



NO. 8 DECEMBER 1966

ELECTRICAL ENGINEERING

An IEEE management newsletter providing direct communication among Institute Staff, Committees, Groups, and Sections; and covering matters of current importance relating to Institute operations

MINNEAPOLIS MINN NOV 28 1966

TO MY COLLABORATORS IN IEEE:

1966 IMPOSED UNUSUAL DEMANDS IN INSTITUTE OPERATIONS. DIFFICULT DECISIONS BRING OUT THE BEST IN LEADERSHIP AND THE RESPONSE FROM ALL RESULTED IN NEW GOALS WHICH INSURE FUTURE HEALTH OF INSTITUTE. FOR YOUR THOUGHTFUL RESPONSE AND ENCOURAGING SUPPORT, THE MEMBERSHIP, THE BOARD AND I ARE DEEPLY INDEBTED. IT HAS BEEN A PLEASURE TO SERVE YOU.

WILLIAM G SHEPHERD
PRESIDENT IEEE

YEAR'S-END APPRAISAL, RESOLVES. What's left of '66 establishes points of departure for '67 for your Conference, Group, Council, Committee, Region, Section, Subsection, Chapter, or Branch (i. e. your Unit).

Does the look backward disclose mistakes, shortcomings? Study the causes: lessons for the future more to the point. Does review reveal triumphs? What a springboard for the year ahead!

December resolutions are more likely to survive January if directed toward reasonable goals. A few cranks of the old jack— Up she goes.

INCOMING SLATE OF OFFICERS, DIRECTORS. Tellers finished count of members' ballots November 2; next day the Board declared elected: MacAdam, Blackmon, Chestnut, David, Brainerd, Hodgin, Kaisal, Williams. (See box, p. 2.) Additional Directors will be elected by the annual Assembly when it meets January 4, 1967. (Revised Bylaws, 201-203, 301-303.) "Electrical Engineering" (E. E.), February, will report final composition of 1967 Board of Directors (Board) and its Executive Committee (ExCom). "IEEE Spectrum" (Spectrum) for December 1966 will run a biography of 1967 President MacAdam.

BUILT-IN GLOSSARY OF ABBREVIATIONS. Beginning with this issue, to promote brevity, E. E. will encode repeatedly-used names upon occasion of first use; e. g., Board, ExCom. . . An important example is Unit, standing for "any or all organizational entities or units of IEEE, such as Committees, Groups, Councils, Conferences, Regions, Sections, Subsections, Chapters, Branches, etc. (Units)." Thus: "chairmen of Units," "Unit editors." . . . Another is the name of a person on the IEEE secretarial staff, which (appearing in parentheses) stands for an entire sentence, thus: "For a copy (or additional copies, or additional information) address R. M. Emberson, IEEE, 345 East 47th Street, New York, N.Y. 10017," abbreviated "(Copy, R. M. Emberson)".

OPPORTUNITIES AND CHALLENGES

NOMINATIONS FOR 1968 ELECTED IEEE OFFICERS. February 1, 1967 is the deadline for submitting to the IEEE Secretary names of candidates to be considered by Nominations and Appointments Committee for a place on the ballots to be mailed in August 1967 for 1968 President, elected Vice President, and Directors-at-Large. Forms for recommending candidates may be obtained by writing Miss Emily Sirjane, IEEE, 345 East 47th Street, New York, N.Y. 10017. (Forms, Miss Emily Sirjane)

OPTIMAL USES OF COMPUTER. The staff Administrative Services director is currently



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

COMPOSITION OF THE IEEE BOARD OF DIRECTORS (Only Present Terms Shown)

DIRECTORS-AT-LARGE		REGIONAL DIRECTORS	
<i>Elected by members</i>		<i>Elected by Regional members</i>	
1 W. G. Shepherd President	1966-68 1966†‡	1 W. C. Dunlap	1966-67‡ 1965-66
2 W. K. MacAdam Vice President	1966 1966†	2 C. D. Morrill	1966-67‡ 1965-66
3 C. H. Linder Sr. Past Pres't Secretary	1964-66 1966 1966*†	3 R. G. Fellers	1966-67‡ 1965-66
4 B. M. Oliver Jr. Past Pres't	1965-67 1966†‡	4 F. W. Bush	1966-67‡ 1965-66
5 F. K. Willenbrock Vice President Publication Activities	1964-66 1966*† 1964-66	5 C. R. Wischmeyer	1966-67‡ 1965-66
6 T. F. Jones	1965-67‡	6 B. S. Angwin	1966-67‡ 1965-66
7 F. H. Knapp	1965-67‡	7 A. B. Oxley	1966-67‡ 1965-66
8 J. B. Russell	1966-68‡	8 J. D. Lebel	1966-67‡ 1965-66
9 E. L. Harder	1966-68‡		
10 J. G. Truxall	1966-68‡		
		DIRECTORS EMERITUS	
		A. N. Goldsmith also Editor Emeritus	
		Haraden Pratt	
		E. B. Robertson	
		DIRECTORS ELECTED IN 1966	
		<i>At-Large</i>	
1 Hendley Blackmon Vice President Technical Activities	1966 1966*†	W. K. MacAdam President	1967-69 1967‡
2 S. W. Herwald Treasurer	1966 1966*†	Hendley Blackmon Vice President	1967‡ 1967-69‡
3 G. S. Brown	1966	Harold Chestnut	1967-69‡
4 G. J. Andrews Director Region 9	1966 1966*	E. E. David, Jr.	1967-69‡
5 J. V. N. Granger	1966†		
6 L. C. Holmes	1966	<i>Regional</i>	
7 T. E. Marburger	1966	J. G. Brainerd	1967-68‡
8 George Sinclair	1966†	D. M. Hodgins	1967-68‡
		S. F. Kaisel	1967-68‡
		R. C. G. Williams	1967-68‡

*Elected by the 1966 Assembly to these positions.
†On Executive Committee of the Board, 1966.
‡Delegates elected to 1967 annual Assembly.

Nominations of candidates for IEEE Fellow grade are being sought

April 30, 1967, has been established as the deadline date for completed nominations of candidates for the IEEE Fellow Grade.

The IEEE Bylaws define the qualifications for this grade as follows: "The grade of Fellow is one of unusual professional distinction and shall be conferred only by invitation of the Board of Directors upon a person of outstanding and extraordinary qualifications and experience in the fields of electrical engineering, electronics, radio, allied branches of engineering or the related arts and sciences, who meets the requirements for Senior Member as stated in these Bylaws and who has been a member in any grade for a period of seven years preceding the year of nomination, except that the seven-year provision in any individual case may be waived for cause by the Board of Directors."

In the case of new candidates, a Fellow nomination form (Form FC-1) and five completed Fellow grade reference forms are required by the deadline date of April 30, 1967. In such a large Institute it is usual that not even one member of the Fellow Committee is personally acquainted with any particular candidate. In these conditions, the impersonal judging of the candidates to determine their order of qualification can be done *only* from the information on the FC-1 Forms. This makes *careful and complete* preparation of FC-1 Forms essential if each candidate is to receive the highest rating his actual history warrants. The duty of the Fellow Committee is to select, from those presented to it, the most deserving candidates (up to a maximum of 125 in any year). To assure objectivity in judging, each candidate is scored by each judge for his accomplishments in a number of small, reasonably well-defined categories (more fully described in the next paragraph) to reach a total score which is the sum of all partial scores.

The proponent of a candidate for Fellow grade, when preparing to fill out his FC-1 Nomination Form, often speculates on the most appropriate way to search out and present the requested information to get really effective consideration for his candidate. Of course, the form itself, by its headings, gives a great deal of this information. However, it does not indicate which types of information are more important in the scoring process than others. To give some guidance to proponents without compromising the confidential nature of the Fellow Committee's deliberations, it can be stated that scoring is carried out in a number of different categories, arranged in approximate order of decreasing scoring importance: importance of contribution; importance of position (including operational as well as technical); output of papers and patents; opinions and estimates of confidential references (where possible, the majority should be associated with other than the candidate's own organization; years of technical distinction (or in responsible charge); total years in the profession; service to IEEE (and predecessor societies); service to the engineering profession in organizations other than IEEE; and sponsorship by a Section, Group, or Gen-

eral Committee, or other organization of equivalent standing (or more than one of them). Despite differences in scoring importance between categories, all are ultimately important and none should be ignored or slighted. We call your particular attention to the following:

1. To insure receipt of the minimum number of references by the April 30 deadline, some sponsors have found it desirable to solicit as many as seven or eight references; others have followed the excellent plan of monitoring the responses by requesting those named as references to indicate, on a postal card supplied by the sponsor, the date when the form was completed and mailed to the Fellow Committee. All qualified reference forms submitted on behalf of a Fellow grade candidate shall be considered by the Fellow Committee.

2. When the nomination has the additional endorsement of a Section, Group, Committee, or organization of equivalent standing (or more than one of these), the candidate's score and competitive position will be enhanced *only* if such endorsement is evidenced by a *separate written statement* from each entity to the Fellow Committee, signed by an appropriate officer. The statement (which is in addition to the five reference forms) should be concise and yet provide all relevant facts in support of the nominee; it must be received by the Fellow Committee by the April 30 deadline.

3. Should a sponsor of a candidate outside the United States and Canada (i.e., Region 8, 9, or 10) certify that he is unable to furnish the names of five Fellow grade references on the nomination, the Fellow Committee may, in its discretion, accept references from other IEEE members, preferably Senior Members, who are engineers or scientists of recognized standing.

4. Candidates previously considered, upon whom no favorable action was taken, will not be reconsidered unless a new completed FC-1 Form is received by April 30, 1967. Reference forms submitted on behalf of a candidate will be acceptable to the Fellow Committee for a period of three consecutive years, including the year of original submission, in the event the sponsor wishes to *update and resubmit* the Fellow grade nomination. Although not required, the submission of new references will assist the Fellow Committee in fairly considering the nomination. Members of the Board of Directors, the Executive Committee, the IEEE staff, or the Fellow Committee are not eligible to serve as references on a Fellow grade nomination.

5. To assure readability, the Fellow Committee has ruled that all FC-1 Forms and all reference forms must be typewritten.

Fellow grade nomination kits are available from Miss Emily Sirjane, IEEE Staff Secretary of the Fellow Committee. These kits contain an FC-1 Form, reference forms, reference envelopes, and a guide to Fellow grade nominations.

taking a forward look at IEEE's computer and peripheral equipment. Right now, therefore, is an ideal time for any Unit to express desire for changes in future services. Members' names on lists, or on cards? Members listed by affiliation? Lists quarterly, or semi-annually? These are merely suggestive—you name it.
(W. J. Keyes)

RECOGNITION FOR EXCELLENCE. The Fellow Committee and the Awards Board are the separate branches of IEEE's honors dichotomy. Specifications of the Medal of Honor, major Annual, Field and Prize-Paper Awards appear in Spectrum, November 1966, p. 13, together with an invitation to nominate by the dates given.

In this mailing of E. E., as an insert, is the Fellow Committee's invitation to initiate proposals for elevations to Fellow grade, effective January 1, 1968. (Also printed in Spectrum, November 1966, p. 16.)

NEW FELLOWS ELECTED. The November Board, upon the recommendation of the Fellow Committee, selected 125 new Fellows, effective January 1, 1967, the limit permitted by Bylaw 308.3. Names and citations will appear in January Spectrum; lists arranged by Sections in the United States and abroad have been distributed to those concerned with arranging presentation ceremonies of award. (Copies, Miss Emily Sirjane)

As information, selection was made from among 320 recommendations, each averaging 12 pages of exacting matter to be studied, compared, and adjudged by the 16 members of the Fellow Committee. The multiplier (about 61,440) is a measure of the secretarial work-load involved as well as a tribute to the meticulous search for choices to be honored.

SECTION TECHNICAL CONFERENCES (STC). Effective January 1, 1967, receipt of income by a Section in connection with an STC no longer disqualifies it from receiving a \$100 financial allowance if all other conditions are met. ExCom has found that "reduced support for the 'Type 2' meeting is not compatible with our desire to be of more help to Sections in Regions 8, 9, and 10. . . There is no reason to discourage Sections in any Region from using the Section Technical Conference as a source of income." This change will be included in the next revision of the Section Manual.

SURPLUS SECTION FUNDS. The forthcoming revision of the Section Manual will incorporate Board-approved uses for surplus Section funds.

San Francisco Section was recently authorized by ExCom to contribute to the construction fund of San Francisco Engineers Club, a non-profit organization.

GUARDIANS OF IEEE'S NAME AND EMBLEM. Responsibility rests upon editors and program and publicity chairmen of IEEE's autonomous units and publications (such as Section, Subsection, Chapter, and Student Branch bulletins; Group newsletters; and conference publicity and programs) to use the IEEE name and emblem properly. Use of the emblem, with its tiny encircled R, is governed by Statement of Policy #5, which see. Wherever the emblem is printed, or the Institute is officially involved, the full corporate name should appear conspicuously at least once without abbreviations, changes, or omissions: The Institute of Electrical and Electronics Engineers, Inc. Elsewhere, the "IEEE", or IEEE (never I.E.E.E.), is in good currency for official use in publications and documents—even on checks collectible at headquarters and on mail directed IEEE, 345 East 47th St., New York, N.Y. 10017. "The Institute" may also be used where the connotation IEEE is clear.

GOALS OF ENGINEERING EDUCATION. Your copy of "Engineer," Autumn 1966, mailed by Engineers Joint Council (EJC) to IEEE members, should be saved for reference to its lead article reviewing EJC's Kiely Panel Report: "Assessment of the Goals of Engineering Education in the United States." The Report itself, at \$1 a copy, is available from EJC, Dept. P, 345 East 47th Street, New York, N.Y. 10017. It touches upon controversial 1965 recommendations of the Goals of Engineering Education Committee operating through the American Society for Engineering Education (ASEE). (See Spectrum, December 1965, p. 84.)

During 1966 the IEEE Board of Directors has taken successive steps to evaluate, first, the ASEE Report and now the EJC Report, with a view to taking an IEEE position.

STUDENTS AND BRANCHES. Annually, from September to December, the IEEE secretarial staff processes a heavy influx of membership applications from Students enrolled in some 500 colleges and in 280 Branches, from Florida to Saskatchewan, to Madrid, Rome, Bogota, and Buenos Aires. In 7 weeks following September 1, 1966, more than 3,300 came in—almost a thousand more than a year ago.

In one sense, IEEE's hope of the future is discernible in this paper snow-storm, for among the applicants are many of tomorrow's committeemen, authors, officers, and directors. By the law of averages one of these new Student members may one day become IEEE President. Our 1967 President-elect originally joined the Institute as a Student member and later was chairman of a Student Branch.

REQUIREMENTS FOR STUDENTS AND BRANCHES MODIFIED. The ExCom has ruled that hereafter, Counselors must be IEEE members. . . Spectrum is to be given all seniors in their last 6 months prior to graduation and to graduate students. . . Without significant changes relating to the grade of Student or to Branches in ECPD-accredited or in Regional-accredited colleges, the ExCom has acted to encourage Student Associate membership in regionally-accredited junior colleges which have significant programs in engineering and physical sciences. The Student Associate grade of membership and Student Associate Branches can be established in educational institutions "other than schools of recognized standing" if approved by ExCom. (Information, L. D. Leonard)

STUDENT PAPER CONTESTS. A 4-page cartoon-illustrated leaflet directed to the immediate interest of students wishing to enter IEEE contests has just come off the press. (Samples, quantity orders, L. D. Leonard)

TOPSIDE AND OTHER DEVELOPMENTS

BYLAWS CHANGES. Among those adopted by the Board at its August and November meetings were: (110.1) Permitting payment of dues in installments. . . (306.4) Reimbursing expenses of editors of the principal IEEE publications. . . (306.5) Broadening of the Panel of Technical Publication Editors to include Spectrum, Proceedings, and Student Journal in addition to Group Transactions and Journals. . . (308.6) Responsibilities of the new Internal Communications Committee [which, incidentally, directs E. E.] . . . (302.9) Delegation, by the Board to ExCom, of approval of the formation, operation, and dissolution of all groups of members except Sections; and cancellation of delegation to alter boundaries of Regions. . . (201, 203, 301, 308, 401) Delineation of territory and designation of officers in new Regions 9 and 10; and in consonance therewith, changes in the number of Assembly Delegates and Directors for an interim 1967-1968 period and thereafter, and other changes.

Up-to-date copies of the Bylaws, including these and all other amendments, are being distributed to essentially the same distribution list as E. E. (Copies, Miss Emily Sirjane)

POT BOILS IN LATIN AMERICA. Creation of new Region 9 was reported in E. E. for October 1966. During November, President-elect Walter MacAdam, accompanied by Francisco Hawley, former chairman Mexico Section, now assistant to the Director Region 9, swung through the territory. . . He presented the new Section in Sao Paulo, Brazil, its Charter. . . Members of IEEE in Caracas, Venezuela, are on their way to establish a Section. . . Establishment of a Spanish-language technical publication has been authorized by the Board for Region 9. . . Natal Feliz. . . Próspero Año Nuevo.

MEMBERSHIP PROMOTIONAL POSTERS. Heretofore distributed only in English for Sections' local use, these are now also available in Spanish. (Latin America Sections take

notice: posters will be shipped upon request to Miss Emily Sirjane, IEEE, 345 East 47th St., New York, N.Y. 10017, U. S. A.)

HOSTING VISITORS FROM ABROAD. Europeans excel in this, and for years have rolled out the red carpet for visitors from the United States, particularly those whom they have invited, like IEEE members invited to participate in meetings. The IEEE Board wishes every step be taken to insure that when the chairman of an IEEE-sponsored meeting in the United States extends invitations to citizens of other countries to participate, their U. S. reception and entertainment shall be no less gracious and hospitable. Provision should be made in the meeting budget, and a committee established to act as host; this committee should be prepared to assume responsibilities in cooperation with cognizant IEEE committees (such as the Intersociety Relations Committee), the IEEE staff, and in some cases with departments of the U. S. Government. A 2-page "Guidelines Concerning the Hosting of Visitors" should, in every such case described, be consulted and followed. The guidelines also suggest practices that may be developed by IEEE Units in countries other than the United States. (Copies, J. M. Kinn)

1967 INTERNATIONAL CONVENTION NOTES. The U. S. Department of Commerce will publicize the Convention (March 20-23, 1967) through consulate and embassy offices throughout the world. . . The Convention will extend IEEE-member rates to registrants of other EJC Societies listed in October E. E., p. 5. . . Budgetted exhibit space has already been sold. . . Nearly two pages of information on the Convention can be found in Spectrum, September 1966, pp. 26-27. . . Session organizers reported on the technical program in late October; the program was "frozen" November 15th.

TAB GENERAL COMMITTEE APPOINTMENTS. For 1967, chairmen: Research, H. M. Smith, Jr., Burlington, Vt.; Standards, W. T. Wintringham, Holmdel, N.J.; Safety, R. H. Herman (reappointment), Lima, Ohio; New Technical & Scientific Activities, C. W. Cook, El Segundo, Calif.

INFORMATION SERVICES. The Board, in August, voted to investigate needs of IEEE members for secondary information services (such as abstracting, indexing, selective searches, information retrieval), and to take action necessary to satisfy those needs.

The Board has also taken official cognizance of parallel needs elsewhere by assigning Professor Howard Tompkins as a consultant to the IEEE in exploring ways of cooperating with The Institution of Electrical Engineers, London. He is familiar with what IEEE, the Engineers Joint Council, and Engineering Index are doing and planning in the United States.

ASA REORGANIZED AND RENAMED. The American Standards Association's successor, the United States of America Standards Institute (USASI), will be fully embarked on an accelerated program by January. Former American Standards have become USA Standards (USAS).

Three councils will form cooperating arms and be represented on USASI Board: IEEE, other professional and scientific societies, trade associations, compose the Member Body Council; they prepare standards submitted for approval as USAS. Companies may stimulate and apply standards through membership on the Company Member Council. The Consumer Council represents the consumer and protects his interests in standardization; the Director of the National Bureau of Standards may be a member. Departments and agencies of the U. S. Government are eligible for membership on all three councils. (See Spectrum, November 1966, p. 114.) (Further particulars, J. J. Anderson)

TOOLS AND AIDS

WHERE TO FIND IT—IN SPECTRUM. A fitting companion piece by President Shepherd to

