IEEE STANDARDS BEARER

Vol. 11, No. 1 January 1997

CE-Marking—What It Means for Industry

by Karen McCabe in association with SWBC (Organization for the European Conformity of Products)

Since 1985, new rules—known as directives—relating to the free movement of industrial products have been developed in the European Union (EU). Current directives cover Low Voltage, Electromagnetic Compatibility (EMC) and Machinery. If products manufactured from outside the European Community (EC) comply with criteria from the relevant directives, this is indicated by CE-Marking. This identifying mark signifies that a product conforms with the set of requirements of the European directives. What's more, a product bearing the CE-Mark can be traded in every country of the European Economic Area (EEA).

Covering a wide range of products, including industrial machines and electrical tools, the CE-Marking directives contain requirements concerning health, safety and environment and consumer protection. Within the next few years, it is estimated than nearly 40% of products traded in the EU must comply with the CE-Marking. Products that do not comply with the requirements will not carry the CE-Marking and, in turn, can't be placed in the EEA. Further, even if a product complies with the directives, but the manufacturer did not obtain the actual CE-Marking, these products will not be allowed in the European market.

In order to receive the CE-Marking, products have to be tested by either the producer or by the appointed testing institute. A manufacturer of products with low risk factor can prove his or her product is safe by self-testing—called "internal manufacturing inspection." A manufacturer meets his or her responsibility by drawing up a "declaration of conformity" and affixing the CE-Marking to the product. Products with a greater risk factor or products that are not produced according to the technical standards have to be audited by a "notified body," which is an external inspection institute. A notified body is appointed by the national governments and approved by the EC. The EMC directive is an exception to this. Within the framework of the EMC directive, the external inspection body is called a "competent body." A competent body does not audit, it conducts tests. Only when the manufacturer has the requisite certificate of the external inspection institute may the CE-Marking be affixed.

In order to indicate how manufacturers can comply with the directives, standards have been or are being developed at the European level. This is carried out by the European normalization organizations Comité Européen de Normalisation Electrotechnique (CENELEC) for electric products, the European Telecommunications Standards Institute (ETSI) for telecommunication and information technology, and Comité Européen de Normalisation (CEN) for other products in cooperation with the normalization organizations at the national level. The standards include technical specifications for the development and production of products and they are an elaboration on the essential requirements in the directives. The European directives set down what a product must comply with, while the technical standards describe how that result could be achieved.

In many cases, more than one directive can apply to a product. For example, for many pieces of cleaning machinery the Machinery Directive, as well as the EMC

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SPAsystem® At Work

by Jay Iorio

Central to the IEEE's ongoing commitment to raise the quality of services for volunteers and customers is the computerization of the standards-development process. For several years now, IEEE Standards has been leading the effort to bring computing and networking technologies to bear on the complex flow of information involved in developing a standard and getting it out to the people who need it.

This multifaceted effort, long called the Standards Process Automation System (SPAsystem®), is increasingly seen as less of a discrete project and more of the way IEEE Standards does business. The goal is to make the technology—as well as the computer staff itself—as transparent as possible, leaving issues of content to the appropriate staff and volunteer "owners" and ultimately making the increasingly complex web of equipment and software invisible to the participants in what is, when all is said and done, a quintessentially human activity of collaboration.

Perhaps it is natural for people to view computerization of standards development in terms of electronic delivery of standards to end-users. In fact, this would be one of the most useful results of such an effort. But IEEE Standards has been working under the assumption that the delivery of useful electronic information is really a byproduct of a truly computerized system. To put it simply, information should be created and processed in a way that is consonant with the intended use of the information; working in the other

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MESSAGE FROM THE CHAIR

by Donald Loughry

IEEE Standards: History in the Making

It is risky to make predictions, yet without risking something we are not likely to accomplish worthwhile objectives. There were three events his past year that contain elements of risk, yet signal key milestones for IEEE Standards Activities. First, as reported in the *Standards Bearer* throughout 1996, much emphasis and dedicated energy has been applied to the emerging IEEE Standards Association (IEEE-SA), an entity aimed at better serving standards interests throughout industry, government, and the public arenas. At the December Board of Directors meeting, both the Institute's enabling bylaws for the IEEE-SA and the initial IEEE-SA Bylaws themselves were approved with implementation targeted for January 1998. This date, a year away, will enable us to refine and complete the December 1996 Version of the Bylaws before actually putting them to full use.

I would like to express my appreciation to the Standards Board, staff members, and all those who have contributed to this milestone for their dedicated support of the Standards Board 21 (IEEE-SA) new venture. We now have the opportunity to resolve the open questions related to such matters as fees and constituency, and complete our plans in an orderly fashion. It is appropriate to underscore the view that the IEEE-SA is intended to enhance and complement the more operational mission and focus of today's Standards Board.

Another milestone centers on our efforts at evolving from the pilot phase of our SPAsystem® in 1996 toward a real production service for Standards Activities in 1997. We are one step closer to the primary goal of bringing to our standards development programs greater efficiency, productivity and timelines in the months and years ahead. Hopefully, this will eventually result in some added strategic services for the Institute as well. A third major program came on line in 1996 to support the Intelligent Transportation System (ITS) and represents a new and exciting mode of IEEE involvement in standards development. IEEE's Standard Coordinating Committee 32 is playing a leading role in this activity. The pioneering efforts of John May are beginning to come to fruition. This is a program that will merit further attention, recognition and nurture in 1997. There are additional programs and activities of importance to be mentioned in future issues of the *Standards Bearer*.

Historians note that "history is relentless; it has no present, only the past rushing into the future." As so it is in our Standards Activities—no time to rest on our laurels, only the opportunity to go the next mile and build a better future. Speaking of the future, there is widespread interest throughout the Institute to focus on meaningful products and services that facilitate volunteer and staff activities alike and serve the IEEE's diverse customer base. As we move into 1997 let us all—volunteers and staff—focus on the question, "What value does each specific program, product, or service bring to the customers of that particular program, product, or service?" If we can think and act in value-oriented terms, then our collective sets of customers, internal and external, will come to appreciate more fully the benefits of our endeavors. ◆

EDITOR'S NOTES

Happy New Year! We look forward to another year of keeping you informed about what's going on in the IEEE Standards arena. In 1997 we will be including a few new features in the *Standards Bearer*. These include a specially designated column for Standards Board announcements; an "FYI" column where you will find information on IEEE and outside standards developing organizations' resources; and the "Standards Corner" where we will provide detailed information about highlighted standards products. In future issues, we plan on expanding the "Standards Profile" column to encompass not only individuals involved in standards development but also standards-developing groups and specific standards projects.

Thanks to all of you who responded to the "Is the Right Word Getting Out" survey in the October 1996 issue. We are in the midst of tallying up the responses and will provide a detailed report and what actions we may take in the next issue. Early responses seem to indicate that you would like to see included in the *Standards Bearer* additional information or articles that are industry-related.

On this note, we hope you find "CE-Marking: What This Means for Industry" helpful. In short, if you are a manufacturer exporting products to the European market you'll need to know how CE-Marking will affect you. The article provides an overview of CE-Marking and how it may impact your business.

"SPAsystem® At Work," by Jay Iorio, updates you on what IEEE Standards Staff has been working on for SPAsystem® (Standards Process Automation System) and what services working groups are using and why. In future issues we plan on highlighting specific working groups and how they are using the SPAsystem® to develop their standards.

The development of IEEE standards for Intelligent Transportation Systems (ITS) moved into high gear at the end of 1996 when manufacturers and users met at the IEEE Operations Center in Piscataway, NJ to begin work on three ITS standards. Please see the complete article on page 3 for details.

And on a closing note, we're proud to announce the availability of the *1997 National Electrical Safety Code* in electronic form. (See back cover for details).

The next issue of the *IEEE Standards Bearer,* coming out in April, will include all the highlights of the March Standards Board meetings. Enjoy the issue! ◆

BOARD ACTIONS NEWS FLASH

Reported by Karen Rupp, IEEE SemCom Committee

The IEEE Standards Board meeting took place in Marco Island, FL U.S. during the week of 8 December 1996. The following highlights some noteworthy actions and events:

The Standards Board approved in principle a policy for IEEE Sponsored Standards Seminars. The policy will be forwarded to the Procedures Committee (ProCom) for incorporation into the Operations Manual. This policy will allow sponsoring groups who desire to use the IEEE banner for their seminars to develop and conduct seminars on existing or draft IEEE standards.

The Standards Board approved the formation of a new Standards Coordinating Committee (SCC) for Complex Systems. In addition, the Board approved in principle an SCC for Utility Communications Architecture. A revised proposal for this SCC will be brought forward for approval at the March 1997 Standards Board meeting, held in Piscataway, NJ.

Several new Bylaw and Operations Manual changes were approved and will be available for distribution in early February 1997. The updated information is available on the IEEE Standards Web site at: http://standards.ieee.org/development/index.html. ◆

STANDARD 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; **Editor-in-Chief,** Karen McCabe; **Design,** Esaleta Corbin; **Contributor,** Bruce Barrow. 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.

Intelligent Transportation Systems Standards Move Into Fast Lane

The development of IEEE standards for Intelligent Transportation Systems (ITS) moved into high gear in November 1996 when manufacturers and users met at the IEEE Operations Center in New Jersey, U.S., to begin work on three ITS standards. The meetings officially launched a program to accelerate the development of consensus ITS standards for a range of technologies and to ensure that critical ITS interfaces and processes can be implemented easily on toll roads and bridges throughout the U.S. The program is supported by a cooperative agreement with the U.S. Department of Transportation Federal Highway Administration (FHWA).

More than 60 people from the United States and Canada attended the workshop as standards-development group participants. They represented such companies as BellCore, Lockheed Martin, Mitretek and Motorola and numerous user organizations including the EZ Pass Interagency Group and California, Florida, Massachusetts, New Jersey and New York State transportation departments.

When completed, the new standards will aid in standardizing message sets for dedicated short-range communications for electronic toll and traffic management (ETTM) and commercial vehicle operations (CVO). The standards will cover message sets for dedicated short-range communications (IEEE P1455), a template for ITS message sets (IEEE P1488) and ITS data dictionaries (IEEE P1489). Charles Herget, IEEE Project Manager, noted these projects are on very aggressive schedules in accordance with the agreement with FHWA. "The groups will meet again in late January and early February. We expect to have draft standards for all three by early August 1997. That is less than half the usual time frame," he said.

The standards will be the first to be developed under the FHWA's five-year award to the Institute. The IEEE invites manufacturers and public sector entities interested in participating in these or future ITS working groups to contact Rosemary Tennis at 1.908.562.3899, or send e-mail to r.tennis@ieee.org.

At the December 1996 Standards Board meeting in Marco Island, FL, Ivor Knight, ITS Program Manager, reported on the current status of the cooperative agreement with the Federal Highway Administration. Three projects plans have been funded and are underway while two additional plans have been submitted:

1. Message Sets for Dedicated Short Range Communications: Electronic Toll and Traffic Management and Commercial Vehicle Operations
2. Survey of Needs of the ITS Short Range and Wide Area Wireless and Wireline Communications
3. Recommended Practice and Umbrella Standard for ITS Data Dictionaries and Template for ITS Message Sets
4. Message Sets for Incident Management: Emergency Management Subsystem to Traffic Management Subsystem and Emergency Telephone System
5. Message Sets for Dedicated Short Range Communications: Automatic Vehicle Identification (a supplement to the first funded project)

Information regarding all SCC32 activities is available at their home page on the IEEE Standards Web sits at: http://standards.ieee.org/group/scc32. ◆

SPAsystem®

(Continued from cover page)

direction—i.e., creating useful electronic products while the creation and processing of the underlying information remain geared toward typesetting and book production—runs headlong into a host of problems, notably including economic unfeasibility.

Therefore, the majority of staff effort over the past year has involved two areas: (1) providing Internet services to working groups, and (2) redesigning the system by which information is processed internally. Ideally, the second area will remain transparent to the authors, while the first area will be for many working group members their major interaction with the IEEE.

There are currently about 175 standards groups using our Internet services. The most popular services are e-mail reflectors, which groups use for announcements, hashing out ideas, and general communication; public and private ftp sites, essential for the constant exchange of files involved in collaborative work; and private and public World Wide Web sites, which we host for an increasing number of groups.

One of the long-term goals of this project has been to create a generic, standards-based system that could easily be adopted by other standards-developing organizations (SDOs). We are concerned that if individual SDOs were to develop systems that were mutually incompatible, the end-users would be worse off than if no computers were used at all. IEEE Standards wants to dissolve the boundaries among the various international SDOs so that users can have a generic window into everything that is going on. Our original thought was that by adhering to a minimum set of design specifications, any SDO (or other content provider) could integrate with the others, creating in effect a distributed network of dynamic standards-related information and standards documents.

We are putting some of these principles into motion with the Intelligent Transportation Systems (ITS) project, a complex effort that involves several SDOs and Federal government agencies. The ITS has agreed to use IEEE Standards computing facilities to help write and distribute a collection of more than 50 standards over the next few years. Some of these will become IEEE standards, while others fall under the aegis of other organizations.

In an important sense, the ITS project is the wave of the future, dissolving the barriers that divide SDOs and ultimately providing end-users with a view of information oriented toward content rather than toward the organization that published the information. This lays the groundwork for cross-SDO collaboration in the future, as well as for innovative subject-oriented cross-SDO purchasing plans and subscriptions for customers. Much of our system will change over the next year in response to the needs of the various working groups that constitute the ITS effort.

Also working in the IEEE system is the LAN/MAN Standards Committee (LMSC), which coordinates the various working groups involved in the "802" series of IEEE network standards. These groups, which define the crucial standards around which our systems (and virtually everybody else's) are based, have generously agreed to serve as an ongoing "beta-test" group. These volunteers, who are technically sophisticated and responsible for a large and important body of information, will begin in 1997 to be offered preliminary services intended for later release to customers. The hope is that the IEEE system will benefit from their critiques and incorporate their suggestions regarding searching capabilities, interrelationship of documents, and services provided to working groups.

We encourage new groups to work with us and make use of our facilities; their continuing input improves our services. In a system whose goal is to enhance the collaborative experience, we think it is appropriate to view our users as collaborators with staff. ◆

CE- Marking *(Continued from page 1)*

directive may apply. Generally, if a product could cause various types of risks, then more than one directive is applied.

Impact

The CE-Mark can have the greatest impact for companies in trade and industry. Manufacturers in the U.S. are confronted with new health and safety criteria for which they are now accountable. The same applies to U.S. companies with subsidiaries in Europe or that have their products assembled in Europe. As noted, before the CE-Marking can be affixed to a product, it must comply or be made to comply with the essential requirements of the applicable directive(s). The associated formalities then have to be carried out. In order to comply efficiently with the obligations of the CE-Marking, companies will have to develop a system for product requirements and documentation.

European unification has reshaped the European market, and this can considerably strengthen the export relationship between the U.S. and the countries of the EEA. Companies in the U.S. that take action in affixing the CE-Marking to their products are more likely ensured a better competitive advantage. ◆

The 18 countries of the EEA are: Austria Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom.

IEEE STANDARDS BOARD

ACTIONS

10 December 1996 **Marco Island, Florida**

APPROVED PARs FOR NEW STANDARDS

P1073.1.3.4 (EMB/MIB) Standard for Medical Device Communications—Medical Device Data Language (MDDL)—Virtual Medical Device, Specialized—Pulse Oximeter

P1073.1.4 (EMB/MIB) Standard for Medical Device Communications—Medical Device Data Language (MDDL)—Kernel Data Format

P1244.7 (C/SS) Standard for Medium Changer Service (MCS) API

P1420.1b (C/SE) Standard for Information Technology—Software Reuse—Data Model for Reuse Library Interoperability: Intellectual Property Rights Framework

P1448.2 (C/SE) Guide for Information Technology—Software Life Cycle Processes—Implementation Considerations

P1475 (VT) Standard for the Functioning of and Interfaces Among Propulsion, Friction Brake and Train—Borne Master Control on Rail Rapid Transit Vehicles

P1491 (SCC29) Guide for the Selection and Use of Battery Monitoring Equipment in Stationary Applications

P1492 (PE/WG) Guide for Synthetic Capacitive Current Switching Tests of AC High Voltage Circuit Breakers

P1493 (PE/IC) Guide for the Evaluation of Solvents Used for Cleaning Electrical Cables and Accessories

P1494 (C/PA) Guide for National Profiles and Locales

P1495 (PE/T&D) Standard for Harmonic Limits for Single-Phase Equipment

PC135.11 (PE/T&D) Standard for Zinc-Coated Ferrous Guy Attachments, Wrap and Wire Hooks, Guy Strain Plates and Pole Eye Plates

PC135.62 (PE/T&D) Standard for Zinc-Coated Forced Anchor Shackles

REVISED PARs

P299 (EMC/SC) Standard Method of Measuring the Effectiveness of Electromagnetic Shielding Enclosures

P802.4h (C/LM) Token Passing Bus Access Method and Physical Layer Specifications—Alternative Use of BNC-connectors and Manchester Encoded Signaling Methods for Single Channel Bus Physical Layer Entities

P802.12a (C/LM) Standard for Information Technology—Local and Metropolitan Area Networks—Part 12: Demand-Priority Access Method, Physical Layer and Repeater Specifications: Supplement for Operation at Greater than 100 Mb/s

P802.12c (C/LM) Standard for Information Technology—Local and Metropolitan Area Networks—Part 12: Demand-Priority Access Method, Physical Layer and Repeater Specifications: Supplement for Full Duplex Operation

P839 (IA/EM) Guide for Testing Single-Phase and Polyphase Induction Motors for Use in Hermetic Compressors

P1003.1g (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX®) Part xx: Protocol Independent Interfaces (PII)

P1073.1 (EMB/MIB) Standard for Medical Device Communications—Medical Device Data Language (MDDL)—Overview and Framework

P1073.1.1 (EMB/MIB) Standard for Medical Device Communications—Medical device Data Language (MDDL)—Common Definitions

P1073.1.2 (EMB/MIB) Standard for Medical Device Communications—Medical Device Data Language (MDDL)—Virtual Medical Device, Generalized

P1073.1.3 (EMB/MIB) Standard for Medical Device Communications—Medical Device Data Language (MDDL)—Virtual Medical Device, Specialized

P1363 (C/MM) Standard for Public-Key Cryptography

P1386 (C/BA) Standard for a Common Mezzanine Card Family: CMC

P1386.1 (C/BA) Standard Physical and Environmental Layers for PCI Mezzanine Cards: PMC

P1448a (C/SE) Standard for Information Technology—Software Life Cycle Processes

P1448.1 (C/SE) Guide for Information Technology—Software Life Cycle Processes—Life Cycle Data

PARs FOR STANDARDS REVISIONS

P114 (IA/EM) Standard Test Procedure for Single-Phase Induction Motors

P181 (IM/WM&A) Standard on Transitions, Pulses, and Related Signals

P291 (AP/P) Standard Methods for Measuring Electromagnetic Field Strength of Sinusoidal Continuous Waves, 30 Hz to 30 GHz

P686 (AES/RS) Standard Radar Definitions

P802.3aa (C/LM) Standard for Information Technology—Local and Metropolitan Area Networks—Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications—100 BASE-T Maintenance Revision #1

P1074 (C/SE) Standard for Developing Software Life Cycle Processes

P1212 (C/MM) Standard Control and Status Register (CSR) Architecture for Microcomputer Buses

PC37.72 (PE/SWG) Standard for Manually-Operated Dead-Front Padmounted Switchgear with Load Interrupting Switches and Separable Connectors for Alternating-Current Systems

PC57.96 (PE/TR) Guide for Loading Dry Type Distribution and Power Transformers

PC57.100 (PE/TR) Standard Test Procedure for Thermal Evaluation of Liquid-Immersed Distribution and Power Transformers

PC57.104 (PE/TR) Guide for the Interpretation of Gases Generated in Oil-Immersed Transformers

PC62.36 (PE/SPD) Standard Test Methods for Surge Protectors Used in Low-Voltage Data, Communications and Signaling Circuits

WITHDRAWN PARs

P896.3a (C/BA) Recommended Practices for the Electrical Environment Within Backplane Transceiver Logic (BTL) Futurebus+® Systems

P1275.3 (C/BA) Standard for Boot (initialization, Configuration) Firmware—IEEE 1014 VME Bus

P1275.5 (C/BA) Standard for Boot (Initialization Configuration) Firmware—Supplement for 680X0 ISA

P1341 (C/BA) Recommended Practices for Multimedia Extensions to Bus Architectures

P1342 (C/BA) Guide for Bus Architecture Modeling for Standards Developers

P1356 (C/BA) Standard Profile for a Multiprotocol Plug-in Modules Supporting Asynchronous Transfer Mode (ATM)

P1371 (C/BA) Standard for Information Technology—Distributed Coherent Memory Architecture

P1386.2 (C/BA) Standard Physical and Environmental Layers for Sbus Mezzanine Cards: SMC

ADMINISTRATIVELY WITHDRAWN PARs

P802.6l (C/LM) Standard for Point-to-Point Interface for IEEE 802.6 Subnetwork of a Metropolitan Area Network

P802.6m (C/LM) Standard for a Subnetwork of a Metropolitan Area Network

P896.10 (C/BA) Standard for Futurebus+® Spaceborne Systems, Profile "S"

P993 (SCC20) Standard for Test Equipment Description Language (TEDL)

P1201.1 (C/PA) Standard for Information Technology—Uniform Application Program Interface—Graphical User Interfaces

ABBREVIATIONS

AES/RS	Aerospace and Electronic Systems/Radar Systems Panel
AP/P	Antennas and Propagation/Propagation
C/BA	Computer/Bus Architecture
C/LM	Computer/Local & Metropolitan Area Networks
C/MM	Computer/Microprocessors & Microcomputers
C/OD&MP	Computer/Optical Disk and Multimedia Platforms
C/PA	Computer/Portable Applications
C/SE	Computer/Software Engineering
C/SS	Computer/Storage Systems
COM/T&A	Communications/Transmission & Access
C/DIS	Computer/Distributed Interactive Simulation
EMB/MIB	Engineering in Medicine & Biology/Medical Interface Bus
EMC/SC	Electromagnetic Compatability/ Standards Committee
IA/IA&C	Industrial Applications/Automation and Control
IA/EM	Industrial Applications/Electric Machines
IA/PCI	Industrial Applications/Petroleum and Chemical
IM/WM&A	Instrumentation and Measurement/Waveform Measurement and Analysis
LEO	Lasers and Electro-optics
PE/ED&PG	Power Engineering/Energy Development & Power Generation
PE/IC	Power Engineering/Insulated Conductors
PE/NPE	Power Engineering/Nuclear Power Engineering
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
SCC10	Standards Coordinating Committee 10 (Terms and Definitions)
SCC20	Standards Coordinating Committee 20 (Abbreviated Test Language for All Systems)
SCC28	Standards Coordinating Committee 28 (Non-Ionizing Radiation)
SCC29	Standards Coordinating Committee 29 (Stationary Batteries)
VT	Vehicular Technology

P1244.1 (C/SS) Standard Object Identifier for Storage Systems

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

P1244.3 (C/SS) Standard Physical Volume Repository for Storage Systems (SSS.PVL)

P1244.4 (C/SS) Standard Data Mover for Storage Systems (SSS.PVL)

P1280 (C/OD&MP) Standard for Information Technology—Data Access Language for Full-Text Information Systems: Structured Full-Text Query Language (SFQL)

P1296.2 (C/MM) Standard for 20 MHz and Live Insertion Extensions to Multibus II

P1297 (C/SE) Recommended Practice for Information Technology—Software Reuse Process

P1314 (LEO) Standard Test Method for Measuring Astigmatic Length of Semiconductor Lasers

P1315 (LEO) Standard Test Method for Generating Far—Field Spacial Mode Distributors of Semiconductor Lasers, and Related Parameter Extraction Techniques

P1316 (LEO) Standard Test Method for Generating the Characteristic Optical Output Power as a LE Function of Input Drive Current for Semiconductor Lasers, and Related Parameter Extraction Techniques

P1317 (LEO) Standard Method for Measuring Feedback Noise in Semiconductor Lasers

P1320 (C/SE) Standard IDEF Interface Definition Language (IDL)—User Guide and Glossary

P1323 (C/SE) Standard for Information Technology—Reuse of Software Process Artifacts—Source Code Reuse

P1329 (COM/T&A) Standard Method for Measuring Transmission Performance of Hands-Free Contact Sets

P1396 (C/MM) Standard for Communication Bus (TELECOM Bus): Reference Models

ADOPTION COMPLETED

IEEE 1448-ISO/IEC 12207, International Standard, Information Technology—Software Life Cycle Processes

NEW STANDARDS

Note that some standards received conditional approval and are not considered approved until the specific conditions are met. In the past, these standards have been noted with an asterisk (*). Standards conditionally approved in December 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 1.800.678.IEEE (in the U.S. and Canada) or 1.908.981.0060.

1101.10-1996 (C/BA) Standard for Additional Mechanical Specifications for Microcomputers Using IEEE Std 1101.1 Equipment Practice
AD138-NZD • Price: $43.00 • IEEE Mbr: $34.00

1249-1996 (PE/ED&PG) Guide for Computer-Based Control Systems for Hydroelectric Plant Automation
AD139-NZD • Price: $47.00 • IEEE Mbr: $38.00

1278.3-1996 (CS/DIS) Recommended Practice for DIS—Exercise Management and Feedback
AD140-NZD • Price: $44.00 • IEEE Mbr: $35.00

1299/C62.22.1-1996 (PE/IC&PE/SPD) Guide for the Connection of Surge Arresters to Protect Insulated Shielded Electric Power Cable Systems
AD141-NZD • Price: $43.00 • IEEE Mbr: $34.00

1301.4-1996 (C/BA) Standard for Metric Equipment Practice for Microcomputers—Coordination Document for Mezzanine Cards
[AD142-NZD] • Price: $41.00 • IEEE Mbr: $33.00

1387.3-1996 (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX®) System Administration—Part 3: User and Group Account Administration
[AD143-NZD] • Price: $51.00 • IEEE Mbr: $41.00

1420.1a-1996 (C/SE) Guide for Information Technology—Software Reuse—Data Model for Reuse Library Interoperability: Asset Certification Framework
[AD136-NZD] • Price: $44.00 • IEEE Mbr: $35.00

1430-1996 (C/SE) Guide for Information Technology—Software Reuse—Concept of Operations for Interoperating Reuse Libraries
[AD144-NZD] • Price: $43.00 • IEEE Mbr: $34.00

1448a-1996 (C/SE) Standard for Information Technology—Software Cycle Processes (Supplement to P1448)

1460-1996 (SCC 28) Guide for the Measurement of Quasi-Static Magnetic and Electric Fields
[AD135-NZD] • Price: $42.00 • IEEE Mbr: $34.00

C62.34-1996 (PE/SPD) Standard for Performance of Low-Voltage Surge-Protective Devices (Secondary Arresters)
[AD148-NZD] • Price: $42.00 • IEEE Mbr: $34.00

REVISED STANDARDS

100 (SCC10) Standard Dictionary of Electrical and Electronics Terms

857-1996 (PE/SUB) Recommended Practice For Test Procedures for High Voltage Direct Current Thyristor Valves
[AD137-NZD] • Price: $43.00 • IEEE Mbr: $34.00

P951 (PE/T&D) Guide to the Assembly and Erection of Metal Transmission Structures

C37.2-1996 (PE/SUB) Standard Electrical Power System Device Function Numbers and Contact Designations
[AD145-NZD] • Price: $44.00 • IEEE Mbr: $35.00

C37.59-1996 (PE/SWG) Standard Requirements for Conversion of Power Switchgear Equipment
[AD146-NZD] • Price: $42.00 • IEEE Mbr: $34.00

C57.16-1996 (PE/TR) Standard Requirements, Terminology and Test Code for Dry-Type Air-Core Series Connected Reactors
[AD147-NZD] • Price: $50.00 • IEEE Mbr: $40.00

REAFFIRMATION

303-1991 (IA/PCI) IEEE Recommended Practice for Auxiliary Devices for Motors in Class I, Groups A,B,C, and D, Division 2 Locations

442-1981 (R1991) (PE/IC) Guide for Soil Thermal Resistivity Measurements

518-1982 (IA/IA&C) Guide for the Installation of Electrical Equipment to Minimize Electrical Noise Inputs to Controllers for External Sources

627-1980 (R1990) (PE/NPE) IEEE Standard for Design Qualification of Safety Systems Equipment Used in Nuclear Power Generating Stations

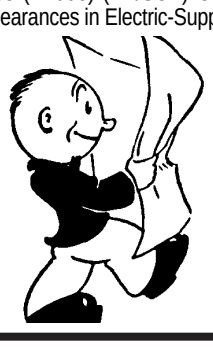
1202-1991 (IA/PSE) IEEE Standard for Flame Testing of Cables for Use in Cable Tray in Industrial and Commercial Occupancies

C37.18-1979 (R1991) (PE/SWG) IEEE Standard Enclosed Field Discharge Circuit Breakers for Rotating Electric Machinery

C37.26-1972 (R1990) (PE/SWG) IEEE Standard Guide for Methods of Power-Factor Measurement for Low-Voltage Inductive Test Circuits

WITHDRAWAL

1119-1988 (R1993) (PE/SUB) Guide for Fence Safety Clearances in Electric-Supply Stations



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Information Technology

802.3r-1996 Supplement to Information Technology—Local and Metropolitan Area Networks—Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications—Type 10BASE5 Medium Attachment Unit (MAU) Protocol Implementation Conformance Statements (PICS) Proforma (Subclause 8.8)
24 pages • [1-55937-760-7] • [SH94433-NZD]
$44.00 • IEEE Mbr: $30.80

896.4-1993 IEEE Standard for Conformance Test Requirements for Futurebus+® (ANSI)
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Communications

1027-1996 IEEE Standard Method for Measurement of the Magnetic Field in the Vicinity of a Contact Receiver
24 pages • [1-55937-851-4] • [SH94462-NZD]
$49.00 • IEEE Mbr: $34.30

Medical Device Communications

1073-1996 IEEE Standard for Medical Device Communications—Overview and Framework
32 pages • [1-55937-755-0] • [SH94429-NZD]
$52.00 • IEEE Mbr: $36.40

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739-1995 IEEE Recommended Practice for Energy Management in Industrial and Commercial Facilities (Bronze Book)
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848-1996 IEEE Standard for the Determination of the Ampacity Derating of Fire-Protected Cables
36 pages • [1-55937-780-1 • [SH94453-NZD]
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176 pages • [1-55937-768-2] • [SH94442-NZD]
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1107-1996 IEEE Recommended Practice for Thermal Evaluation of Sealed Insulation Systems for AC Electric Machinery Employing Random-Wound Stator Coils
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1260-1996 IEEE Guide on the Prediction, Measurement, and Analysis of AM Broadcast Re-Radiation by Power Lines
56 pages • [1-55937-722-4] • [SH94410-NZD]
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1290-1996 IEEE Guide for Motor Operated Valve (MOV) Motor Application, Protection, Control, and Testing in Nuclear Power Generating Stations
80 pages • [1-55937-752-6] • [SH94428-NZD]
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1313.1-1996 IEEE Standard for Insulation Coordination-Definitions, Principles, and Rules
20 pages • [1-55937-771-2] • [SH94445-NZD]
$50.00 • IEEE Mbr: $35.00

1325-1996 IEEE Recommended Practice for Reporting Field Failure Data for Power Circuit Breakers
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C37.20.4-1996 IEEE Trial Use Standard for Indoor AC Medium-Voltage Switches for Use in Metal-Enclosed Switchgear
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C37.37-1996 IEEE Loading Guide for AC High-Voltage Air Switches (in Excess of 1000 Volts)
24 pages • [1-55937-828-X] • [SH94455-NZD]
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C37.110-1996 IEEE Guide for the Application of Current Transformers Used for Protective Relaying Purposes
76 pages • [1-55937-829-8]• [SH94456-NZD]
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C57.12.35-1996 IEEE Standard for Bar Coding for Distribution Transformers
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C57.19.03-1996 IEEE Standard Requirements, Terminology, and Test Code for Bushings for DC Applications
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C136.2-1996 American National Standard for Roadway Lighting Equipment—Luminaires Voltage Classification
12 pages • [1-55937-779-8] • [SH94452-NZD]
$40.00 • IEEE Mbr: $28.00

Symbols, Designations & Units

260.4-1996 American National Standard Letter Symbols and Abbreviations for Quantities Used in Acoustics
72 pages • [1-55937-748-8] • [SH94423-NZD]
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Graphic Symbols Standards Collection, 1996 Edition
688 pages • [1-55937-836-0] • [SH94458-NZD]
$165.00 • IEEE Mbr: $140.00

A Lesson in Megabytes

by Bruce Barrow

Once upon a time, computer professionals noticed that 2·10 was very nearly equal to 1000 and started using the metric prefix "kilo" to mean 1024. That worked well enough for a decade or two because everybody who talked kilobytes knew that the term implied 1024 bytes. But, almost overnight, a much more numerous "everybody" bought computers, and the true computer professionals needed to talk to physicists and engineers and even to ordinary people, most of whom know that a kilometer is 1000 meters and a kilogram is 1000 grams. Then data storage for gigabytes, and even terabytes, became practical, and the storage devices were not constructed on binary trees, which meant that, for many practical purposes, binary arithmetic was less convenient than decimal arithmetic. The result is that today "everybody" does not "know" what a megabyte is. When discussing computer memory, most manufacturers use megabyte to mean 1 048 576 bytes, but the manufacturers of computer storage devices usually use the term to mean bytes. Some designers of local area networks have used megabit per second to mean 1 048 576 b/s, but all telecommunications engineers use it to mean 10·6 b/s. And if two definitions of the megabyte are not enough, a third megabyte of 1 024 000 bytes is the megabyte used to format the familiar 3-1/2 inch, "1.44 MB" diskette. The confusion is real, as is the potential for incompatibility in standards and in implemented systems.

Faced with this reality, the IEEE Standards Board decided that IEEE standards will use the conventional, internationally adopted, definitions of the metric prefixes. Mega will mean 1 000 000, except that the base-two definition may be used during an interim period if such usage is explicitly pointed out on a case-by-case basis.

Standards Coordinating Committee (SCC14) for Quantities, Units and Letter Symbols, has begun to work with the Computer Society, the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) to find acceptable names for prefixes that are related to powers of two. A proposal being circulated internationally would introduce the new prefixes kibi, mebi, gibi and tebi derived as short unions of the metric prefixes with the word "binary." The proposed new prefix symbols are Ki, Mi, Gi and Ti. Thus we would have a gibibyte of 2·30 bytes and a gigabyte of 10·9 bytes, and the 3-1/2 inch diskette would be formatted for 1440 KiB. (The 3-1/2 inch diskette is really, truly a mm diskette, but that is a question for another day.)

PES METRICS FOR INTERNATIONAL COOPERATION

by Anne O'Neill

In a 1994 white paper, "Vision for the Future," the Power Engineering Society (PES) Standards Coordinators called on PES to shed its image as a developer of standards for the U.S. market only. The paper urged not only that we establish linkages with international standards bodies such as the International Electrotechnical Commission (IEC), but also that the standards we develop be of such a caliber that other organizations would actively seek to adopt them. The "Vision for the Future" called for evolutionary, not revolutionary, change. It recognized that the best way to enter complex relationships and make appropriate organizational investments was to select a few specific and measurable goals for each year and work to achieve them.

For the second year in a row, the PES Standards Coordinators have laid out a set of four measurable objectives that would advance the PES strategy of making itself a leader in the development of international standards. The goals for 1997 are stated below, with brief comments on their implementation following:

I. Each new or revised standard should identify related IEC standards.
II. When a new or revised standard is balloted, its relationship to any existing IEC standard should be described in the introduction.
III. Members already involved in other international standards bodies should be identified.
IV. PES standards that could be advanced in IEC should be identified.

Relationship of PES to IEC standards

If a PES standard is forwarded for adoption by international standards bodies, the first issue that will be raised is its relationship to existing international standards. But given the many priorities of working group chairs, it has not been easy to emphasize this new international focus. During 1997, we will examine whether these new goals—especially when added to all the existing requirements—place such a burden on volunteer standards developers that new sources of assistance are needed. One possibility is that the IEEE Standards Department staff include the new goals in the information packets that are mailed to working group chairs. Another is that these goals become a standard requirement for all IEEE standards and incorporated as part of the *Standards Board Operations Manual*.

Identify key leaders

By identifying experts active in the international standards process who are already in their midst, PES can call upon invaluable resources. So far IEC, U.S., and Canadian directories have been scoured to identify participants. One PES Technical Committee captures this information on their meeting registration form. PES working groups need to hear the up-to-date reports of these international experts on standards in process, so they can compare techniques, environments and justifications.

We have recently noticed improved representation of PES members on IEC working groups, in IEC officer appointments and on US Technical Advisory Groups (TAGs). In 1996 at least 10 new working group experts were appointed from PES through their member countries, five of these as convenors (working group chairs). Two PES members are newly appointed IEC Technical Committee officers: Joe Koepfinger of Surge-Protective Devices is now Secretary to IEC TC 37, and Dr. George Gela of Engineering in Safety, Maintenance and Operation of Lines (ESMOL) is Chair of TC 78 on Tools for Live Line Working. Although securing employer funding is still a challenge for many PES members, more and more employers are waking up to the importance of international standards and practices to build their own global supply network or market.

Also in 1996, the PES Transformers Committee substantially increased its membership on the U.S. TAG to IEC. The Insulated Conductors Committee is planning on doing the same as well. Of course, participation on a U.S. TAG is only a single step towards harmonization. Being on the U.S. TAG puts a PES technical expert in a position to keep up-to-date with IEC drafts and new projects. With a dedicated Technical Advisor (TA), the TAG can submit an IEEE document to the right group in a timely manner and have PES members nominated to participate in and chair IEC working groups.

Identify key standards

The final goal of identifying which PES standards are being adopted by others has a direct bearing on IEEE's interest in who is using our intellectual property. The Standards Department has recently set up a database to track submissions of all IEEE standards material into the development process of other international standards bodies such as IEC, the International Organization for Standardization (ISO) and Joint Technical Committee 1 (JTC 1). Thus far 14 published IEC standards have been identified that incorporate all or part of a PES standard. In addition, some 20 active IEC projects are being tracked that have made or may make use of PES material. When any submission of IEEE copyrighted material is made to another international body, PES experts must secure copyright permission from the Standards Department.

Finally, the continuing dialog on this international effort is leading to more networking among U.S. TAGs and convenors from PES. Two topics currently under examination are the different work cultures in IEEE and IEC, and effective techniques to disseminate PES standards for review by IEC member countries. During an open seminar at the Winter Power Meeting this February in New York, U.S. TAs and working group convenors will discuss practices and strategies to improve communication.

So by measuring the evolutionary progress of cooperation between international standards organizations, PES leaders are also learning from each other, exchanging strategies and adopting common solutions. These four metrics are steps in the right direction. The annual evaluation calibrates the standards coordinators' compass for the developing organizations map and reminds PES of the distance to go. ◆

ANNOUNCEMENTS

☛ We are pleased to announce that on 7 Nov 1996 Don Loughry was elected for a second term as Vice President of Standards Activities.

☛ IEEE US Activities Office provides the *IEEE USA 1996 Directory of Electrotechnology Consultants* to assist the Institute's self-employed U.S. members. Produced by IEEE-USA's Alliance for IEEE Consultants' Network (AICN), the publication lists approximately 350 consultants and their services alphabetically, by state and by category, with a listing of specialties. It also supplies readers with a roster of IEEE Consultants' Networks, providing contact information for local referrals, as well as for the national coordinating committees.

The 1996 Directory is available free by contacting IEEE-USA's William Anderson at 1.202.785.0017, ext. 330; fax 1.202.785.0835; or e-mail w.anderson@ieee.org.

Prospective clients can also access a database of consultants on IEEE-USA's World Wide Web site at www.ieee.org/consultants. Users can search the data by name, technical specialty and state.

☛ The *IEEE Standards Bearer* is now available as a text file via e-mail. If you would like to receive the *IEEE Standards Bearer* though your e-mail, e-mail us at 97stds-bearer@ieee.org.

☛ In the October 1996 issue of the *Standards Bearer* we included a survey to see "if the right word is getting out"—to hear from our readership if we are providing the information you want on technology and standards. Thank you for responding! We are in the midst of tallying up the survey. And in the April 1997 issue we will provide the results. ◆

IEEE Standards To Offer On-Line Subscriptions

Work is currently in progress that will provide on-line subscriptions to specific sets of IEEE standards publications. Planned to be launched by the third quarter of 1997, the subscriptions will provide standards in full-text format, searchable by keyword from text, subject and designation, or via the electronic table of contents. Each subscription will allow continuous access to the most current collection of standards chosen through a private password-protected area on the IEEE Standards Web site. All subscriptions will be available for stand-alone use and for multiple users.

Offering industry renowned standards used worldwide, services will include:

- Full Set Subscription
- Local and Metropolitan Area Networks
- Software Engineering
- Power and Energy

In order to meet users needs, we're interested in hearing from you what standards or groups of standards to which you would like to access. Please e-mail stds-stdbr@ieee.org or call 1.908.562.3823. ◆

CONGRATULATIONS

AWARDS SPOTLIGHT

George S. Wham Leadership Medal

(from the American National Standards Institute)

Awarded for long-term leadership and visionary qualities in support of the ANSI Federation.

Dennis Bodson

IEEE Standards Medallion

Awarded to IEEE Standards volunteers who have made outstanding and valuable contributions to the development of IEEE standards.

Richard J. Holleman

* * * * *

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

Stanley L. Ehrlich, Chair; *260.4-1996* American National Standard Letter Symbols and Abbreviations for Quantities Used in Acoustics

Carl E. Becker; Chair; *739-1995* IEEE Recommended Practice for Energy Management in Industrial and Commercial Facilities (Bronze Book)

Patricia Thaler, Chair; **Geoffrey O. Thompson,** Current Chair; **Imre Juhasz,** Chair, Conformance Task Force; **William Randle,** Task Force Editor; *802.3r-1996* Supplement to Information Technology—Local and Metropolitan Area Networks—Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications—Type 10BASE5 Medium Attachment Unit (MAU) Protocol Implementation Conformance Statements (PICS) Proforma (Section 8.8)

A. K. Gwal, Chair; **J. L. White, Jr.**, Vice Chair; *848-1996* IEEE Standard for the Determination of the Ampacity Derating of Fire-Protected Cables

Stephen J. Cecil, Chair; **Kim D. Burris,** Technical Editor: *896.4a-1995* IEEE Standard for Conformance Test Requirements for Futurebus+®—Errata, Corrections, and Clarifications

B. J. Wehling, Chair; *998-1996* IEEE Guide for Direct Lightning Stroke Shielding of Substations

John Bareham, Chair; **Glenn Hess**, Vice Chair and Technical Editor; *1027-1996* IEEE Standard Method for Measurement of the Magnetic Field in the Vicinity of a Contact Receiver

Robert J. Kenelly, Chair; *1073-1996* IEEE Standard for Medical Device Communications—Overview and Framework

Martin A. Zgraggen, Chair; *1107-1996* IEEE Recommended Practice for Thermal Evaluation of Sealed Insulation Systems for AC Electric Machinery Employing Random—Wound Stator Coils

Jay L. Chamberlin, Chair; **Steve Harrington,** Secretary; *1144-1996* IEEE Recommended Practice for Sizing of Industrial Nickel-Cadmium Batteries for Photovoltaic Systems

Donald J. Ranft, Chair; **John D. Kueck**, Vice-Chair; *1290-1996* IEEE Guide for Motor Operated Valve (MOV) Motor Application, Protection, Control, and Testing in Nuclear Power Generating Stations

George G. Karady, Chair; *1313.1-1996* IEEE Standard for Insulation Coordination-Definitions, Principles, and Rules

Pete W. Dwyer, Chair; *1325-1996* IEEE Recommended Practice for Reporting Field Failure Data for Power Circuit Breakers

Eldridge Byron, Chair; *C37.20.4-1996* IEEE Trial Use Standard for Indoor AC Medium-Voltage Switches for Use in Metal-Enclosed Switchgear

Alex Dixon, Chair; *C37.37-1996* IEEE Loading Guide for AC High-Voltage Air Switches (in Excess of 1000 Volts)

Mark Conroy, Chair; *C37.110-1996* IEEE Guide for the Application of Current Transformers Used for Protective Relaying Purposes

Ron Jordan, Co-Chair; **Ed Smith,** Co-Chair; *C57.12.35-1996* IEEE Standard for Bar Coding for Distribution Transformers

Olof Heyman, Chair; **Devki Sharma,** Secretary; *C57.19.03-1996* IEEE Standard Requirements, Terminology, and Test Code for Bushings for DC Applications

D. A. Gillies, Chair; **L. A. Tauber,** Secretary; *C57.93-1995* IEEE Guide for Installation of Liquid-Immersed Power Transformers

George Duve, Task Group Coordinator; *C136.2-1996,* American National Standard for Roadway Lighting Equipment-Luminaires Voltage Classification

Accolades for Volunteers

Awards are often one of the only devices we have for recognizing the efforts of our members who volunteer their time to develop standards. Standards volunteers traditionally work many endless hours in order to achieve the goal of a consensus standard. Those involved in the standards community recognize the unsung heroes who take on the challenge of persevering through the standards development process until they achieve their goal of publishing a new or revised standard.

Since standards are developed by volunteers, there is no monetary reward or payment. So how can we reward all the hard work, dedication, long hours and persistence? One way is through the IEEE Awards Programs. IEEE members and volunteers are eligible to receive special awards for technical excellence and for service to the Institute. Peer recognition is always a source of professional motivation and pride. Such awards also provide opportunities for corporate and public recognition.

The IEEE Board of Directors sponsors an award for technical and administrative leadership in the development of standards in the electrical and electronics field—the Charles Proteus Steinmetz Award. L. John Rankine was presented the 1997 Steinmetz at the December 1996 IEEE Standards Board meetings. Don Heirman, a co-recipient of the 1997 Steinmetz, will be presented with his award later this year. The Steinmetz is the highest honor that can be bestowed for standards activities participation in IEEE.

The Standards Board also has an Awards Program that offers various types of recognition. Whenever a standard is published, the key IEEE standards working group chair is presented with the IEEE Standards Working Group Plaque in recognition of his or her leadership and contributions toward the development and publication of IEEE standards.

The IEEE Standards Medallion is awarded to IEEE Standards volunteers who have made outstanding and valuable contributions to the development of IEEE standards. The Distinguished Service Award is given annually via peer nominations to members in recognition of superior service based on major contributions in standards work.

Please take a moment to think about your peers and colleagues and consider if their IEEE volunteer standards work and accomplishments should be acknowledged. If you're interested in nominating someone for an award or for more information, please contact Theresa Steenweg at 1.908.562.3836 or e-mail t.steenweg@ieee.org. ◆

Correction

In the October 1996 issue of the *IEEE Standards Bearer*, the Insulated Conductors Committee (ICC) of Power Engineering Society (PES) was erroneously listed as part of the Electromagnetic Compatibility Society (under April 1997 events). ICC is a committee of the PES.

John Rankine Receives 1997 Steinmetz Award

L John Rankine was presented the 1997 IEEE Charles Proteus Steinmetz Award at the IEEE United States Activities Reception during the IEEE Board of Directors Series of Meetings in Marco Island, FL on 8 December 1996.

Presented by Wallace S. Read, 1996 IEEE President, the Steinmetz Award is given annually to an individual for major contributions to the development of standards in the field of electrical and electronics engineering.

Mr. Rankine has over 40 years of international business executive experience in the fields of information technology, power systems, pulp and paper and textiles. In addition to his extensive involvement in information technology standardization, he has been a leader in the promulgation of policies on key issues such as liberalization of telecommunications, protection of personal privacy, preservation of freedom of international information flows, data security and encryption.

He is former chair of the American National Standards Institute and was the founding chair of the Joint Committee on Information Technology Standardization of the International Standard Organization (ISO) and the International Electrotechnic Commission.

Recently, Mr. Rankine has been active in assisting the immediate past and current IEEE Presidents in increasing IEEE's international stature for forming liaisons with key international bodies.

Mr. Rankine is a Senior Member of the IEEE. He is also a member of the Institute of Electrical Engineers, the American Association for the Advancement of Science, the New Academy of Sciences and the Engineering Council of the United Kingdom as a Chartered Engineer.

L. John Rankine received the B. Sc. Eng. and the MIEE, C. Eng. degrees from the University of Glasgow. He and his wife, J. Elaine Rankine M.A., reside in Westport, Connecticut, U.S. ◆

CALENDAR

OF EVENTS

March

3-14 **LAN MAN Standards Committee Meeting**
Sponsor: Computer Society
Irvine Marriott, Irvine, CA U.S.
contact—Classic Consulting 604-527.1045; Fax: 1. 604. 527. 1046
e-mail: 72630.107@compuserve.com

20 **IEEE Standards Board and Committee Meetings**
Piscataway NJ
contact—Terry deCourcelle
1.908.562.3807; fax: 1.908.562.1517
e.mail: t.decourcelle@ieee.org

April

13-18 **US TAG for ISO/IEC JTC1/SC22/WG15**
Jackson, WY U.S.
contac—R.L. Pritchard, TAG Administrator
1. 212. 517. 9446

16-18 **Accredited Standards Committee C63 Main Committee and Subcommittee Meetings**
San Diego, CA U.S.
contact—Rosemary Tennis
1. 908. 562. 3811
Fax: 1. 908. 562. 1571
e-mail: r.tennis@ieee.org

20-22 **Rural Electric Power Conference**
Minneapolis, MN U.S.
contact—Donald W. Cobb
1. 573. 681. 7515
Fax: 1. 573. 681. 7510

20-23 **PES Insulated Conductors Committee Meeting**
Scottsdale, AZ U.S.
contact—Matt Mashikian
University of Connecticut, U-1326
97 North Eagleville Road
Storrs, CT 06269-3136 U.S.
1.203.486.5298
Fax: 1.203.486.5916

28-May 1 **PES Surge Protective Devices Committee Meeting**
Myrtle Beach, SC U.S.
contact—R. Dick Odenberg
R. O. Associates, Ltd.
PO Box 300
Hayden Lake, ID U.S.
1. 208. 772. 9016
Fax: 1. 208. 772. 9016

28-May 1 **PES Switchgear Committee Meeting**
Williamsburg, VA
contact—Keith Gray
Joslyn High Voltage
400 East 116 Street
Cleveland, OH 44105 U.S.
1.216.271.6600, ext. 246
Fax: 1.216.341.3616
e-mail: k.gray@ieee.org

May

4-8 **Substations Committee Meeting**
Phoenix, AZ U.S.
Contact—Alan Kolar
Ohio Edison Co.
6 S. Main Street
Akron, OH 44308 U.S.
1.126.384.5552
Fax: 1.216.384.5791

5-7 **US TAG for ISO/IEC JTC1/SC**7
Location: to be determined
contact—Leonard Tripp, Chair,US TAG for SC7
1. 206. 662. 4437

12-15 **IAS Industrial and Commercial Power Systems Department Conference**
Philadelphia, PA U.S.
contact—Barry Hornberger
1. 215. 841. 4619

12-15 **PES Relay Committee Meeting**
Williamsburg, VA U.S.
526contact—J. C. Appleyard
1.608.643.3462
e-mail: j.appleyard@ieee.org

16 *Deadline for draft and PARSubmission for July Standards Board meeting*

IEC Houston '98

The IEC Council accepted the invitation of the U.S. National Committee (USNC) to hold its 1998 General Meeting from 12-23 October in Houston, TX, U.S.A at the George R. Brown Convention Center.

The meeting will be held in conjunction with the International Society for Measurement and Control.

For more information contact

Charles T. Zegers, Secretary USNC; American National Standards Institute (ANSI), 11 West 42nd Street, NY, NY 10036 U.S.; 1.212.642.4936; fax 1.212.398.0023; czegers@ansi.org

For the most up-to-date Calendar of Events check out our Web page at http://standards.ieee.org/announcements/events/events.html

For the most current information on Power Engineering Society meetings, please see the PES home page at http://www.ieee.org/power.html

Standards Corner

This is a new column that you will be seeing in the *Standards Bearer*. Here we will highlight new or revised standards products—providing detailed descriptions and ordering information.

Electronic NESC® on CD-ROM and Diskette

The National Electrical Safety Code® is now available in an electronic version—on CD-ROM or diskette. To meet specific system requirements, the 1997 NESC is both Microsoft Windows® 3.1 and Windows '95 compatible.

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SE100-NZD
Price: $135.00 • IEEE Mbr: $94.50

NESC on Diskette
SE101-NZD
Price: $135.00 • IEEE Mbr: $94.50

Coming April 1997

IEEE Standard Dictionary of Electrical and Electronics Terms (IEEE Std 100-1996)

The 1996 edition of this popular dictionary has been revised and expanded to include over 15 000 technical terms and definitions from every field of electrical, electronics and computer engineering used throughout industry today. This edition also contains detailed abstracts of IEEE standards—a wealth of useful information in one printed source!

For convenient reference, definitions are arranged alphabetically with all definitions augmented by a combination of indispensable information, including:

- Technical categories for each definition
- Variations in meanings among different technical specialties
- Cross-indexing to related works
- Key explanatory notes for further term clarification
- Source identification for terms

IEEE Std 100-1996
SH94459-NZD • 1-55937-833-6
Price: *Not available at press time*

IEEE Standards Projects and Products Report Available On-Line

To provide immediate access to current standards information, the IEEE Standards Projects and Products Report is now available on the IEEE Standards Web site.

The report contains a wealth of information about IEEE published standards, as well as standards projects under development, including:

- The full title of all active and published IEEE standards and standards projects
- IEEE Standards Board and American National Standards Institute approval dates
- Abstracts for all published standards
- Scope and purpose (overview) for projects under development.

A key feature of the on-line report is the ability for users to search by word or standard number. What's more, it will be updated monthly.

The URL is: http://standards.ieee.org/products/nsr/index.html.

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