IEEE
STANDARDS BEARER
IEEE STANDARDS
Vol. 9, No. 3
July 1995

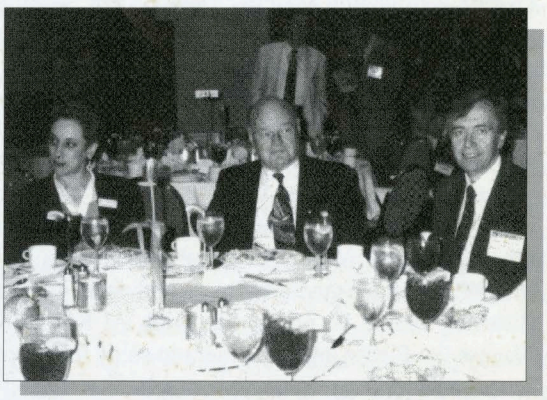
WHAT'S INSIDE.....

IEEE

IEC and IEEE Hold Joint Technical Meeting

by Anne O'Neill

The first week of May provided a groundbreaking opportunity for IEEE Power Engineering Society (PES) standards committees. On May 1, 1995, the first joint workshop on harmonization of standards was held between IEC's Switchgear and Controlgear Technical Committee (TC 17) and IEEE's Switchgear Committee. The workshop, which was organized and led by IEEE's John Brunke, Past Chairman of the Switchgear Committee, was part of a larger event initiated by IEC TC 17, that brought the IEC and IEEE groups together for a week of technical activities. IEEE's Substations Committee joined in with its technical force and met in parallel sessions as well. Thanks to the joint efforts of the official host NEMA (National Electrical Manufacturers Association) as well as EEI (Edison Electric Institute) and IEEE, a great deal was accomplished on all sides, with some notable actions taking place right at the outset of the meetings.



Standards Staff Director Judy Gorman, IEEE President-Elect Wallace Read, and President of PES Hans Weinrich

At the joint workshop, two key steps were taken to expedite harmonization between differing areas of IEC and IEEE standards: 1) the formation of a joint working group on high-voltage circuit breaker testing, and 2) the establishment of a joint task force on capacitor switching. Furthermore, Heinz Schramm, Chair of IEC SC 17A, proposed an official liaison relationship between the IEC Subcommittee (SC) on High-Voltage Switchgear and Controlgear and IEEE's Switchgear Committee. Liaison status in IEC would assure that IEEE receives all SC 17A papers distributed, and would allow IEEE representation at meetings and the right to introduce new work items. IEEE would not have the right to vote, as that continues to be done through member countries. This relationship is similar to recent cooperative work of TC 17 and UNIPEDE, a European-based utility trade association.

The workshop also included a summary report of a paper by Dr. Kirkland Smith that detailed the differences for Circuit Breaker Testing in IEEE C37.04, ANSI C37.06, IEEE C37.09, IEC 56, and IEC 694. The analysis included definitions, ratings terminology, service conditions, voltage and impulse test requirements, current requirements, capacitor and reactor switching, temperature rise limits, and mechanical endurance. Dr. Smith concluded that the standards are more in harmony for high-voltage breakers rated 100 kV and above than for medium-voltage breakers rated 72.5 kV and below. His paper will be revised to include proposals that bring the two standards together.

(Continued on page 10)

IEEE

Letter from the editor's desk

Dear Readers:

As this issue goes to print, the IEEE Standards Board is just dispersing after holding its quarterly meetings in Geneva, Switzerland. IEEE was honored with an invitation from the International Electrotechnical Commission (IEC) to meet there, in the spirit of mutual cooperation and in recognition of our many shared interests. We will provide a full report of the activities that took place in our next issue.

A clear example of our shared interests is provided by Anne O'Neill in her special report on the first joint workshop on harmonization of standards held between the Switchgear and Controlgear Committee (TC 17) of IEC and the Switchgear and Substations Committees of the IEEE Power Engineering Society. We hope to see other similar events set up as we reach out to form technical partnerships with other organizations. Many of our working groups are now aware of active projects with scopes similar to theirs in organizations including IEC, the Electronic Industries Association (EIA), and the American Society for Testing and Materials (ASTM), and, in some cases, are working with those organizations to develop or revise standards.

The philosophy of IEEE Standards has been to support such joint efforts. We believe in doing everything we can to eliminate barriers between organizations, and to encourage technical experts, regardless of their affiliation, to work together to promote technical harmonization. All along, this has been one of the primary goals of the Standards Process Automation System™ (SPAsystem™)—to facilitate the retrieval and exchange of technical information through an on-line access system, not just for IEEE members and customers, but also for standards developers and users from other organizations. In this issue, we describe the completion of the SPAsystem™'s first milestone. We also describe the Electronic Draft Distribution Plan, which explains how working groups can post their drafts for comment on-line today.

Finally, Al Kiener, our Vice President of Standards, introduces the proposed Organizational Improvement models for IEEE as a whole that are presented in this issue, beginning on page 6. While the same information appeared in last month's issue of THE INSTITUTE, the Standards Board Advisory Committee agreed that the Standards constituency should be notified as well. Al Kiener has called for your comments before August 1st. Please take a moment to study the proposals and send us your thoughts.

Regards,

Kristin Dittmann
Editor-in-Chief
k.dittmann@ieee.org
(908) 562-3830

Portable Applications Study Paper Available on FTP

The IEEE Standards Emerging Practices in Technology (EPT) program, whose mission is the broad dissemination of technical documents into the global standards community to serve as source documents for future consensus standards, has posted a paper on IEEE's FTP site as an experiment.

This paper, titled *Interface Requirements for Realtime Distributed Systems Communication*, is the first EPT to be made available on IEEE's FTP site. This evolving document addresses the need in the development of realtime distributed systems for a standardized application interface. It identifies a set of proposed requirements that are applicable to the realtime distributed systems domain.

This test project will enable IEEE to monitor the level of interest and the number of responses received in order to determine if this mode of dissemination is suitable for the EPT program.

What Are EPTs?

EPTs are papers that describe specific practices (new, emerging, or existing) in various areas of technology. In the past, EPTs have been made available only in printed form.

EPTs are *not* consensus documents, but are peer-reviewed by experts in relevant fields.

EPTs are applications-oriented and may have the potential for future standardization.

Potential Benefits of an EPT Paper

- Generates early inputs to the standards process
- Expedites standardization
- Increases the quality and credibility of the final standard

This paper is now available and can be accessed free of charge at /pub/ept/posix.21 via FTP at: stdsbbs.ieee.org (140.98.1.11).

STANDARDS BEARER

The IEEE Standards Bearer is published quarterly by the IEEE Standards Department. **Vice President of Standards,** E. G. "Al" Kiener; **Publisher,** Donald C. Fleckenstein; **Managing Director,** Andrew Salem; **Staff Director,** Judith Gorman; **Technical Program Director,** Karen DeChino; **Editor-in-Chief,** Kristin Dittmann; **Design/Production,** Esaleta Corbin; **Printing,** Karen McCabe; **Copy Editor (this issue),** Valerie Zelenty; **Contributor,** Barbara Coburn. 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.

SPAsystem™

Standards Process Automation System™

SPAsystem™ Brings Long-Awaited Support to Standards Developers

The first phase of the capability to develop and store standards in a way that exploits database management and communications technologies is now available to any IEEE Standards working group. Authors can create information using a style guide that generically defines each element and its relationship to other elements; standards developers can download and upload documents for access by anyone who has permission; and participants can use e-mail reflectors to expedite group communication. By creating standards as databases, IEEE will position itself to offer information in any form, at any time, and from anywhere.

Standards developed using these techniques will become part of a database of encoded contents that can be compiled and displayed for various "products" and uses, with links to related information (e.g., references, other sections, further details, figures and graphics, cross-references, etc.). Such built-in flexibility benefits both the information creator and user.

Furthermore, the SPAsystem has the potential to provide substantial savings to the standards-developing community, for the following reasons:

- It enables standards developers to work when and where they want rather than when meetings are scheduled. This will reduce travel, meeting, compilation, and reproduction expenses; increase international participation; and reduce development/revision time.
- It enables staff to publish documents quickly in multiple formats to meet a growing and diverse customer need for timely standards information.
- It facilitates revisions and reviews, as the base "document" is available for conversion into a preferred format.

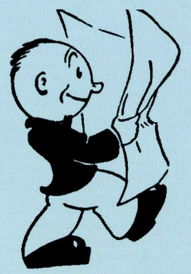
At the current time, the IEEE Standards activity has nearly 400 working groups collaboratively developing, reviewing, and revising standards projects. These groups vary in size from four to 200 or more participants who come from around the globe and represent a diverse group in terms of equipment and needs.

A broad range of communications and network services are available, including:

- Private and public bulletin board, FTP, and Gopher areas for file exchange
- Public World Wide Web areas
- E-mail aliases and reflectors
- Abstracts, project status, and official information regarding IEEE Standards activities

Eventually, working groups will be able to search a rich body of technical information to identify related material, status, contacts, and other administrative information.

Access is via modem and direct Internet connections to serve the widest possible user groups. Have your chairperson or liaison call your group's staff liaison today to request a SPAsystem Request for Services form so that you can begin to fit the SPAsystem into your standards future. Additional information is available by e-mail at stdsinfo@ieee.org. ◆



SPAsystem is a trademark of IEEE.

IEEE Standards Establishes Procedure for Electronic Distribution of Drafts

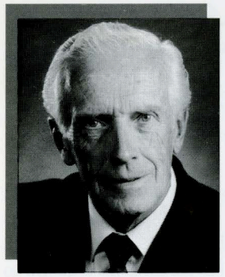
Now that many electronic technologies are available to make electronic distribution of documents possible, many IEEE working groups have expressed a desire to post their drafts on-line to facilitate draft development. Indeed, some groups have already done so, while others are waiting to post their standards on the Standards server via the SPAsystem™.

While IEEE must be vigilant in protecting the copyright and integrity of draft standards documents, Standards has recognized the validity—and urgency—of this need. In response, Standards has established a procedure that allows working groups to post their drafts on either the SPAsystem or other FTP sites. The procedure is as follows:

a) The working group should notify their staff liaison that they wish to post a draft. The liaison will provide a request for services form that the working group will submit to the SPAsystem staff. This will result in a mutually planned date for placing the draft on the IEEE Standards server. Until that date, working groups can post their drafts on an external site if they follow step b) below.
b) The working group will receive a special copyright statement to insert in the draft authorizing the posting. If at a non-IEEE site, posting on other FTP servers will not be allowed after the date of transfer.
c) Working group chairs are expected to control access to the document, giving passwords to contributing participants.
d) Once the sponsor ballot has begun, only posting with password protection will be allowed and only balloters will receive the password. Paper draft distribution will continue for non-balloters.

Future capabilities are expected to include an automatic tracking system, which would allow everyone who has accessed the draft to receive a notice when a revision is posted. Eventually, everyone will be able to purchase access to drafts.

Contact your staff liaison or Karen DeChino [(908) 562-3830 or k.dechino@ieee.org] for more details. ◆



Message From The Chair

by E. G. "Al" Kiener

I am sure many of you are aware by now of the major effort to improve the volunteer organization of the IEEE. This is a program that has been under way for several years. At the organizational retreats held in January this year, volunteers on all the major boards gathered together to develop specific scenarios for the reorganization of the IEEE. Seven proposed schemes were developed at this meeting, which were subsequently reduced to three that incorporated the best features of each. The three organizational structures are a "traditional" model, a "federation" model, and a "matrix" model. You will find explanations of these in the center pages of this special issue of the *IEEE Standards Bearer*. A fourth option would be to maintain the present organization.

I cannot overemphasize the importance of this effort to change (for the better, I hope) the organizational structure of the IEEE. If you have not already considered them, I ask you to study the options carefully, and evaluate the effect of these proposals on our organization as we know it today. The more of you that participate, the better it will be.

As readers of this newsletter, you are also likely to be IEEE members, so you may find yourself stuck between what looks best for the standards program and what looks best for other parts of the IEEE organization. Since most of you are also members of societies, you may have a great interest in what happens to the Technical Activities area as well as to Standards.

We're on a fast track to get the whole matter approved by the Board of Directors (BoD) at its last meeting in 1995. To accomplish this, all the major boards are being given the opportunity to comment on the three scenarios with a deadline of September 1st. The comments received will be considered by Organizational Improvement Task Forces, and revised proposals will be presented to the major boards in November.

Whatever way it goes, whatever scenario gains the most support, our goal must be to improve the Institute and make it much more member friendly, with vastly improved services.

The IEEE Standards Board, since its beginning in 1973, has evolved into a highly respected organization. We are one of the five major US-based voluntary standards-developing organizations that together produce 90% of the standards used by industry. We must be certain that, whatever organizational changes are made, they do not have a negative effect on the stature of the IEEE Standards organization in the eyes of other standards bodies, both here in the US and around the world.

Because of the tight schedule, we have mailed out this issue of the *IEEE Standards Bearer* a week early to be sure you have time to peruse the proposals and send us your comments if you wish. We ask that you do so by August 1st to ensure that the Standards Board Advisory Committee, which is developing a position paper from Standards, has time to consider them. Please fax Terry deCourcelle at (908) 562-1571 or e-mail her at t.decourcelle@ieee.org with your response. I urge all of you to seriously consider all the issues and communicate your thoughts to us. We will keep you posted on how any changes affect Standards Activities. ◆

Strategic Standardization— A Competitiveness Challenge for the 90's

The 1995 Department of Energy (DOE) Technical Standards Program Workshop will be held October 3–6, at the Adam's Mark Hotel in St. Louis, Mo. The theme of this year's workshop is "The Strategic Standardization Initiative—A Technology Exchange and Global Competitiveness Challenge for DOE." The workshop goal is to inform the technical standards community of strategic standardization activities taking place within the Department, and in other government agencies, standards-developing organizations, and industry. Individuals working on technical standards will be challenged to improve cooperation and communications with the involved organizations in response to the initiative.

Workshop sessions include presentations by representatives from various government agencies that focus on the coordination among, and participation of government personnel in the voluntary standards process; reports by standards organizations, industry, and DOE representatives on current technology exchange programs; and how the road ahead appears for information superhighway standardization. Another session highlights successful standardization case studies selected from several DOE sites. IEEE is a featured standards-developing organization, with representatives making presentations on three of the panel sessions (technology exchange programs, information superhighway standards, and standardization case studies).

Technical standards are used to transfer technology and standardize work processes to produce consistent, acceptable results. They provide a practical solution to the Department's challenge to protect the environment and the health and safety of the public and workers during all facility operations. Through standards, the technologies of industries and governments worldwide are available to DOE. The DOE Technical Standards Program, a Department-wide effort that crosscuts all organizations and disciplines, links the Department to those technologies.

This annual workshop has proved to be an effective medium for communicating information related to standards throughout the technical standards community. ◆

Contact Becky Harrell, Oak Ridge National Laboratory, at (615) 574-0396 for further details or registration information.

CONGRATULATIONS

Awards Spotlight

STANDARDS MEDALLION

James M. Daly received the Standards Medallion at the May Industrial & Commercial Power Systems (I&CPS) meeting in San Antonio, TX.

* * * * *

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

Kenneth J. Michel, Chair: *208-1995,* IEEE Standard on Video Techniques: Measurement of Resolution of Camera Systems, 1993 Techniques

Richard H. Arndt, Chair: *386-1995,* IEEE Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600 V

Robert R. Beavers, Chair: *450-1995,* IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications

Charles W. Grose, Chair: *516-1995,* IEEE Guide for Maintenance Methods on Energized Power Lines

Freny A. Katki, Leader, Computer Networking Subgroup: *610.7-1994,* IEEE Standard Glossary of Computer Networking Terminology

Narayanan Ramachandran, Current Chair; **Richard Churcher,** Former Chair; **Joseph Stanco,** Technical Editor: *716-1995,* IEEE Standard Test Language for All Systems—Common/Abbreviated Test Language for All Systems (C/ATLAS)

Peter Szabados, Chair: *765-1995,* IEEE Standard for Preferred Power Supply (PPS) for Nuclear Power Generating Stations

Michael S. Foster, Chair; **Ed Jacques,** Technical Editor: *896.9-1994,* IEEE Standard for Fault Tolerant Extensions to the Futurebus+™ Architecture

Norm Aaronson, Chair; **Jim Tanner,** Technical Editor: *1003.2d-1994,* IEEE Standard for Information Technology—Portable Operating System Interface (POSIX®)—Part 2: Shell and Utilities—Amendment 1: Batch Environment

Wayne Fischer, Chair; **Richard Spratt,** Vice Chair; **Mark Woodbury,** Editor: *1014.1-1994,* IEEE Standard for Futurebus+™/VME64 Bridge

Joseph H. Snow, Chair; **Michael L. Walker,** Vice Chair: *1142-1995,* IEEE Guide for the Design, Testing, and Application of Moisture-Impervious, Solid Dielectric, 5–35 kV Power Cable Using Metal-Plastic Laminates

Kenneth E. Bow, Chair: *1143-1994,* IEEE Guide on Shielding Practice for Low Voltage Cables

W. T. Rutledge, Chair; **C. H. Krieger,** Vice Chair: *1184-1994,* IEEE Guide for the Selection and Sizing of Batteries for Uninterruptible Power Systems

Daniel J. Ward, Chair: *1250-1995,* IEEE Guide for Service to Equipment Sensitive to Momentary Voltage Disturbances

Phillip W. Huelson, Chair; **David L. Weaver,** Editor: *1754-1994,* IEEE Standard for a 32-bit Microprocessor Architecture

G. L. Gaibrois, Chair; **Will Ossman** and **George Haralampu,** Past Chairs: *C62.23-1995,* IEEE Application Guide for Surge Protection of Electric Generating Plants

Joseph McDonald, Chair: *N42.20-1995,* American National Standard Performance Criteria for Active Personnel Radiation Monitors

Collections

James Harlow, Special Contributor: *Distribution, Power, and Regulating Transformers Standards Collection* (C57), 1995 Edition

John Appleyard, Special Contributor: *Protective Relaying Systems Standards Collection,* 1995 Edition

Keith B. Stump, Special Contributor: *Surge Protection Standards Collection* (C62), 1995 Edition

Standards Board, Educational Activities Join to Present Award

by Barbara Coburn

On March 16, 1995 a unique event took place at the Standards Board meeting held at the IEEE conference center in Piscataway, NJ. For the first time, the Educational Activities Board (EAB) collaborated with the Standards Board to honor an individual for promoting both IEEE standards efforts and educational activities.

Dr. Frank Mercede, currently at Widener University, developed an EAB Self-Study Course dealing with IEEE Std 141-1993, *IEEE Recommended Practice for Electric Power Distribution for Industrial Plants* (IEEE Red Book). This learning package, entitled *Fault Calculations for Industrial/Commercial Power Systems*, has been the best-selling course of its type ever published by the EAB.

In his presentation, Al Kiener, Vice President of Standards Activities, cited Mercede for "successfully promoting the use of IEEE standards in both continuing and undergraduate education." Mercede is currently working on another course entitled *Phase Overcurrent Protection and Coordination of Industrial/Commercial Power Systems*, which primarily focuses on IEEE Std 242-1986, the IEEE Buff Book. Members of the standards working groups have been instrumental in the review process for both of these projects.

This is part of an ongoing effort to apply EAB resources to the advancement of IEEE standards' use. An EAB/Standards Board working group was established in 1994 by IEEE President-Elect, Wally Read, who was then the Vice President of Standards Activities. According to EAB Vice President Kenneth Laker, "This group was charged with exploring ways that standards could be promulgated throughout the undergraduate learning experience."

The two boards will continue to cooperate in producing educational materials. Currently available is a course on Real-Time Systems that includes IEEE Std 830-1993, IEEE Recommended Practice for Software Requirements Specifications. Forthcoming this summer is a course dealing with the VHDL standards.

For more information on educational materials related to standards, contact Barbara Coburn, (908) 562-5498. ◆

Barbara Coburn is Career Development Manager for Continuing Education.

Building a Better IEEE

A process begun three years ago to build a better IEEE continues this month with the presentation to members of three alternative proposals to replace the current volunteer structure.

Organizational improvement is one of the five primary goals adopted in "Strategies for the Future." The three models presented here are all aimed at improving the Institute as a volunteer organization; the staff structure is to be addressed later.

Strategic planning and organization effort have involved scores of IEEE volunteers in meetings and retreats to identify the organization's strengths and weaknesses and to develop scenarios for change. There is broad agreement that the existing complex, hierarchical structure of boards and committees with overlapping responsibilities is not serving our 320 000 members as well as it could. Analyses cited inefficient operations and decision processes that make poor use of volunteers' time and talent, with little to show in improved services for members.

Fernando Aldana, chairman of the Strategic Planning Committee, said of the committee's role, "We simply managed the process. The problems and proposed solutions came from the broadest possible spectrum of members, each with their own hands-on view of today's IEEE."

After organizational problems had been identified by a retreat in Denver, Colo., USA last June, a task force named by the Strategic Planning Committee formulated a set of design specifications that could be used to develop a new organizational structure (see the Presidents' Column, THE INSTITUTE, January 1995). At a three-day retreat at Marco Island, Fla., USA (THE INSTITUTE, March 1995) volunteers in seven design teams, sought to develop a comprehensive response. Afterward, three separate task forces merged and fleshed out the skeleton proposals and developed the alternatives now being offered for further consideration.

The Strategic Planning Committee has now launched the next step, a broad outreach to IEEE societies, sections, boards, committees and individual members.

Fred Andrews, SPC vice chairman, said, "This is still a work in progress. Anything can happen, including staying with the present structure. Whatever structure is ultimately selected, you can be sure that the transition period will be determined by how radical the change will be."

Milestones in the Process

July 1992 — Squaw Creek retreat provides impetus for organizational improvement.

June 1994 — Denver retreat provides basis for design specifications leading to current plans.

Jan. 1995 — Marco Island retreat develops concepts for new organizational models.

May–June 1995 — Distribution of proposals to societies and sections.

June 1995 — Publication in THE INSTITUTE of proposed models.

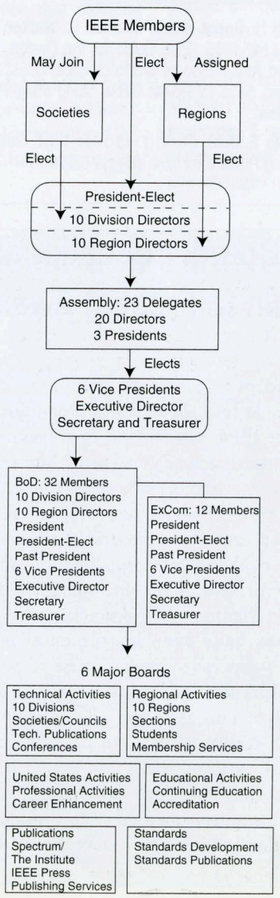
June 1995 — Presentation of proposals to major boards.

June–Sept. 1995 — Open comment period.

Nov. 1995 — Present revised proposals to major boards.

Dec. 1995 — Present revised proposals to Board of Directors

Current organization



What Do You Think?

The Organizational Improvement Executive Committee and Strategic Planning Committee are asking IEEE members to comment on these plans.

To obtain the full text of task force reports or to send comments, **write to:**
Henry Shein
IEEE Strategic Planning
P.O. Box 1331
445 Hoes Lane
Piscataway, NJ, USA 08855-1331

Fax to: 1 (908) 981-9515 to request a mailed copy.

E-mail: Send an e-mail message to info.oi.plans@ieee.org for an autoretrievable file.

To comment on these scenarios, send a message to reply.info.oi.plans@ieee.org

Anonymous FTP: FTP to ftp.ieee.org; login: anonymous; password: your e-mail address; directory: /info/corp; file: info.oi.plans.

Gopher: IEEE Gopher (gopher.ieee.org) THE INSTITUTE files; the pathway is through "Products/Services, and Information/Publishing Department."

WWW: The World Wide Web edition of THE INSTITUTE (http://www.ieee.org/ti.html) carries full texts of the reports.

You may also voice your opinions by completing and returning the survey on page 9.

Three Alternatives Described

Traditional Model

BY DONALD M. BOLLE
Vice Chair, Task Force 3

This proposal focuses on providing a volunteer structure that will meet the technical, professional and social needs of our members effectively and efficiently. In view of the members' diversity of interest and global distribution, it emphasizes decentralization and local decision making; seeks to empower the members and the volunteers by delegating the decision making to the level where programs are implemented; and recognizes the need to provide an environment in which there can be a sustained focus on providing support and service to members.

The Task Force 3 members are also persuaded, in putting forward this more traditional scenario, that organizational change is more effective in meeting strategic objectives when such change is evolutionary rather than revolutionary; where the best features of the current structure are retained and only those that have proven to be ineffective or unduly costly are eliminated or modified. Note that we do not propose any changes in the current structure or operations of societies and sections.

To increase effectiveness and reduce cost:

- The number of boards has been decreased;
- Board membership, where deemed appropriate, has been downsized;
- Support functions have been placed in a direct relationship to the activities they support, thus shortening the lines of communication and direction;
- Financial oversight and budgetary controls are simpler;
- Interaction between operational segments is improved.

The Task Force 3 proposal includes three operational boards; Technical, Geographic and Support Services. Each of the three boards would be chaired by a senior vice president, elected by the Assembly. In addition, a number of vice presidents elected by various interest clusters would provide further leadership and representation of their constituencies and activities on these boards. The Support Services Board differs in that its leadership is drawn from the Technical and Geographic Boards, thus ensuring integration of the support services with the operational activities of our Institute. The Institute Board of Directors consists of 16 elected members, four elected by the Technical Board, four elected by the Geographic Board and eight elected at large by the Institute members.

Federation Model

BY HENRY BACHMAN
Chair, Task Force 2

This is a member-driven federation model intended to provide local autonomy for member-based entities with minimal oversight. Its key features include:

- Federations of geographic and technical entities which may be joined by members at their option.
- General members will receive basic Institute-wide services for a "core" membership fee.
- A smaller Board of Directors with 12 at-large directors elected by members. The Board would set IEEE policy and elect vice presidents representing four major operational committees. It would be the ultimate body for conflict resolution among entities.
- A nine-member Executive Committee would implement policy, oversee staff operations and prepare budgets.
- A Congress, to include a representative from each technical and geographic entity, would meet annually to recommend policy and priorities for the IEEE; provide a forum for conflict resolution; and nominate candidates for the BoD. Voting by entity delegates would be proportional to entity membership.
- Operational committees for Standards, Career Enhancement, Products and Services and Global Membership that would provide services to the entities in an integrated way.

A key element of this plan is that IEEE members would pay a "core" fee for Institute-wide services, with the option of selecting services from geographic or technical entities at additional cost. This would serve to ensure that each entity offers and provides services consistent with the needs and desires of its constituent members. It will relieve the need for high general dues and the accompanying level of central control. It will contribute to the maintenance of a dynamic organization, responsive to members' needs and to changes in the environment.

Matrix Model

BY H. TROY NAGLE
Chair, Task Force 1

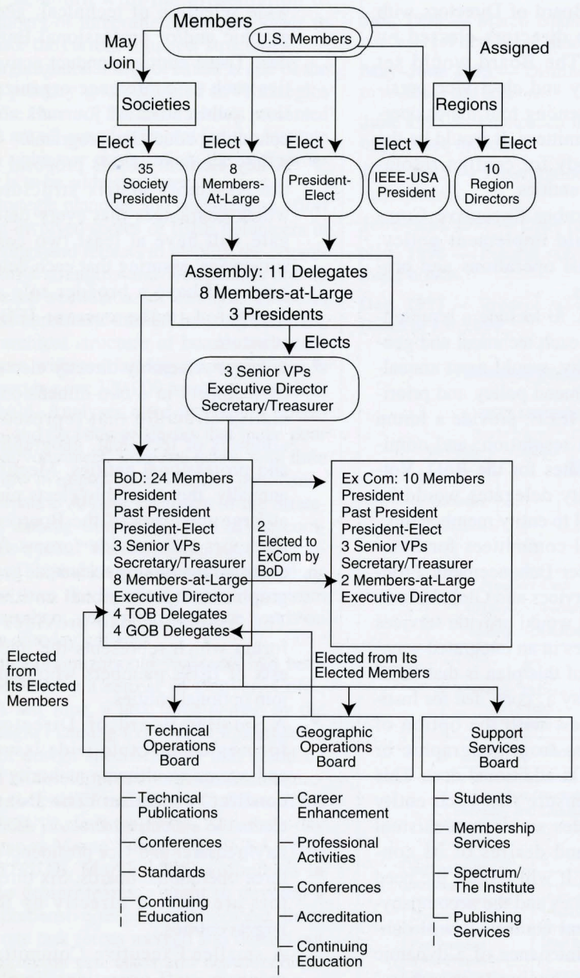
This proposal integrates elements of a federation model with a matrix structure with the goal of improving balance and equity in representation while strengthening ties to the membership. Authority and responsibility for all activities in this scheme are placed at the lowest possible level. As a result, the opportunities for volunteer initiatives and programs, appropriately supported by staff, are greatly increased. Among the plan's features are:

- Members have the option to join a wide selection of technical, geographic and/or professional Entities. These entities conduct activities such as conference organization, publication of journals and continuing education programs.
- A key element of this proposal is the Assembly matrix structure, which guarantees that every delegate will have at least two constituencies, assuring that each delegate will have a broader role as compared to the current IEEE structure.
- A larger Assembly directly elected by members in a two-dimensional matrix structure that represents alliances of technical, geographic and professional entities. Meeting annually, the Assembly elects nine at-large members of the Board of Directors and provide forums for coordination among technical, geographic and professional entities. The Assembly also provides a forum which represents the interests of IEEE members who don't join optional entities.
- A smaller Board of Directors focuses on Institute-wide issues and serves as ultimate authority in conflict resolution. The Board elects the executive director, secretary/treasurer and vice presidents of three operational boards. Six directors are elected directly by the largest entities.
- A smaller Executive Committee monitors staff operations, implements BoD projects and initiatives and coordinates committee activity, as well as prepares budgets.

Three operational boards (Standards; Member Activities & Services; Products & Services) have representatives elected by the four annual Assembly forums, assuring entity influence in all IEEE programs, products and services.

Organizational Improvement *(continued)*

Traditional model

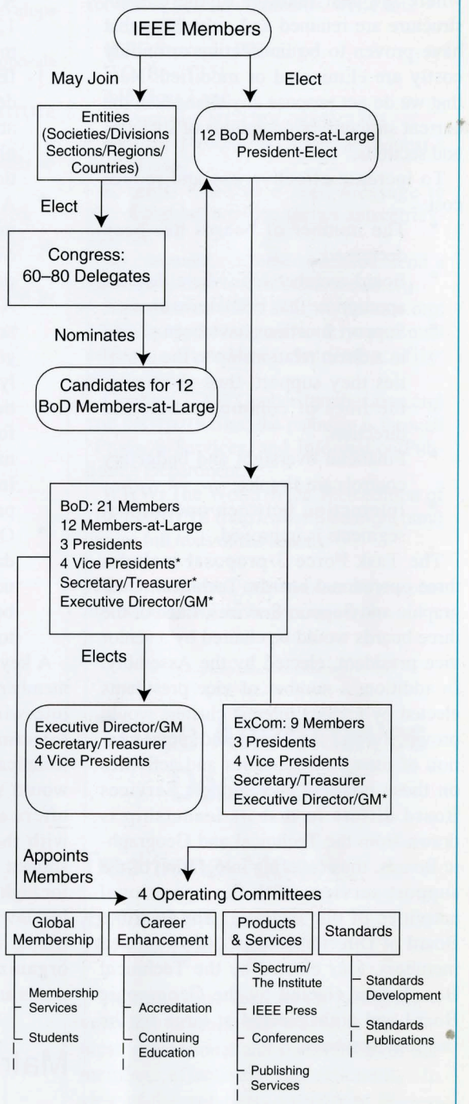


Note: BoD is Board of Directors: ExCom is Executive Committee; "3 Presidents" are President, President-Elect and Past President.

Functions described at the bottom of the charts are for example only; functions are described thoroughly in the full text of reports.

*non-voting member

Federation model



Notable: Entity Membership Optional

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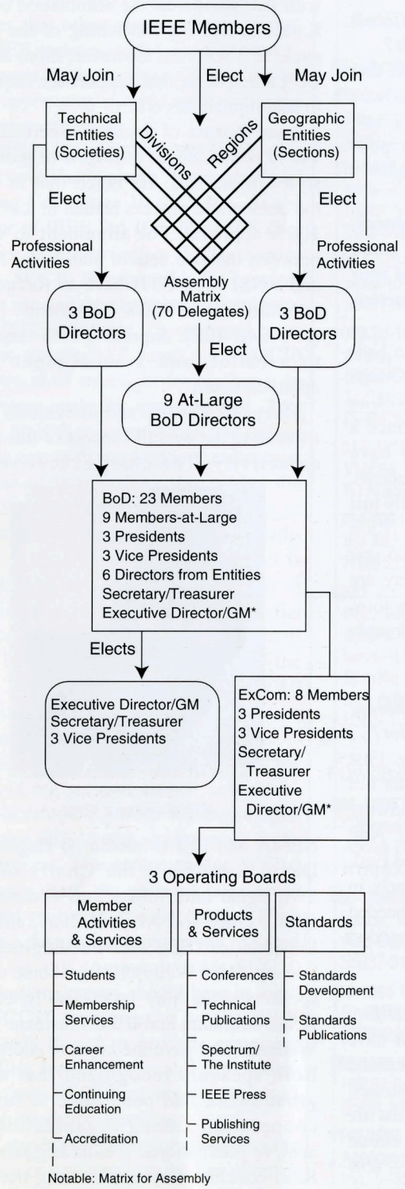
Matrix model



Notable: Matrix for Assembly

IEEE Organizational Improvement Survey

Please complete this survey (check one box for each answer) and mail to Henry Shein, IEEE Strategic Planning, P.O. Box 1331, 445 Hoes Lane, Piscataway, NJ, USA 08855-1331; or fax to 1-908-981-9515

1. In your opinion, is there a need to restructure/realign the governing and administrative functions of the volunteer side of the IEEE?
❒ Strongly agree ❒ Neutral ❒ Strongly disagree
❒ Agree ❒ Disagree ❒ Can't say

2. Do you feel the IEEE pays adequate attention to long-range/strategic matters?
At the IEEE level?
❒ No ❒ Yes ❒ Can't say
At the local level?
❒ No ❒ Yes ❒ Can't say

3. Is the decision-making process of IEEE cumbersome?
❒ No ❒ Yes ❒ Can't say

4. Does the present IEEE governance structure support the five following goals of the IEEE Strategic Plan?

A. Career Enhancement: "Empower IEEE members to realize lifelong careers in electrotechnology by providing a broad range of resources that will enable them to prosper and to develop and update their professional and technical competencies."
❒ Always ❒ Occasionally ❒ Never
❒ Often ❒ Seldom ❒ Can't say

B. Globalization: "Transform the IEEE into a truly global organization, characterized by decentralized volunteer and staff leadership working cooperatively around the world by collaborative relationships with national electrotechnology societies and through the active involvement of members in all areas of the world."
❒ Always ❒ Occasionally ❒ Never
❒ Often ❒ Seldom ❒ Can't say

C. Organizational Improvement: "Improve IEEE's organizational structure and business practices to take greatest advantage of available resources, encourage innovation, and ensure cost-effective responsiveness to member and customer needs; maintain a sound financial position that reduces the degree of reliance on member dues, ensures efficient management and use of financial resources, and supports the Institute's mission and strategic goals."
❒ Always ❒ Occasionally ❒ Never
❒ Often ❒ Seldom ❒ Can't say

D. Products and Services: "Move expediently to the electronic dissemination of existing IEEE products and services; systematically identify opportunities for expanding the product line to take full advantage of the electronic media, and broaden the markets for the Institute's products and services; achieve and maintain recognition of the IEEE as a leader in the timely generation and dissemination of global electrotechnology standards."
❒ Always ❒ Occasionally ❒ Never
❒ Often ❒ Seldom ❒ Can't say

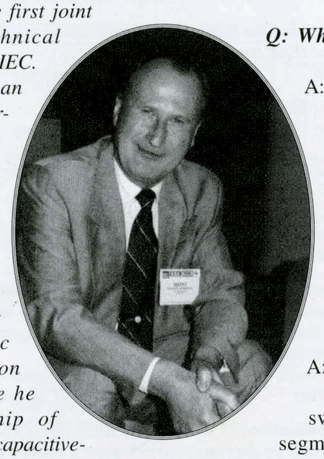
E. Public Responsibility: "Align IEEE initiatives with the public interest by advocating the application of electrotechnology to promote economic development and by increasing public awareness, acceptance, and appreciation of electrotechnology and its allied professions."
❒ Always ❒ Occasionally ❒ Never
❒ Often ❒ Seldom ❒ Can't say

5. Does the IEEE offer valuable services to our membership at equitable prices?
❒ Always ❒ Occasionally ❒ Never
❒ Often ❒ Seldom ❒ Can't say

6. Is the IEEE successful at meeting the full spectrum of member needs?
❒ Always ❒ Occasionally ❒ Never
❒ Often ❒ Seldom ❒ Can't say

STANDARDS Profile

Dr. Heinz Schramm, *chair of IEC TC 17 and SC 17A (see cover story), was instrumental in organizing the first joint workshop between technical committees of IEEE and IEC. Dr. Schramm has been an active participant in international standards-development work since 1976. In addition to his work in IEC, he is also a participant in CIGRE (the International Conference on High-Voltage Electric Systems), a worldwide organization of scientific research on transmission and distribution, where he holds the chairmanship of CIGRE committee 13 on capacitive-current switching.*



DR. HEINZ SCHRAMM

Q: What was the first standards project you worked on?

A: An IEC standard on high-voltage circuit breakers. That's always been my focus. Before I started, I used to say I wouldn't go into standards because I didn't want to be a lawyer. But once I started, I enjoyed it for two reasons—first, after a time you see that people all are interested in getting the work done. And second, the discussions are profound. I enjoy it.

Q: Do you advise others to join in standards participation?

A: I have advised others in my firm. I tell them it is interesting to be confronted with different ideas from people with other technical views. I'm in a position to send people from my firm. And the feedback is always positive from a standards meeting.

Q: Who should be developing standards?

A: Standards are better when people from design and development participate. Standards should serve both the user and the manufacturer. To serve them both you can't come to an agreement with competition; you have to agree on how to judge. You have to leave out company policy.

Q: What's the most difficult aspect of standards?

A: To convince people that they sometimes have to stand back and accept other people's opinions.

Q: Besides standards, what are some other areas of your professional activities?

A: I lecture at Berlin University on high-voltage switchgear. It's just one segment of the year, once a week. I usually have only 10 or 12 students. The exams are oral and are usually just an interesting conversation. It's a good chance to meet students so you can give advice. Currently, there are more engineering students than jobs, and some students are having trouble finding work.

Q: Have you been involved in retraining engineers from the Eastern sector?

A: Retraining doesn't really apply. East Germany had its own standards but for several years had been following western standards to keep up. And there are good universities in the East. We made contact with them early in the reunification. Maybe they needed some experience, but they are good at catching up.

Q: Tell me about your work in CIGRE.

A: Recent vendor and user contracts have been specifying more stringent criteria than before, for example, no re-strikes, and we have begun a worldwide inquiry on the topic. Formerly circuit breakers were examined annually; now maintenance is every 20 years, so testing requirements have become more severe. How severe do they need to be? That's what we're looking at. ◆

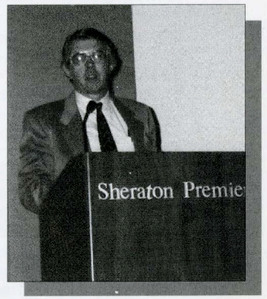
IEC AND IEEE

(continued from cover page)

Andy McCabe, US Technical Advisor for SC 17A, also spoke to the workshop of some 150 IEEE members and IEC delegates. He reported that NEMA has already proposed two technical changes to IEEE C37.04 to bring it into alignment with IEC standards: the elimination of the K factor, and the shortening of the duty cycle to 3 seconds. However, more active US participation and support are required to accomplish this effort.

Anne Bosma of Sweden, Secretary of TC 17, provided an overview of working styles in the IEC. He noted that in IEC, the democratic process results in less than 100% approval. For alignment to work between the two sets of standards, IEEE and ANSI (i.e., C37) have to forego the commitment to 100% consensus. [*Editor's note:* IEEE requires a 75% response to a ballot, and a subsequent 75% approval vote.]

Many other events and individuals contributed to the overall success of this standaractivity. The chief executives of



Keith Gray, IEEE Switchgear Chair

NEMA and EEI (Malcolm O'Hagan and David Swanson), the Chairs of the Switchgear and Substations committees (Keith Gray and Allan Kollar), and the President of IEEE's Power Engineering Society, Hans Weinrich, were some of the speakers at the May 1st awards luncheon. Heinz Schramm and IEEE President-Elect Wallace Read gave the keynote addresses. Both speakers recognized that much groundwork had been done to further cooperation among organizations to achieve international standards goals. Mr. Read concluded by emphasizing that significant personal and cultural efforts would be necessary to truly realize our global standards objectives. ◆

SCC10 Coordination and the Standards Process

Coordination of a standards project is an integral part of the IEEE standards-development process. *Coordination,* which means the distribution of the project draft for review and comment, ensures that other organizations, parties, and IEEE societies with a direct or material interest in the project are given adequate opportunity to participate during the development process.

A required coordination for every project is coordination with Standards Coordinating Committee 10 (SCC10). As the sponsor of IEEE Std 100, *The IEEE Dictionary of Electrical and Electronics Terms,* SCC10 is responsible for overseeing the use and development of terminology in IEEE standards. The required coordination (on the PAR form) gives SCC10 its position of oversight by placing it in the review cycle for every project. This allows SCC10 to screen terms and definitions to ensure the appropriate and consistent use of terminology throughout the IEEE Standards community.

Written confirmation of SCC10 coordination is required when a project draft is submitted to RevCom. The easiest way to coordinate is to include SCC10 (at the address below) on the ballot group circulation list. If the balloting is done by the IEEE Standards Department, SCC10 coordination is automatic, and written confirmation is sent to the sponsor.

Although coordination is required for the RevCom submittal draft only, standards-developing groups are encouraged to involve SCC10 at an earlier stage in the draft process. The earlier on that SCC10 reviews a draft, the easier it is to avoid potential problems at a later stage. Even though a developing group is not required to act on any comments from SCC10 coordination, groups should bear in mind that SCC10 was created by the IEEE Standards Board to provide expertise regarding terminology, and thus, comments from SCC10 are always reviewed and considered by RevCom.

Any standards-developing group seeking guidance or assistance on the use of terms and definitions can contact SCC10 via Stephen Huffman, at (908)562-3828 (s.huffman@ieee.org). ◆

Recent IEEE Standards Publications

BROADCAST TECHNOLOGY SOCIETY

208-1995 IEEE Standard on Video Techniques: Measurement of Resolution of Camera Systems, 1993 Techniques (ISBN 1-55937-514-0) [SH94274-NYA] $45.00

INFORMATION TECHNOLOGY

610.7-1994 IEEE Standard Glossary of Computer Networking Terminology (ISBN 1-55937-498-5) [SH94257-NYA] $55.00

716-1995 IEEE Standard Test Language for All Systems—Common/Abbreviated Test Language for All Systems (C/Atlas) (ISBN-1-55937-518-3) [SH94281-NYA] *Price not available at press time.*

896.9-1994 IEEE Standard for Fault Tolerant Extensions to the Futurebus+™ Architecture (ISBN 1-55937-516-7) [SH94278-NYA] $55.00

1003.2d-1994 IEEE Standard for Information technology—Portable Operating System Interface (POSIX®)—Part 2: Shell and Utilities—Amendment 1: Batch Environment (ISBN 1-55937-512-4) [SH94269-NYA] $68.00

1014.1-1994 IEEE Standard for Futurebus+™/VME64 Bridge (ISBN 1-55937-510-8) [SH94267-NYA] $59.00

1754-1994 IEEE Standard for a 32-bit Microprocessor Architecture (ISBN 1-55937-428-4) [SH17343-NYA] $125.00

8802-2 : 1994, Amd. 3 (ISO/IEC) [Draft IEEE P802.2c] Information Technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 2: Logical Link Control, Amendment 3: Conformance requirements (ISBN 1-55937-523-X) [SH94286-NYA] $40.00

POWER ENGINEERING SOCIETY

386-1995 IEEE Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600 V (ISBN 1-55937-530-2) [SH94294-NYA] $50.00

450-1995 IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications (ISBN 1-55937-515-9) [SH94277-NYA] $50.00

516-1995 IEEE Guide for Maintenance Methods on Energized Power Lines (ISBN 1-55937-517-5) [SH94280-NYA] $57.00

765-1995 IEEE Standard for Preferred Power Supply (PPS) for Nuclear Power Generating Stations (ISBN 1-55937-525-6) [SH94289-NYA] $47.00

1142-1995 IEEE Guide for the Design, Testing, and Application of Moisture-Impervious, Solid Dielectric, 5–35 kV Power Cable Using Metal-Plastic Laminates (ISBN 1-55937-526-4) [SH94290-NYA] $52.00

1143-1994 IEEE Guide on Shielding Practice for Low Voltage Cables (ISBN 1-55937-460-8) [SH94229-NYA] $57.00

1184-1995 IEEE Guide for the Selection and Sizing of Batteries for Uninterruptible Power Systems (ISBN 1-55973-522-1) [SH94285-NYA] $50.00

1250-1995 IEEE Guide for Service to Equipment Sensitive to Momentary Voltage Disturbances (ISBN 1-55937-528-0) [SH94292-NYA] $59.00

C62.23-1995 IEEE Application Guide for Surge Protection of Electric Generating Plants (ISBN 1-55937-520-5) [SH94283-NYA] $54.00

RADIATION INSTRUMENTATION

N42.20-1995 American National Standard Performance Criteria for Active Personnel Radiation Monitors (ISBN 1-55937-521-3) [SH94284-NYA] $48.00

COLLECTIONS

Distribution, Power, and Regulating Transformers Standards Collection (C57), 1995 Edition (ISBN 1-55937-506-X) [SH94288-NYA] $295.00

Protective Relaying Systems Standards Collection, 1995 Edition (ISBN 1-55937-508-6) [SH94276-NYA] $195.00

Surge Protection Standards Collection (C62), 1995 Edition (ISBN 1-55937-505-1) [SH94275-NYA] $185.00

Call for special IEEE member prices on collections.

STANDARDS PRESS

Network Systems Tutorial for IEEE Std 802.3: Repeater Functions and System Design Topology Considerations for Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Local Area Networks (LANs) (ISBN 1-55937-524-8) [SP100-NYA] $42.00

XX Correction Sheet XX

The following correction sheet is available from the IEEE Standards Department.

IEEE Std C37.41-1994, IEEE Standard Design Tests for High-Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Accessories.

Write to IEEE Standards, Attn: Correction Sheets, for a free copy.

To order IEEE Standards Publications, please call (800) 678-IEEE. Outside the US and Canada, call (908) 981-1393. For more detailed status information, call (908) 562-3800 or e-mail stds.info@ieee.org.

IEEE STANDARDS BOARD ACTIONS

June 14, 1995 — **Geneva, Switzerland**

APPROVED PARs FOR NEW STANDARDS

P802.3w (C/LM) Supplement to Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications—Standard for Enhanced Media Access Control Algorithm

P802.3x (C/LM) Supplement to Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications—Specification for 802.3 Full Duplex Operation

P802.3y (C/LM) Supplement to Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications—Physical Layer Specification for 100 Mb/s Operation on Two Pairs of Category 3 or Better Balanced Twisted Pair Cable (100BASE-T2)

P896 (C/BA) Standard for Futurebus—Logical and Physical Layers

P1003.1k (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX®)—Part 1: System API Supplement—Removable Media Support

P1003.2e (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX)—Part 2: Shell and Utilities—Removable Serial Media Support

P1073.1.3.1 (EMB/MIB) Standard for Medical Device Communications—Medical Device Data Language (MDDL) Virtual Medical Device, Specialized—Infusion Device

P1073.1.3.2 (EMB/MIB) Standard for Medical Device Communications—Medical Device Data Language (MDDL) Virtual Medical Device, Specialized—Vital Signs Monitor

P1073.1.3.3 (EMB/MIB) Standard for Medical Device Communications—Medical Device Data Language (MDDL) Virtual Medical Device, Specialized, Ventilator

P1073.2.2 (EMB/MIB) Standard for Medical Device Communications—Application Profile—Basic Capabilities

P1073.5 (EMB/MIB) Standard for Medical Device Communications—Internetworking

P1101.5.3 (C/BA) Mechanical Standard—Extension for Air-Flow-Through Cooled Modules, Format E Form Factor—360 Pin Connector

P1275.x (C/BA) Supplement to IEEE Std 1275-1994, IEEE Standard for Boot (Initialization Configuration) Firmware: Core Requirements and Practices; Errata, Clarifications, and Corrections

P1416 (PE/SUB) Recommended Practice for the Interface of New Gas Insulated Equipment in Existing Gas Insulated Substations

P1425 (PE/IC) Guide for the Evaluation of the Remaining Life of Impregnated Paper Insulated Transmission Cable Systems

P1427 (PE/SUB) Guide for Recommended Electrical Clearances and Insulation Levels in Air Insulated Substations

P1428 (PE/IC) Guide for Installation Methods for Fiber Optic Cables

P1429 (IA/PSE) Recommended Practice for Electrical Systems in Cleanrooms

ABBREVIATIONS

AES/GAP	Aerospace & Electronic Systems/Gyro Accelerometer Panel
AP/P	Antennas and Propagation/Propagation
C/BA	Computer/Bus Architecture
C/CC	Computer/Computer Communications
C/DIS	Computer/Distributed Interactive Simulation
C/LM	Computer/LAN MAN
C/PA	Computer/Portable Applications
C/SCC	Computer/Standards Coordinating Committee
C/SE	Computer/Software Engineering
C/TT	Computer/Test Technology
CHMT	Components, Hybrids and Manufacturing Technology
DEI/STC	Dielectrics and Electrical Insulation
EMB/MIB	Engineering in Medicine and Biology/Medical Information Bus
IA/Min. Ind.	Industry Applications/Mining Industry
IA/PCI	Industry Applications/Petroleum & Chemical Industry
IA/PSE	Industry Applications/Power Systems Engineers
IM/AI	Instrumentation & Measurement/ Automated Instrumentation
NNC/SC	Neural Networks Council/Standards Committee
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/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
SCC22	Standards Coordinating Committee 22 (Power Quality)
SCC29	Standards Coordinating Committee 29 (Stationary Batteries)
SCC32	Standards Coordinating Committee 32 (Intelligent Transportation Systems) (ITS)
SP	Signal Priocessing
UFFC	Ultrasonics, Ferroelectrics and Frequency Control

P1430 (C/SE) Guide for Information Technology—Software Reuse—Concept of Operations for Interoperating Reuse Libraries

P1431 (AES/GAP) Standard Specification Format Guide and Test Procedure for Coriolis Vibratory Gyros

P1432 (NNC/SC) Recommended Practice for the Specification of Motion Tracking Systems Used in Virtual Reality Systems

P1433 (SCC22) A Standard Glossary of Power Quality Terminology

P1434 (PE/EM) Guide to the Measurement of Partial Discharges in Rotating Machinery

P1435 (SCC32) Recommended Practice for the Application of SONET Technology to Intelligent Transportation System (ITS) Communications

P1437 (PE/ED&PG) Standard for the Integration of Plant Condition Monitoring Elements in Hydroelectric Facilities

P1438 (PE/ED&PG) Guide for the Application of Plant Condition Monitoring for Hydroelectric Facilities

P1439 (NNC/SC) Guide for the Specification of Software Interface for Artificial Neural Networks (ANN) Systems

P1440 (NNC/SC) Guide for the Definition and Specification of Fuzzy Systems (F) in Applications and Their Interfaces With Other Elements of Computational Intelligence (CI) of the System

REVISED PARs

P655 (PE/T&D) Guide for the Design of Overhead Power Lines With Respect to Corona

P1003.14 (C/PA) Standard for Information Technology—POSIX Standardized Profile—POSIX Multiprocessor Application Environment Profile

P1003.18 (C/PA) Standard for Information Technology—POSIX Standardized Profile—POSIX Interactive Systems Application Environment Profile

P1258 (PE/TR) Trial Use Guide for the Interpretation of Gases Generated in Silicone—Immersed Transformers

P1278.2 C/DIS) Standard for Distributed Interactive Simulation: Communication Services and Profiles

P1305 (NNC/SC) Definition of Terms for Artificial Neural Networks

P1306 (NNC/SC) Guidelines for the Evaluation of the Speed and Accuracy of Implementations of Feed-Forward Artificial Neural Networks

P1346 (SCC22) Recommended Practice for Evaluating Electric Power System Compatibility With Electronic Process Equipment

PARs FOR STANDARDS REVISIONS

P112 (PE/EM) Standard Test Procedure for Polyphase Induction Motors and Generators

P488.1 (IM/AI) Standard for Higher Performance Protocol for the Standard Digital Interface for Programmable Instrumentation

P539 (PE/T&D) Standard Definitions of Terms Relating to Corona and Field Effects of Overhead Power Lines

P857 (PE/SUB) Recommended Practice for Test Procedures for High Voltage Direct Current Thyristor Valves

PC37.41 (PE/SWG) Standard Design Tests for High-Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Accessories

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

PC57.12.70 (PE/TR) Standard Terminal Markings and Connections for Distribution and Power Transformers

PC57.12.80 (PE/TR) Standard Terminology for Power and Distribution Transformers

PC57.12.90 (Part 1) (PE/TR) Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers

WITHDRAWN PARs

P356 (AP/P) Recommended Practice for Radio Methods of Measurement of Earth Macroscopic Electromagnetic Properties

P970 (C/SCC) An Advanced Backplane Bus

P1009 (SP) Guidelines for Performance Evaluation of Speech Recognizers

P1194.2 (C/BA) Standard for Electrical Characteristics of Small Computer Expandability Module Transceiver Logic

P1195 (CHMT) Standard for Gaseous Corrosivity Classification of Operating or Storage Sites for Electrical or Electronic Equipment

P1203 (IA/Min. Ind.) Recommended Practice for Atmospheric Monitoring System for Underground Mining

P1211 (UFFC) Standard Definitions, Symbols and Characterization of Ferroelectric Thin Films, Memory Cells and Device Structures

P1229 (PE/ED&PG) Definitions for Electrical Heat Tracing

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

PC57.12.00i (PE/TR) Revision of Note 2, Table 7—Nameplate Information

PC57.12.00j (PE/TR) Development of Requirements for External Phase to Phase Clearances for Power Transformers

PC57.12.90b (PE/TR) Transformer Sound Power Measurement

PC57.12.90c (PE/TR) Routine Impulse Test for Distribution Transformers

PC62.21 (PE/SPD) Application Guide for Surge Voltage Protective Equipment on AC Rotating Machinery

NEW STANDARDS

515.1 (IA/PCI) Recommended Practice for the Testing, Design, Installation, and Maintenance of Electrical Resistance Heat Tracing for Commercial Applications

802.1H (C/CC) Recommended Practice for Media Access Control (MAC) Bridging of Ethernet Version 2.0 in 802 Local Area Networks

802.3t (C/LM) Supplement to 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, Informative Annex for Support of 120 Ohm Cables in 10BASE-T Simplex Link Segment

802.3u (C/LM) Supplement to 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, MAC Parameters, Physical Layer, Medium Attachment Units and Repeater for 100 Mb/s Operation

802.12 (C/LM) Standard for Demand Priority Access Method Physical Layer and Repeater Specifications for 100 Mb/s Operation

1003.1c (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX)—System Application Program Interface (API) Amendment 2: Threads Extension (C Language)

1003.1i (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX), Part 1: System Application Program Interface (API) Amendment: Technical Corrigenda to Realtime Extension (C Language)

1003.10 (C/PA) POSIX Supercomputing Application Environment Profile

1149.5 (C/TT) Standard Module Test and Maintenance (MTM) Bus Protocol

1159 (SCC22) Recommended Practice on Monitoring Electric Power Quality

1387.2 (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX) System Administration—Part 2: Software Administration

C62.48 (PE/SPD) Guide on Interactions Between Power System Disturbances and Surge-Protective Devices

REVISED STANDARDS

802.5 (C/CC) Standard for Information Technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—LAN/MAN-type specific requirements—Part 5: Token Ring Access Method and Physical Layer Specification

1106 (SCC29) Recommended Practice for Installation, Maintenance, Testing, and Replacement of Vented Nickel-Cadmium Batteries for Stationary Applications

C57.12.91 (PE/TR) Standard Test Code for Dry-Type Distribution and Power Transformers

C57.91 (PE/TR) Guide for Loading Mineral-Oil-Immersed Transformers

REAFFIRMED STANDARDS

101 (DEI/STC) Guide for the Statistical Analysis of Thermal Life Test Data

792 (PE/EM) Trial-Use Recommended Practice for the Evaluation of the Impulse Voltage Capability of Insulation Systems for AC Electric Machinery Employing Form-Wound Stator Coils

930 (DEI/STC) Guide for the Statistical Analysis of Electrical Insulation Voltage Endurance Data

C62.41 (PE/SPD) Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits

WITHDRAWN STANDARDS

498 (PE/NPE) Standard Requirements for the Calibration and Control of Measurement and Test Equipment Used in Nuclear Facilities

These standards were administratively withdrawn in May 1995:

147-1979	660-1986
180-1986	770X3.160-1989
290-1980	995-1987
325-1986	1035-1989

These standards were administratively withdrawn in June1995:

113-1985 (PE/EM) IEEE Guide: Test Procedures for Direct Current Machines

116-1975 (R1982) (PE/EM) IEEE Standard Test Procedures for Carbon Brushes

252-1977 (PE/EM) IEEE Test Procedure for Polyphase Induction Motors Having Liquid in the Magnetic Gap

356-1974 (R1981) (AP/P) IEEE Guide for Radio Methods for Measuring Earth Conductivity

987-1985 (PE/T&D) IEEE Guide for Application of Composite Insulators

CONDITIONS MET

1003.0 (C/PA) Guide to the POSIX Open System Environment

610.7 (C/SCC) *was originally approved in December 1994. However, due to a procedural error, the document was found to have not completed the sponsor ballot process, so the approval date was subsequently changed to June 14, 1995.*

GLOBAL HANDLES ARCHIVE STANDARDS

Global Engineering will now handle requests for archived (withdrawn and superseded) IEEE standards. For more information or to order an archived standard, call Global Engineering at 1-800-854-7179.

First National Standards in Photonics Issued

Washington, DC—The United States faces a shortfall of skilled technicians in key optics, photonics and advanced electronics fields, and must take steps to create training programs in accordance with national standards to meet critical industry needs, according to the National Photonics Skills Standard Project.

Last March the project, which is funded by the US Department of Education, released the first national standards in photonics—a new and emerging technology that draws upon the use of laser technologies, electronics, and optics for applications involving the generation, transmission, or detection of light or energy. Photonics is at the heart of new applications in electronics, optics, aerospace, defense, biotechnology, transportation, environment, telecommunications, and computer technology.

The National Photonics Skills Standard Project is one of 22 skill standards projects coordinated and funded by the federal government following the recommendations of the SCANS (Secretary's Commission on the Achievement of Necessary Skills) Report.

At the announcement, Skip Johns, associate director of the White House Office of Science and Technology Policy, described photonics as fundamentally important to the nation's economic future and a key technology to the Information Superhighway.

"The photonics standard is a wonderful beginning," Johns said. "Let's hope it gets out there and is used by our community colleges and other education institutions as rapidly as possible."

According to a recent survey cited by the project, approximately 340 000 photonics technicians are working in the United States today. By the year 2000, more than twice that number—743 000—will be needed. Furthermore, demand may be greater than estimated because military downsizing has led to a decrease in the number of trained photonics technicians entering the commercial workforce from the armed services.

"Because of the growth and importance of photonics applications in our industries, it is imperative that we properly train technicians and professionals in this field," said Dan Hull, president of the Center for Occupational Research and Development of Waco, TX, which manages the photonics standards project. "The new photonics standards provide a roadmap from which our schools, colleges, and industries can train a workforce for this vital field." The standard is available at no charge on the World Wide Web: http://www.spie.org/photonics_ed.htm

Anyone wishing to participate in this project by providing input is requested to contact Darrell Hull at CORD, P.O. Box 21689, Waco, TX 76702-1689, tel. (817) 772-8756 (e-mail: dhull@cord.org). ◆

Call for Participants in the US National Committee of the IEC

The Technical Advisors to the US National Committee (USNC) for the International Electrotechnical Commission (IEC) are looking to expand their Technical Advisory Groups (TAGs). A TAG reviews and comments on international standards projects and international committee drafts. They also help identify national technical experts to serve on working groups. Here are the particular committees that need a larger pool of national expertise:

IEC/TC 16	Terminal Markings and Other Identifications
IEC/TC 17	Switchgear and Controlgear
SC 17A	High-Voltage Switchgear and Controlgear
SC 17B	Low-Voltage Switchgear and Controlgear
SC 17C	High-Voltage Enclosed Switchgear and Controlgear
SC 17D	Low-Voltage Switchgear and Controlgear Assemblies
IEC/TC 22	Power Electronics
SC 22B	Semiconductor Converters
SC 22D	Electronic Power Converters for Rolling Stock
SC 22E	Stabilized Power Supplies
SC 22F	Converters for High-Voltage DC Power Transmission
SC 22G	Semiconductor Power Converters for Adjustable Speed Electronic Drive Systems
(IEC/TC 23) SC 23E	(Electrical Accessories) Circuit-Breakers and Similar Equipment for Household Use
(IEC/TC28) SC 28A	(Insulation Coordination) Insulation Coordination for Low-Voltage Equipment
IEC/TC 44	Safety of Machinery—Electrotechnical Aspects
IEC/TC 64	Electrical Installations of Buildings
(IEC/TC 65) SC 65B	(Industrial Process Measurement and Control) Industrial Process Measurement and Control/Devices—Electronic Devices/Programmable Controllers

In addition, the USNC is looking for a Technical Advisor (TA) to help conduct US involvement in the work of IEC/SC 22B. A TA works with a TAG composed of those who are directly and materially affected by this activity and reports to the USNC's Executive Committee.

The scope of SC 22B is to provide requirements for the performance of all electronic power converters and electronic power switches using controllable and/or noncontrollable electronic valves. The electronic valves mainly comprise semiconductor devices, i.e., diodes and various types of thyristors and transistors, such as reverse blocking or conducting thyristors, turn-off thyristors, triacs, and power transistors. The devices may be controlled by means of current, voltage, or light. Non-bi-stable devices are assumed to be operated in the switched mode. These requirements are contained in the IEC 146 series of documents.

Anyone wishing to get involved or requiring further information may contact Kenneth E. Gettman, NEMA, 2101 L. Street NW, Suite 300, Washington, DC 20037, tel. (202) 457-8486; fax (202) 457-8411. ◆

CALENDAR

OF EVENTS

July

18–21 Bus Architecture Standards Committee Meeting (BASC)
(Computer Society)
Phoenix, AZ
contact—Susan Roth (602) 951-8866; fax (602) 951-0720

20–22 The Color Book Series Seminar
Portland, OR
contact—Tina Alston, (908) 562-3816 or t.alston@ieee.org

23–27 Power Engineering Society (PES) Summer meeting
(Power Engineering Society)
Portland, OR
contact—Glenn R. Meloy (503) 638-7018

26 Standards Coordinating Committee 22 on Power Quality meeting
Portland, OR
contact—Luigi Napoli (908) 562-3812 or l.napoli@ieee.org

August

11 *Deadline for draft and PAR submission for September Standards Board meeting*

11 US TAG for ISO/IEC JTC 1/SC26
San Francisco Bay Area, CA
contact—Clyde Camp, Texas Instruments, Inc., 2313 Merimac Drive, Plano, TX 75075, (214) 995-0407

14–18 IEEE International Symposium on Electromagnetic Compatibility, EMC '95
(Electromagnetic Compatibility Society)
Atlanta, GA
contact—John Rohrbaugh (404) 894-8235, fax (404) 894-3906 or john.rohrbaugh@gtri.gatech.edu

15–18 Accredited Standards Committee 63 on Electromagnetic Compatibility, SC1 and SC2 meetings
Atlanta, GA
contact—R. Tennis (908) 562 3811 or r.tennis@ieee.org

28–30 US TAG for ISO/IEC JTC 1/SC7
Naperville, IL
Contact—Leonard Tripp, Boeing, MS 6H-TW, P.O. Box 3707, Seattle, WA 98124, (206) 237-5240

September

13–15 Standards Coordinating Committee 31 on Automatic Meter Reading and Energy Management
St. Louis, MO
contact—Sandy Fernstrom (708) 480-9628; (708) 480-9282

19–22 IEEE Standards Board and Committee meetings
Piscataway, NJ
contact—Terry deCourcelle (908) 562-3807 or t.decourcelle@ieee.org

22–28 Working group meetings on standards related to Neural Networks, Fuzzy Systems, Evolutionary Systems and/or Virtual Reality (Joint meeting with WNN/WCI95)
San Antonio, TX
contact—Mary Lou Padgett (334) 821-2472; fax (334) 821-3488 or m.padgett@ieee.org

October

2–6 National Electrical Safety Code™ (NESC™) subcommittee meetings (SC2, SC4, SC8)
Piscataway, NJ
contact—Sue Vogel (908) 562-3817 or s.vogel@ieee.org

3–5 Bus Architecture Standards Committee (BASC) meeting
(Computer Society)
Toronto, Ontario, Canada
contact—Susan Roth (602) 951-8866; fax (602) 951-0720

3–6 Department of Energy (DOE) Technical Standards Program Workshop
St. Louis, MO
contact—Becky Harrell (615) 574-0396

15, 18, 20 US TAG for ISO/IEC JTC 1/SC22/WG15
St. Petersburg, FL
contact—Barry Needham, Amdahl Corp., 1250 E. Arques Ave., M/S 316, Sunnyvale, CA 94088, (408) 992-2527

16 Microprocessor Standards Committee meeting
(Computer Society)
Santa Clara, CA
Audio-or videoconference participation is available by prearrangement.
contact—Fritz Whittington (214) 995-0397 or fritz@csi.ti.com

16–20 National Electrical Safety Code™ (NESC™) subcommittee meetings (SC1, SC3, SC5, SC7)
Piscataway, NJ
contact—Sue Vogel (908) 562-3817 or s.vogel@ieee.org

16–20 Surge-Protective Devices Committee meeting
(Power Engineering Society)
Toronto, Ontario, Canada
contact—K. B. Stump (404) 740-3852; fax (404) 740-3397

23–25 Accredited Standards Committee C136 on Roadway Lighting meeting
San Diego, CA
contact—R. Tennis (908) 562 3811 or r.tennis@ieee.org

November

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

5–8 Transformers Committee meeting
(Power Engineering Society)
Boston, MA
contact—J. H. Harlow (813) 544-2326; (813) 546-0121

5–8 Insulated Conductors Committee meeting
(Power Engineering Society)
St. Petersburg Beach, FL
contact—L. J. Hiivala (416) 467-4158; (416) 421-4779

Countdown to the Metric Millennium

Approved by IEEE Standards Board March 16, 1995

The IEEE Standards Board has approved an Implementation Plan for IEEE Policy 9.20 (Metric Policy). Before this Implementation Plan was written, a questionnaire was sent to all the standards-developing committees within the IEEE, informing them of the new IEEE policy and requesting their response to it. In accordance with the Standards Board's request, SCC14 (Standard Coordinating Committee on Quantities, Units & Letter Symbols) drafted the now approved Implementation Plan, taking into consideration the comments received from the IEEE committees. The Standards Board Implementation Plan for Policy 9.20 below is available to download via the SPAsystem™ (see access information, shown below).

Standards Board Implementation Plan for Policy 9.20

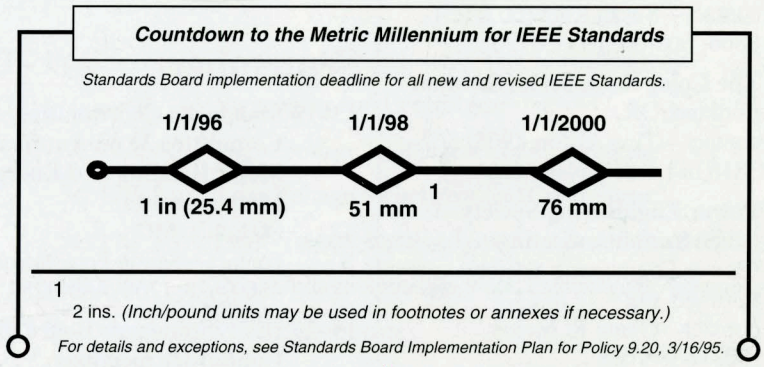
The IEEE Standards Board supports IEEE Policy 9.20, which calls for measured and calculated values of quantities to be expressed in metric units in IEEE publications, following the detailed guidance for SI-based metric practice given in ANSI/IEEE Std 268-1992, American National Standard for Metric Practices. Many IEEE standards already conform to this policy. For the remainder, the Standards Board has adopted the following transition schedule:

Stage I—After January 1, 1996: Proposed new standards and revised standards submitted for approval shall include metric units.

Stage II—After January 1, 1998: Proposed new standards and revised standards submitted for approval may include inch-pound data if that is thought to be necessary, but shall give the metric units in preferred place. [As a general rule, "dual dimensioning," the practice of following the metric unit with the inch-pound-based unit in parentheses, should be avoided, because it makes text difficult to read. Alternative means of presenting the inch-pound information, such as tables or footnotes, are preferred.]

Stage III—After January 1, 2000: Proposed new standards and revised standards submitted for approval shall use metric units exclusively in the normative portions of the standard. Inch-pound data may be included, if necessary, in footnotes or informative annexes only.

SCC14 shall work with the committees responsible for generating IEEE standards to help them carry out this Implementation Plan. Policy 9.20 recognizes the need for some exceptions and contains the following statement: "Necessary exceptions to this policy, such as where a conflicting world industry practice exists, must be evaluated on an individual basis and approved by the responsible major board of the Institute for a specific period of time." SCC14, as part of the coordination process, shall review requests for individual exceptions and shall report its recommendations to the Board.



Exceptions: 1—ANSI/IEEE Std 268-1992 gives a specific exception for trade sizes, such as the AWG wire series and inch-based standards for fasteners. Such data need not be translated into metric terms.

2—Also excepted are those cases, such as plugs and sockets, where a mechanical fit to an inch-based product is required.

3—This Implementation Plan does not require metric products to be substituted for inch-based products. ◆

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