transmission Access Committee
ED	Electron Devices
EMC/SC	Electromagnetic Compatibility/ Standards Committee
IA/P&CI	Industry Applications/Petroleum & Chemical Industry
IA/SPC	Industry Applications/Static Power Converter
MTT	Microwave Theory and Techniques
NPS/NI&D	Nuclear & Plasma Sciences/Nuclear Instruments & Detectors
PAR	Project Authorization Request
PE/ED&PG	Power Engineering/Energy Development & Power Generation
PE/EM	Power Engineering/Electric Machinery
PE/IC	Power Engineering/Insulated Conductors
PE/NPE	Power Engineering/Nuclear Power Engineering
PE/PSC	Power Engineering/Power System Communications
PE/PSE	Power Engineering/Power System Engineering
PE/PSIM	Power Engineering/Power System Instrumentation & Measurements
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/T&D	Power Engineering/Transmission & Distribution
PE/TR	Power Engineering/Transformers
R	Reliability
SCC10	Standards Coordinating Committee 10 (Terms and Definitions)
SCC14	Quantities, Units & Letter Symbols
SCC20	Standards Coordinating Committee 20 (ATLAS)
UFFC/SAC	Ultrasonics, Ferroelectrics & Frequency Control/Standards Activity Committee

Awards Spotlight

The IEEE Standards Medallion is awarded for "outstanding achievement in the development and implementation of standards within the scope of the IEEE."

Donald Heirman and Edwin Bronaugh received the medallion at the EMC International Symposium in August 1992.

This past fall, several IEEE Standards volunteers received the Standards Medallion for their achievements. On September 28, 1992, Joseph Dudor was presented with the medallion by the Petroleum and Chemical Industry Committee of the Industry Applications Society. In October 1992, Harvey W. Mikulecky was given the medallion by the Switchgear Committee of the Power Engineering Society. Hal Jespersen and Roger Martin were also presented with the medallion by POSIX (Computer Society) at their October meeting. Donn Terry also received the Standards Medallion.

IEEE Standards wishes to thank all these volunteers for their contributions.

Congratulations!

Ask IEEE

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Researchers from around the world can now obtain scientific and technical articles rapidly via phone, fax, e-mail, and on-line requests. On January 1, 1993, IEEE launched *Ask*IEEE*, a document delivery service that specializes in electrotechnology and computer science information, but offers ready access to documents of any kind.

Information can be requested from all IEEE publications, current and retrospective, including journals, magazines and conference proceedings, books, and standards. Through *Ask*IEEE*, information is available from all publishers. IEEE materials, as well as the earlier publications of the AIEE and IRE, are all available. Rates for articles from the IEEE collection are $10 for IEEE members and $12 for others. Articles from the non-IEEE collections will cost slightly more. Entire IEEE books, conferences, and standards can be purchased from *Ask*IEEE*.

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Emerging Technology

(Continued from front cover)

to produce high-quality standards quickly enough to meet the demands of the global marketplace; however, there is still a need for a bridge that connects R&D to standards. The IEEE recognizes that advancement in standards development and in technology lies in recognizing that these two areas of concentration are not two separate universes, but rather, two arms of technology waiting to be joined by a body that can serve as their gateway.

The first completed ETPP to undergo a review for publication is entitled, "Design and Realization of Broadband Transmission Line Matching Networks," by Jerry Sevick. This paper provides an overview of presentations on broadband transmission lines, designers' perceptions of broadband impedance matching networks, and the establishment of specifications; it also describes new designs and the rationale behind them.

Other papers currently under development are: "Noise Characterizations of Solid-State Devices," by Madhu Gupta; "Modeling of Field-Effect Transistors," by Octavius Pizalis; "Fast, Inexpensive, Automated Method for Measuring the Gain and Noise Figure of Saturated Erbium-Doped Fiber Amplifiers," by John Zyskind; "Lasers as Flexible Tools in Manufacturing," by L.N. Durvasula; "Dynamic Compensation of AC Transmission Lines by Solid-State Synchronous Voltage Sources," by Laszlo Gyugyi; and "Fusion Reactor Control," by Dirk Plummer. Also under consideration is a paper on non-ionizing radiation hazards.

As described in the April 1992 issue of the *IEEE Standards Bearer*, "the breeding ground for standards is the engineering report, paper given at a meeting, Conference Record, or Transaction, which contains a description of a recipe, or procedure that can be successfully followed by your colleagues." Any or all of these papers may serve as that "breeding ground" for standards. Upon publication by the IEEE Standards Press, these specially selected ETTPs will have been reviewed for quality by experts in relevant fields of technology, in coordination with the Standards Board and NTDC. These papers will then be disseminated to the broadest possible industrial audience. The benefit of the shared input and the broad distribution, involving the Standards Board, NTDC, and IEC, is the creation of a worldwide foundation of information that can be used to harmonize national, regional, and international standards.

Emerging technologies are strategically important to standards, and the IEEE is positioning itself as a technological frontrunner of standards, carving paths and building bridges from the inception of new technologies to their audience—industry, government, and the public. According to Schneider, in a brief summary of the identification and adoption of emerging technologies given to the NTDC, these technologies have the potential to "educate and attract talent into new fields, open up new industrial horizons, create challenging job opportunities, and improve the quality of life."

Schneider concludes with a challenge: "There are more opportunities in the standards field than we realize, and it is our job to look at the economic impact of whatever we are doing at all times...we are convinced that this new publishing venture will be beneficial."

IEEE Standards encourages those interested in participating in this new and exciting program to contact Deborah Czyz, via internet at: d.czyz@ieee.org; phone at (908) 562-3829; or fax at (908) 562-1571. ◆

Deborah Czyz is Managing Editor, IEEE Standards Press.

Standards Seminar Program Changes

The Standards Seminar program no longer offers public seminars, but continues to offer on-site seminars, upon request, to companies and in conjunction with technical conferences. The Standards Board will continue to oversee the quality of seminars on standards. Any questions or comments about IEEE Standards Seminars should be directed to Theresa Argiropoulos, (908) 562-3805.

CALENDAR OF EVENTS

January

18–20 **US TAG for ISO/IEC JTC1/SC22/WG13 meeting**
University of Georgia, Athens, GA
contact—T. Pittman, Acting Chair, US TAG for WG13, P.O. Box 7278, Spreckles, CA 93962; (408) 455-0422

31–Feb. 5 **Power Engineering Society Winter meeting**
Columbus, OH
contact—Tai C. Wong
(614) 223-2235

February

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

16–19 **Accredited Standards Committee on Electromagnetic Compatibility, C63**
Washington, DC
contact—Luigi Napoli
(908) 562-3812

18–19 **US TAG for ISO/IEC JTC1/SC7 meeting**
Boulder, CO
contact—Roger Fujii, Chair, US TAG for JTC1/SC7, Logicon, Inc., 222 West Sixth St., San Pedro, CA 90733; (310) 831-0611 ext. 2420

24–26 **International Solid State Circuits conference**
San Francisco
contact—Phyllis Lanz at (908) 562-3995 for more trade show information

March

8–12 **P802 (Local and Metropolitan Area Networks) Committee meeting**
(Computer Society)
Baltimore, MD
contact—Dawn Williams
(604) 931-7600

11–12 **Nuclear Power Engineering meeting** (Power Engineering Society)
San Diego, CA
contact—N. S. Porter
(509) 377-8740

16–17 **IEEE Standards Board Committee meetings**
Piscataway, NJ
contact—Terry deCourcelle
(908) 562-3807

18 **IEEE Standards Board meeting**
Piscataway, NJ
contact—Terry deCourcelle
(908) 562-3807

28–31 **Transformers Committee meeting** (Power Engineering Society)
Portland OR
contact—J. D. Borst
(314) 634-2111

April

4–7 **Insulated Conductors Committee meeting** (Power Engineering Society)
Birmingham, AL
contact—R. H. W. Watkins
(708) 677-2600

18, 22, and 23 **US TAG for ISO/IEC JTC1/SC22/WG15 meeting**
Irvine, CA
contact—Ralph Barker, Co-chair, US TAG for WG15, Uniforum, 2901 Tasman Dr., Suite 201, Santa Clara, CA 95054; (408) 986-8840 ext. 20

19–23 **Bus Architecture Standards Committee (BASC) meeting** (Computer Society)
St. Petersburg, FL
contact—Harrison Beasley
(214) 997-3431

19–23 **POSIX meeting** (Computer Society)
Irvine, CA
contact—Judy Williams
(415) 591-8995

26–30 **Surge Protective Devices Committee meeting** (Power Engineering Society)
Charleston, SC
contact—S. G. Whisenant
(704) 373-6608

27–29 **Electro**
Edison, NJ
contact—Phyllis Lanz at (908) 562-3995 for more trade show information

27–30 **International Conference on Acoustic Speech & Signal Processing** (ICASSP)
Minneapolis, MN
contact—Phyllis Lanz at (908) 562-3995 for more trade show information

May

3–5 **US TAG for ISO/IEC JTC1/SC7 meeting**
Pittsburgh, PA
contact—Roger Fujii, Chair, US TAG for JTC1/SC7, Logicon, Inc., 222 West Sixth St., San Pedro, CA 90733; (310) 831-0611 ext. 2420

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

June

15–16 **IEEE Standards Board Committee meetings**
Piscataway, NJ
contact—Terry deCourcelle
(908) 562-3807

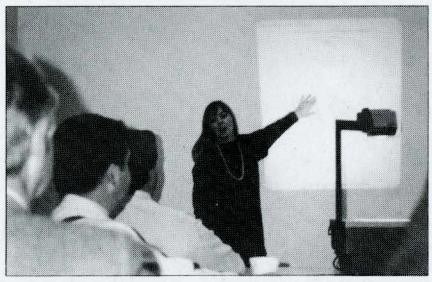
17 **IEEE Standards Board meeting**
Piscataway, NJ
contact—Terry deCourcelle
(908) 562-3807

17 **US TAG for ISO/IEC JTC1/SC26 meeting,**
Piscataway, NJ
contact—Clyde Camp, 2313 Merimac Drive, Plano, TX 75075; (214) 995-0407

Lessons in Leadership: *Standards Board Program Widely Presented*

From Seattle to Baltimore, and even in Tromsø, Norway, over 200 standards working group members have participated in the IEEE Standards Leadership Training Program. The program, which was designed to help make the efforts of standards writers more effective and to improve the efficiency of the standards-development process, was launched in June 1992 (see the July 1992 *IEEE Standards Bearer*). Since then, 11 sessions have been presented by IEEE Standards staff members. The response to these sessions has been very positive. "Many people tell me how helpful it was to get all this information and find out who the right contacts are," said Luigi Napoli, Standards Staff Engineer. "Even veteran standards developers are surprised by some of the things they learn in the sessions," said Karen DeChino, Director of Technical Programs in the Standards Department.

The sessions not only provided valuable information to participants, but also provoked discussions, debates, and questions that have brought out a number of issues related to the standards-development process and the quasi-legal environment of standards. Each group brought its own particular concerns to the sessions. Groups from



the Computer Society were frequently concerned with such issues as patents, liability, and the necessity of detailed record-keeping. The Engineering in Medicine and Biology (EMB)/Medix group, which held its June meeting in Norway and has broad representation from Europe, was strongly interested in IEEE's relationships with international standards bodies. Every group used the sessions to ask questions ranging from the principles of the standards-development process to the mechanisms for preparing drafts.

"Leadership Training ends up with a different 'hot issue' for each presentation," said Anne O'Neill, Standards Staff Engineer, who has presented the program five times. "The standards developers themselves have their own concerns that surface as soon as we begin talking about the five underlying principles of standards development: due process, openness, consensus, balance, and the right of appeal. New groups are interested to hear examples of existing groups' meeting procedures. Long-standing groups occasionally learn a new project management technique or practice that might help to resolve an existing sore point in their organization. Working group chairs and technical editors are often relieved to finally get the facts on a particular Standards Board requirement or office procedure that had previously been only a vague 'ought-to' in their minds."

The session is designed to take about two and a half hours, but the discussion and question-and-answer periods that follow often add more than an hour. Most people find this added time quite valuable. Sometimes, according to O'Neill, "the topics themselves prompt the sharing of advice among the standards developers." One participant at the July P802 meeting's session said, "It's worth the time just to hear how other people are handling the problems that we also have to face."

If you're interested in finding out how you can attend or arrange for your working group to host a Leadership Training seminar, call Karen DeChino, (908) 562-3802. ◆

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