

# ELECTRICAL ENGINEERING®

A REFERENDUM on a proposal to set up a separate corporation to administer the Institute's technical activities was defeated in a vote of the membership. Over 83% of the more than 45,000 votes cast favored keeping the present IEEE structure. Tabulating the votes of those members who indicated that they belong to at least one Group or Society shows they also overwhelmingly voted against the proposal. The referendum had been supported by the Governing Board of the IEEE Computer Society. Commenting on the results of the proposal, President Harold Chestnut said, "We look upon it as a positive reaffirmation of the 1972 vote, which approved the Constitutional Amendments making possible the Institute's active entry into professional activities."

**ELECTED IEEE OFFICERS & DIRECTORS** are: John J. Guarrera, President; John D. Ryder, Vice President; (Regional Directors '74-'75) Richard C. Benoit, Jr., Region 1; Wilbert L. Sullivan, Region 3; Robert M. Shuffler, Sr., Region 5; George Sinclair, Region 7; J. R. Costa de Lacerda, Region 9; (Divisional Directors '74-'75) John Zaborszky, Division I; Robert D. Briskman, Division III; and Albert S. Hoagland, Division V. All newly elected officers take their positions on January 1. The February issue of Electrical Engineering (E. E.) will list the complete Board of Directors (BofD) and Executive Committee (ExecCom). (Also in Spectrum, Jan., p. 5)

THE ANNUAL ASSEMBLY was held on November 29. At that meeting the following Directors were elected: Frank S. Barnes, Vice President - Publication Activities; Arthur P. Stern, Vice President - Regional Activities; Robert F. Cotellessa, Vice President - Technical Activities; Seymour Cambias, Jr., Secretary; Joseph

K. Dillard, Treasurer; Robert M. Saunders, Chairman, Educational Activities Board; Harold S. Goldberg, Vice Chairman, Technical Activities Board; and Donald G. Fink, Executive Director. All of these people will take office on January 1 and serve for one year. (Bylaw 203.1)

NEW GENERAL MANAGER is being sought by IEEE. The announcement was made by President Harold Chestnut and current General Manager Donald G. Fink. Mr. Fink will reach retirement age in 1976. It is intended that a new General Manager take office by the end of 1974 to provide adequate time for an orderly transfer of management responsibility. A six-man Search Committee has been formed to recommend a successor to Mr. Fink. President Chestnut is Chairman of that committee.

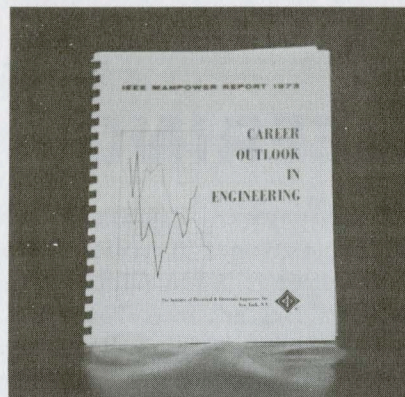
## SOCIO-ECONOMIC NEWS

JOINT ENGINEERING LEGISLATIVE FORUM is sponsored by IEEE and eight other societies. It will be held on February 25-27 at the Sheraton-Park Hotel, Washington, D.C. Keynote speaker is Senator Robert Byrd, Assistant Majority Leader. Registration forms are available from Emma White. (Fee \$60)

EMPLOYMENT DIRECTORY is being compiled by IEEE for its members who are seeking new positions but do not want their resumes circulated. The Directory will list only your name and address for a three month period. It will be made available to placement firms upon request. The placement firm would then contact you directly for further information. Additional details and an application form can be obtained by writing Mrs. Georgia Kane.



MANPOWER REPORT announced in the



October issue of E. E. (p. 2) has been reduced in price. "Career Outlook in Engineering (Regions 1 through 6, USA)" will cost \$15 for non-members and \$10 for members.

"LEGISLATION OF INTEREST to Engineers" has been prepared by the Washington office staffs of IEEE and the American Society of Mechanical Engineers (ASME). This booklet lists all of the bills introduced in Congress that affect our field, gives a brief description of the legislation, and indicates the House or Senate Committee to which the bill was referred. Copies have been mailed to all Section and Group/Society Chairmen. Additional copies are available by writing Emma White.

PENSION REFORM legislation has been delayed in the House of Representatives. No action is expected on any pension bill until late January or early February. The Senate has already passed a reform bill containing the three amendments we are fighting for. (See E. E., Oct., p. 1)

#### MORE TOP-SIDE DEVELOPMENTS

BYLAW CHANGES approved by the BofD:  
311.15 (new) - Audit Committee created as a standing committee that reports to the BofD. It shall consist of 3 to 5 members

E. E. is sent without cost beyond dues to officers of IEEE Boards, Committees; Divisions, Societies, Groups, Conferences; Regions, Councils, Sections, Subsections, Chapters, and Branches. Second-class postage is paid at New York, N. Y.

of the Board, none of whom shall be an officer. The Treasurer and General Manager shall serve as ex officio members without vote. Formation of this committee was recommended by Price Waterhouse, the Institute's accounting firm.

110.1 (billing) - Revised to allow additional time for the first dues installment by non-U. S. members because of mail delays to these areas.

311.9 (Nominations & Appointments Com.) - revised to prohibit any member of this Committee from being nominated to positions on the ExecCom for the succeeding year.

109.6 (new) - Allows any member above Student grade to pay all Institute dues and Regional and Group/Society fees in advance at the annual rate currently in effect. No refund subsequently will be made of monies paid in advance.

WILLIAM H. THOMPSON has resigned his position as Secretary. His duties will be performed by Executive Director Donald G. Fink until the new Secretary assumes his office on January 1.

FIRST MEETINGS of the newly elected and appointed BofD and ExecCom have been announced. The BofD will meet January 9 and the ExecCom on the following day. Both meetings will be at IEEE Headquarters.

ENERGY LEGISLATION was discussed by BofD. They endorsed two bills currently in Congress. Statements reprinted on p. 4K.

RESOLUTION ON HUMAN RIGHTS was passed by the BofD in September in response to serious penalties imposed on engineers and scientists who desire to emigrate from the Soviet Union. Part of the resolution noted that the BofD "views with great concern the infringement on basic freedoms wherever they occur, particularly when engineers and scientists are singled out as victims because of their professions."

The resolution was sent to many engineering and scientific societies including President Siforov of the Popov Society and President M. Keldysh and Vice President V. A. Kotelnikov of the Soviet Academy of Sciences. (Complete text, Spectrum, Nov., p. 58)

The (U. S.) National Academy of Sciences has also sent a cable to the Soviet Academy of Sciences expressing their concern.

TWO CHAIRMEN for 1974 were approved by the BofD. They are Robert Tanner, Long Range Planning Committee, and Walter Beam, IEEE Press Board. The BofD also appointed Robert L. Lucky as Editor of "Proceedings." The ExecCom appointed Walter Dennen as Chairman of the Public Relations Advisory Committee and reappointed W. K. MacAdam to the United Engineering Trustees (UET) Board of Directors. They also reappointed Morris Hooven to the Engineers' Council for Professional Development (ECPD)/Engineers' Joint Council (EJC) Survey of the Profession Committee. Congratulations!

#### PRODS AND OPPORTUNITIES

VIRGINIA KNAUER, Special Presidential Advisor on Consumer Affairs, challenged IEEE to develop a system with which the serviceability of major appliances may be gauged. The challenge, aimed at the IEEE's Domestic Appliance Committee, was issued at the 24th Appliance Technical Conference. Mrs. Knauer noted that the National Electric Association (NEA) has already established a serviceability rating system for home electronic products. "If NEA can do it," she said, "so can you (the IEEE)."

CONGRESSIONAL FELLOW applications are now being solicited. Material should be sent to Ralph Clark, IEEE, 2029 "K" Street, N. W., Washington, D. C. 20006 by February 15. (Additional details in Spectrum, Dec., p. 114)

NATIONAL ENGINEERS WEEK is February 17-23. This is your last reminder to coordinate a local activity around the theme "Engineering... Our Greatest

Energy Resource." A list of promotional material available for purchase from the National Society of Professional Engineers (NSPE) is printed on page 4I. A limited number of promotional kits are available from Martin Gitten, IEEE Headquarters.

NEW LOCAL OFFICERS who assume their posts on January 1 should give a high priority to filling any open committee positions so that no operating time is lost in changing commands. Immediately report any names includable in the Organization Roster, so that the new edition can be rapidly compiled. (Write Emily Sirjane)

NOMINATIONS DEADLINE for the 1975 IEEE President and Vice President is February 1. The applications were printed in E. E., Oct., pp. 4A-B.

#### CONVENTION NEWS

TECHNICAL PROGRAM at IEEE INTERCON will have 39 half-day sessions during a three-day span. The sessions will run from Tuesday through Thursday, March 26-28. The traditional Friday sessions have been dropped. The program is concentrated in five high-interest subject areas: Solid State Electronics; Computers and Information; Instrumentation; Communications and Data Transmission; and Marketing. The sessions will be held at the Statler Hilton Hotel (across from Penn Station). Free shuttle bus service will connect the hotel with the New York Coliseum, where the exhibition will be held. A complete list of sessions and papers will be published in the January issue of "Spectrum."

MEETING ROOMS are available for any Region, Group, Committee, or other IEEE segment planning on getting together during IEEE INTERCON. All requests must be submitted in writing to IEEE INTERCON by February 15. Please include the number of people you expect and any audio/visual requirements you may have.

IEEE INTERCON/WESCON Operations Manager in New York will be William



Weber, Jr. He has replaced Howard Schumacher. (See Welcome Aboard, p. 6.) Mr. Schumacher left IEEE to become General Manager of the American Electroplaters' Society. We add our best wishes for success in his new assignment.

GUEST SPEAKER at the Life Member session at IEEE INTERCON will be Gordon Friedlander, Senior Staff Writer on Spectrum. He will talk about the famous Yugoslavian inventor Nikola Tesla.

#### TOOLS AND AIDS

IEEE STANDARDS 1974 CATALOG is now in print. It lists over 350 standards publications by subject as well as in numerical sequence and is available free of charge. Included in this year's catalog are many of the American National Standards published by IEEE. Single copies of the Catalog are available by writing the IEEE Standards Department.

FAST COMMUNICATIONS with the Headquarters and Washington offices has been aided by the installation of Xerox Telecopiers. The machines are not directly coupled to the telephone, so calls must be placed through the switchboard. To send facimile material to New York, dial (212) 752-6800, ext. 754 between the hours of 9 AM and 4 PM, EST. The number for Washington is (202) 785-0017.

ALL INSPEC information services, published by the Institution of Electrical Engineers, will be distributed by the IEEE in the Americas. The IEEE has agreed to distribute "Physics Abstracts" and "Current Papers in Physics" previously handled by the American Institute of Physics (AIP). In addition, the Institute will also distribute two new INSPEC publications, "ISMEC Bulletin" and "Metron." Complete descriptions of the INSPEC publications, examples, and subscription rates are available by writing: INSPEC Information Services, IEEE Headquarters.

#### PUBLICATION NEWS

IEEE MICROFICHE will be produced in a modified format beginning with the 1974 issues. In order to conform with the standards of the National Microfilm Association, each microfiche will contain a maximum of 98 pages. This means that the page size will be reduced by a factor of 24 rather than by 20 as is currently done. The 20X lens used in your current equipment can still be used under the new format. Most micropublishers and U. S. government agencies have adopted or are adopting this new format.

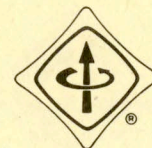
IEEE PRESS has announced a new book in its selected reprint series. "Computer-aided Filter Design" includes 45 reprint papers including such topics as: approximation, synthesis, optimization, sensitivity, and time-domain design. Sponsored by the Circuits and Systems Society, it was edited by George Szentimai. (Price: cloth bound \$13.95 for non-members; cloth bound \$10.45 and paper bound \$7.00 for IEEE members)

IEEE PRESS books are now available for purchase in bulk quantities by Groups / Societies or other appropriate IEEE units at a 30% discount. They may then sell the books at list price. Consider this new policy as a possible way to earn additional income at a large meeting or exposition.

#### REGION AND SECTION NEWS

PROFESSIONAL ACTIVITIES COMMITTEE (PAC) members have asked for direction on how to set up their activities. While the Institute is preparing a formal set of guidelines, we have reprinted an outline prepared for Region 6 Sections on page 4G.

INTERESTING SPEAKERS, visiting any part of the world, are invited to participate in the Outstanding Lecture Tour. Contact Peter Edmonds and advise him of your topic, probable itinerary and dates. Three months advance notice of your travel plans are needed, even if the dates are tentative. The name of a technical colleague who has



#### THE IEEE FELLOW NOMINATION

J. D. Ryder  
Chairman, 1973 IEEE Fellow Committee

The Fellow Award is conferred by the Board of Directors of the IEEE to persons of outstanding and extraordinary qualifications, who have made important individual contributions to one or more of the fields covered by the IEEE. The underlined words are taken from the Bylaw describing Fellow qualifications. The Fellow Committee of seventeen, working from material submitted by the nominator of a candidate, tries to evaluate the discovery, the research, the engineering or the management achievement which was the individual contribution of the candidate.

Nominations for Fellow are solicited from individual members of IEEE during the fall and winter of each year with an absolute cutoff date of April 30 for each year's class. Forms to be used in nominations are available from Headquarters. To be eligible, a nominee must hold Senior Member grade of membership, and have been a member in any grade for five years prior to January 1 of the year of consideration.

In addition to the nomination form (B-27) there must be received five references (form B-29) from members who hold Fellow grade (special arrangements are made for nominees from Regions 8, 9, 10); endorsing letters from Sections or Technical Committees of the Institute may be included if thought appropriate. This material must all be on hand at Headquarters on April 30 or before.

The major responsibility for the success of a Fellow nomination rests on the nominator. As the winning jockey in the Kentucky Derby must select a good horse, so must the nominator select a good candidate to present. Then must follow a well prepared form which clearly and explicitly states the achievements and contributions of the candidate.

A man's job title does not justify his Fellow election. Neither can personal acquaintance fill in gaps in the form - the members of the Fellow Committee work and rate the candidates in individual isolation, and the ultimate ranking of a candidate is the composite score of eight judges, each rating a candidate in eight categories.

What the Committee would like to know and is not always told is: Did the contributions cited lead to a major technical advance, did they remove a roadblock, did they increase the efficiency of the team or department in a marked manner, did they open a new technical area? Was the impact of the contribution international or national in scope, or was the impact restricted to industry or company?

The nominator is asked to state what he considers the single most important contribution of his candidate.

The nominator must make that decision as to the major contribution, rather than leaving this to the uncertainties of understanding by the members of the Fellow Committee. Further supporting contributions can then be added, but the nominator must state them concisely.

It seems especially difficult to state the contributions of an individual whose position is in management. Yet sixty per cent of our Fellow candidates occupy such positions as director of engineering, chief engineer, research director, vice-president, president, and a great many Fellows are elected from this group each year. The nominator must state his candidate's outstanding individual contributions in succinct form; these contributions should not be stated in generalities. The statements must be specific and give examples, otherwise a Fellow Committee judge may complete his study of a candidate's dossier without an answer to the basic question: "What did this candidate do?" or "How does his contribution differ from that of one hundred other men doing good engineering work under the same job title?"

Consider a nomination which states: "He is responsible for the planning, engineering design, and construction management of transmission line and substation facilities. In addition he has been responsible for system planning studies covering the expansion of the transmission and distribution network in a three-state area. He provided the leadership in identifying the problems and creating the essential changes leading to the production of valuable results..." To state that problems were solved without describing them gives a judge no opportunity to measure those problems. To state a man's responsibilities without indicating the manner in which those responsibilities were discharged, gives a judge no yardstick for measurement.

How much better is the picture presented if the above were phrased as: "By management and personal foresight he led his system to be the first in the western USA to adopt system modelling practices, by which system and transmission line loading has been successfully predicted for seven years. His work also led to the siting of the - - nuclear plant of - - kW and its successful conduct through environmental hearings at state and federal levels without recourse to the courts."

Or from another: "He led the research group numbering twenty-seven which first successfully applied the analog computer in industrial in-plant control; in particular, his patents No. -- and No. -- were major breakthroughs in that work. Today the research department which he built is recognized as a national leader in the application of computers to process control."



The nominator is asked to list the three most important publications by his candidate, and then to cite seventeen more of lesser importance if desired. Candidates with long records of publication cannot then overshadow candidates with lesser numbers, but some publication activity is expected of all, since dissemination of technical knowledge is part of the duty of an engineer. The nominator should be selective in the listing of papers and books, and should note that unpublished speeches and committee reports are not "publications." The emphasis is now on quality of publication rather than extreme numbers.

The nominator should not refer to the candidate's paper on "The Quality Function of Nonlinear Octagonal Parameters" and then fail to list this paper as important. Neither should a reference cite an unlisted paper, since this raises questions as to the validity of the original citations. Both of these events have happened, however.

The nominator must also designate the Groups/Societies by which he wishes the candidate to be considered, for evaluation by a man's peers in his technical field. This designation is independent of the Groups/Societies with which the candidate is affiliated, being dependent only on field of work. If a man's field of work covers the scopes of several Groups/Societies, then multiple evaluations should be requested. This seems especially important for managers, who might be considered by a Group/Society representing their technical specialty and by the Engineering Management Society, or for men whose part-time responsibility is in teaching, where an evaluation might be sought from the Education Group as well as by one or more technical Groups/Societies.

Such are the burdens of the nominator, the man who presumably knows the candidate best - the decisions are his for that reason. The Fellow Committee has no other data than that presented in the nomination and in the references. Experience indicates that even with the shortened form of 1973, each candidate is represented by about 15 pages of material, and this is sufficient to present a concise case. Many excellent dossiers were included in this year's nominations.

The nomination must be supported by five references from Fellows, although the problems of Fellow references in Regions 8, 9 and 10 are recognized by special arrangements. These references are chosen and contacted by the nominator, and should be those he knows to have knowledge concerning the career and work of the candidate. These references need not know the candidate personally, but it is expected that the work of a man prominent enough to be considered for Fellow will be known to many others in the field. These references are asked to express a judgment as to whether the work of the candidate is of sufficient excellence for Fellow election.

It is not sufficient for a reference to depend on a hearsay statement from a friend who knows of the can-

didate's work; the reference is expected to personally know of that work or to indicate his inability to serve as a reference. It should be emphasized that responsible statements are desired; qualified statements are valuable. All references are protected by the completely confidential treatment of the statements, which go only with the candidates' dossiers to members of the Fellow Committee.

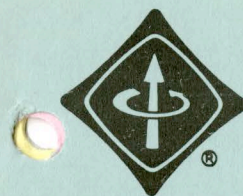
After the April 30 deadline, copies of the dossiers of all candidates (without the reference forms) are sent to designated Groups/Societies for evaluation by their Awards Committees or by ad hoc committees established for the purpose. These committees report on each candidate's work, and rank the candidates, and this material is supplied to the judges of the Fellow Committee for their consideration.

Section or Technical Committee endorsements should be given only after careful study. It would be helpful if a Section would state how a candidate ranks with respect to other Fellows in the Section. If a Section is fortunate enough to have several candidates in a given year, then a considered ranking of these candidates would be helpful.

In Fellow Committee processing, the candidates' dossiers are assembled and numbered; each is evaluated by eight members of the Fellow Committee working independently. With over three hundred nominations per year this is the only feasible method and it takes from 60 to 90 hours of each judge's time. Grading is in eight weighted categories, in which the individual's contribution is given especial consideration, as called for in the Bylaws. A ranking of candidates is prepared by relative overall score, which represents an average of the independent opinions of the eight judges. A breaking point in this listing is then chosen, to yield the number of candidates permitted by the limit of 1/200 of the number of Senior Members in the Institute. The resultant list is then recommended to the Board of Directors for their consideration and election.

The Fellow Committee can work only with the candidates submitted, it does not go seeking nominees. Neither can it control the numbers nominated from our various fields of work. In fact, fields of activity, geographical areas, or Group/Society affiliations are not discussed in Committee meeting; with over 300 candidates per year even names have little meaning. We can look only at the record as submitted.

Within the limitation on numbers imposed by the Bylaws, the Fellow Committee wishes to choose the best men each year. Thus the emphasis on objective evaluations by as many groups as possible, and the responsible judgments which we hope to receive from such groups, all to insure an appropriate ranking in candidate ability across the tremendous spread which is the field of electronics and electrical engineering.



# Technical Activities Board

The names of the 31 IEEE Groups and Societies are given below and on the back of this page. They are listed in 3 different ways for your convenience: alphabetically, numerically, and by Division.

## IEEE G/S Listing by Number

G/S CODE	DIV	GROUP/SOCIETY NAME
1-ASSP	I	Acoustics, Speech & Signal Processing
2-B	III	Broadcasting
3-AP	IV	Antennas & Propagation
4-CAS	I	Circuits & Systems
5-N&PS	II	Nuclear & Plasma Sciences
6-VT	II	Vehicular Technology
7-R	VI	Reliability
8-BTR	III	Broadcast & Television Receivers
9-IM	II	Instrumentation & Measurements
10-AES	III	Aerospace & Electronic Systems
12-IT	I	Information Theory
13-IECI	I	Industrial Electronics & Control Instrumentation
14-EM	VI	Engineering Management
15-ED	IV	Electron Devices
16-C	V	Computer
17-MTT	IV	Microwave Theory & Techniques
18-EMB	VI	Engineering in Medicine & Biology
19-COM	III	Communications
20-SU	IV	Sonics & Ultrasonics
21-PHP	IV	Parts, Hybrids & Packaging
23-CS	I	Control Systems
25-E	VI	Education
26-PC	VI	Professional Communication
27-EMC	III	Electromagnetic Compatibility
28-SMC	VI	Systems, Man, & Cybernetics
29-GEO	VI	Geoscience Electronics
31-PES	II	Power Engineering
32-EI	II	Electrical Insulation
33-Mag	IV	Magnetics
34-IA	II	Industry Applications
35-MfgT	VI	Manufacturing Technology

## IEEE G/S Alphabetical Listing

G/S CODE	DIV	GROUP/SOCIETY NAME
10-AES	III	Aerospace & Electronic Systems
3-AP	IV	Antennas & Propagation
1-ASSP	I	Acoustics, Speech & Signal Processing
8-BTR	III	Broadcast & Television Receivers
2-B	III	Broadcasting
4-CAS	I	Circuits & Systems
19-COM	III	Communications
16-C	V	Computer
23-CS	I	Control Systems
25-E	VI	Education
32-EI	II	Electrical Insulation
27-EMC	III	Electromagnetic Compatibility
15-ED	IV	Electron Devices
18-EMB	VI	Engineering in Medicine & Biology
14-EM	VI	Engineering Management
29-GEO	VI	Geoscience Electronics
13-IECI	II	Industrial Electronics & Control Instrumentation
34-IA	II	Industry Applications
12-IT	I	Information Theory
9-IM	II	Instrumentation & Measurements
33-Mag	IV	Magnetics
35-MfgT	VI	Manufacturing Technology
17-MTT	IV	Microwave Theory & Techniques
5-N&PS	II	Nuclear & Plasma Sciences
21-PHP	IV	Parts, Hybrids & Packaging
31-PES	II	Power Engineering
26-PC	VI	Professional Communication
7-R	VI	Reliability
20-SU	IV	Sonics & Ultrasonics
28-SMC	VI	Systems, Man, & Cybernetics
6-VT	II	Vehicular Technology



# IEEE G/S Listing by Division

G/S CODE      GROUP/SOCIETY NAME BY DIVISION

## DIVISION I

1-ASSP      Acoustics, Speech & Signal  
                 Processing  
4-CAS      Circuits and Systems  
12-IT      Information Theory  
23-CS      Control Systems

## DIVISION II

5-N&PS      Nuclear & Plasma Sciences  
6-VT      Vehicular Technology  
9-IM      Instrumentation & Measurements  
13-IECI      Industrial Electronics & Control  
                 Instrumentation  
31-PE      Power Engineering  
32-EI      Electrical Insulation  
34-IA      Industrial Applications

## DIVISION III

2-B      Broadcasting  
8-BTR      Broadcast & Television Receivers  
10-AES      Aerospace & Electronic Systems  
19-COM      Communications  
27-EMC      Electromagnetic Compatibility

## DIVISION IV

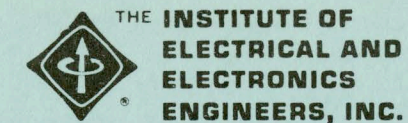
3-AP      Antennas & Propagation  
15-ED      Electron Devices  
17-MTT      Microwave Theory & Techniques  
20-SU      Sonics & Ultrasonics  
21-PHP      Parts, Hybrids & Packaging  
33-Mag      Magnetics

## DIVISION V

16-C      Computer

## DIVISION VI

7-R      Reliability  
14-EM      Engineering Management  
18-EMB      Engineering in Medicine &  
                 Biology  
25-E      Education  
26-PC      Professional Communication  
28-SMC      Systems, Man, & Cybernetics  
29-GEO      Geoscience Electronics  
35-MfgT      Manufacturing Technology



THE INSTITUTE OF  
ELECTRICAL AND  
ELECTRONICS  
ENGINEERS, INC.

345 EAST 47TH STREET, NEW YORK, N.Y. 10017 AREA CODE 212 752-6800

## 1974 TAB/OPERATING COMMITTEE

### CHAIRMAN:

Dr. Robert F. Cotellessa  
Professor and Chairman  
Dept. of Electrical & Computer Engrg.  
Clarkson College of Technology  
Potsdam, New York 13676  
(315) 268-6511

### VICE CHAIRMAN:

Mr. Harold S. Goldberg  
President  
Data Precision Corporation  
Audubon Road  
Wakefield, Mass. 01880  
(617) 246-1600

### SECRETARY:

Dr. Richard M. Emberson  
IEEE - 10th floor  
345 East 47th Street  
New York, N. Y. 10017  
(212) 752-6800, X535

## TAB DIVISIONAL DIRECTORS

### DIVISION I

Dr. John Zaborszky  
Washington University  
Box 1040  
St. Louis, Missouri  
(314) 863-1000

### DIVISION II

Mr. Anthony J. Hornfeck  
Exploratory Research Div.  
Babcock and Wilcox  
1562 Beeson Street  
Alliance, Ohio 44601  
(216) 821-9110

### DIVISION III

Mr. Robert D. Briskman  
Communications Satellite Corp.  
950 L'Enfant Plaza South, S. W.  
Washington, D. C. 20024  
(202) 554-6814

### DIVISION IV

Dr. Leo Young  
Code 5203  
Naval Research Lab.  
Electronics Division  
Washington, D. C. 20390  
(202) 767-2807

### DIVISION V

Dr. Albert S. Hoagland  
IBM Corporation  
Bldg. 910  
P. O. Box 1900  
Boulder, Colorado 80302  
(303) 447-7446

### DIVISION VI

Dr. Robert W. House  
Battelle Columbus Labs.  
505 King Avenue  
Columbus, Ohio 43201  
(614) 299-3151, X2929



FINANCE COMMITTEE

Joseph J. Suozzi  
Bell Telephone Labs  
Room 5D-178  
Whippany, N.J. 07981  
(201) 386-2381

PUBLICATIONS COMMITTEE

Dr. William J. Spencer  
Director, Microelectronics  
Sandia Laboratories  
Albuquerque, N.M. 87115  
(505) 264-7221

TECHNICAL PLANNING

Dr. Benjamin J. Leon  
Purdue University  
School of Elec. Engrg.  
Lafayette, Indiana 47902  
(317) 749-2945

STANDARDS BOARD

Mr. Joseph L. Koepfinger  
Duquesne Light Co.  
435 Sixth Avenue  
Pittsburgh, Pa. 15219  
(412) 471-4300, X6476

IEEE Headquarters Staff (212) 752-6800 TAB Office

<u>Name</u>	<u>Extension</u>	<u>Special Assignment</u>
Emberson, Richard M.	535/537	Director
Bonavisio, Mel	538	G/S Budgets & Finances
Coles, Stephanie	320	Newsletters
Edmonds, Peter D.	333	G/S; TAB Ad Hoc Committees
Goldfinger, Dianne	655	PE Conference Supervisor
Herrick, Marian J.	536	TAB Supervisor
Kelmenson, Esther	537	TAB/TAB Op Com
MacDonald, Edwin	436	IEEE G/S Conference Supervisor
Santos, Alba	432	G/S Minutes, Agendas, Meeting Notices, Stationery
Torto, Malvina	656	G/S AdCom, Officer lists

STANDARDS OFFICE

Sherr, Sava	528	Standards Matters
Abramoff, Andrée	528	Dictionary
Lai, Alvin	528	ANSI Relations and Appointments
Muller, Conrad	528	National Electric Safety Code (C2)
Stanleigh, Bertram	528	Standards Matters
Weinstein, Michael	528	Standards Publications

PROFESSIONAL ACTIVITIES COMMITTEE

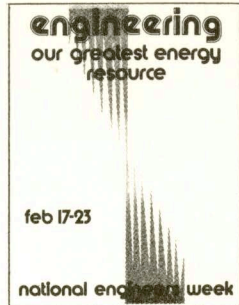
SECTION LEVEL ACTIVITIES

The following are some of the duties, responsibilities and activities that could be undertaken by the PAC Chairman and Committee.

1. Act as the section's central point for receipt and dissemination of information on PAC activities.
  - A. Receive information on Institute and Region actions, review and disseminate appropriate information to section ExCom and members.
  - B. Collect information on PAC activities locally, disseminate locally and forward appropriate information to Region and Institute for wider dissemination and action if required.
2. Develop and maintain liaison with:
  - A. Local government (state, county or city as applicable), and generate list of elected officials and administrators, and means of establishing contact.
  - B. Local sections or chapters of other societies and organizations such as joint councils, etc.
3. Develop and recommend to the section local PAC action program, and assist in formulating and implementing Region and Institute PAC programs.
4. Attend locally held legislative and administrative hearings on subjects of concern to engineers.
5. Conduct sample surveys and otherwise determine the membership opinion on various PAC programs in being or under consideration.
6. Plan programs on PAC affairs to present at a section meeting, or as a regular part of section meetings.
7. Recommend people to serve on the various regional and national PAC committees and sub-committees.



promotional aids for  
 national engineers week feb 17-23



Here are the basic promotional aids  
 with which to build a successful Engineers  
 Week program. Order your aids now and use these promotional materials to  
 emphasize engineering and the 1974 energy theme.

**TV Spot Films:** A set of two color films (30 & 60-second), dramatizing the 1974 National Engineers Week theme. Produced to meet network color standards, can also be shown in black and white. Each film qualifies for public service time during station breaks. Reach your largest audience with these TV announcements. Price: Set of two films, \$30.

**Tape Recorded Radio Announcements:** A set of seven 20-second radio spot announcements, made by a network radio announcer. Designed for use during station breaks as "public service announcements". Price: Set of seven recorded announcements, \$6.

**Posters:** Colorful 11 x 14-inch pasteboard posters carrying the 1974 Engineers Week design and theme. This is the basic promotional item for calling attention to the Week. Use on bulletin boards, in window displays, school exhibits, etc. Price: \$10 per 100.

**Buttons:** Colorful round buttons (with pin clasp) of the 1974 theme design. Every engineer should wear one during February. Ideal as giveaways to family, friends, employees, and customers. Price: 8 for \$1.

**National Engineers Week Seals:** Use these brightly colored seals on all office mail from now through February 23. Poster design printed on 1½ inch gummed paper. Price \$7 per 1000.

**Two creative newspaper stories for National Engineers Week:** By-lined feature stories, written in newspaper style, focus on the theme and the challenge it presents to engineering. Ideal for insertion with illustrations in newspapers or special Engineers Week supplements. Price: \$3 per set.

**Decals:** Six multi-sized, pressure-sensitive decals on 8½ x 11-inch paper. Portray the 1974 theme and design. New item! Price: \$1.50 per page.

**Engineers Week Letterhead:** Packages of 100 printed with theme and design. Use for personal and chapter correspondence, memorandums, announcements. New item produced by your 1973 demands! Price: \$2 for package of 100.

**Glossy Reproduction of Poster Design:** Prepared for printing of invitations, advertisements, newsletters, etc. Package of three allows for black/white or multi-colored use. Every chapter should have one. Price: \$2.

**NATIONAL ENGINEERS WEEK 1974 ORDER BLANK**

- \_\_\_\_\_ TV spot films at \$30
- \_\_\_\_\_ Radio spot announcements at \$6 per set
- \_\_\_\_\_ Posters at \$10 per 100
- \_\_\_\_\_ Buttons at 8 per \$1
- \_\_\_\_\_ Seals at \$7 per 1000
- \_\_\_\_\_ Set of two newspaper stories at \$3 per set
- \_\_\_\_\_ Decals: \$1.50 per sheet of six
- \_\_\_\_\_ Letterhead stationery at \$2 per 100
- \_\_\_\_\_ Glossy reproduction at \$2 per unit

E. E. No. 50—4I

**NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS**  
 2029 K Street, N.W., Washington, D.C. 20006

I enclose a  check  money order in the amount of \$\_\_\_\_\_.

Name \_\_\_\_\_  
 (please print or type)

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

December 1973





STATEMENT OF  
THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS  
AND  
THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS  
ON  
H. R. 11510 AND S. 2744

The Institute of Electrical and Electronics Engineers and the National Society of Professional Engineers appreciate the opportunity to submit their views concerning S. 2744. The membership of these societies includes over 200,000 engineers, many of whom are directly involved in the production, transformation, distribution and use of energy in industry and commerce and all of whom are consumers of energy.

We are encouraged that the general public, the Congress and the Administration are becoming aware of the real magnitude and the numerous debilitating consequences of growing shortages of primary energy in this country. Self sufficiency in energy production, a national goal just recently established, however, involves large scale increases in research and development related to energy as well as a vast improvement in the overall national strategy and management of that effort. While public pronouncements containing optimistic self-sufficiency forecasts in terms of time and effort might have some psychological value, engineers realize that solutions of the problems are complicated and difficult.

Research and development, including large scale pilot plant and process demonstrations, will be required in all phases of energy recovery, conversion, processing, distribution and utilization. Areas of research and development which heretofore have been of little or secondary interest to industry must be expanded. These include nuclear fusion, solar, and geothermal sources of energy, as well as conservation and improved efficiency in energy conversion, distribution, and use.

Governmental proposals for increased funding of energy research generally and attention to the neglected areas are encouraging, but can not be implemented unless effectively and efficiently managed.

The Chairman of the Senate Interior and Insular Affairs Committee has stated, in his memorandum transmitting the staff analysis "Federal Energy Organization" (Serial No. 93-6 (92-11)) March 6, 1973, prepared in response to Senate Resolution 45 of the 92nd Congress:

"The well-publicized deficiencies of Federal organization in the energy field have become increasingly apparent in the course of the National Fuels and Energy Policy Study authorized by the 92nd Congress. Whether the subject is oil import policy, energy resource management or research and development programs, the lack of adequate authority and proper coordination is all too clear. And while no one suggests that better organization by itself will solve our energy problems, there appears to be general agreement that a revamped and strengthened energy organization is a necessary event to more rational energy policies."



The Analysis states:

"Throughout the hearings and studies, it has been apparent that there is a significant organizational aspect to energy problems. The existing organization has contributed to current and emerging problems in at least three respects:

(1) it has failed to anticipate emerging energy problems, such as diminishing fuel reserves and environmental confrontations, and to initiate timely corrective action to forestall crises;

(2) it has failed to react adequately to mitigate those crises which have, in fact, occurred, such as increasing fuel shortages and loss of electric power system reliability, and

(3) it does not appear to have the initiative and sufficient reliable and credible information to develop and support the policy decisions which must now be made."

The societies clearly recognize the solutions to tough problems depend upon men and not organizations, but faulty or inadequate organization can, nevertheless, often frustrate and nullify the efforts of the best of men.

The United States has on occasions in the last few decades demonstrated its capabilities to combine men and organizations to achieve great things. What this country really needs, in the view of its technologists, is firm commitment to a national purpose structured in much the same way and with promise of the same success as were the programs that put men on the moon through NASA's efforts; provided electricity to rural areas through the creation of TVA; produced the Navy FBM weapons system through the Special Project Office; unlocked the secrets of the atom for defense needs through establishment of the AEC.

Once we establish an adequate research and development organization, we can proceed to install the visionary leadership and administrative talent needed to accomplish this truly herculean task.

H.R. 11510 and S. 2744 provide a major step in improvement of energy organization. Further steps will be required to translate research and development results into national energy production and management programs which can make us self sufficient. But rationalizing the organization for energy research and development is an essential immediate step in the implementation of this activity if we are to reach energy self sufficiency even by the year 2000.

The engineering societies wholeheartedly support H.R. 11510 and S. 2744.

We recognize that there continues to exist a serious concern with the placement of weapons research and development responsibility in the proposed Energy Research and Development Agency. We believe, however, that the inevitable delays which would develop as the Congress attempts to resolve that problem at this time could have a most serious effect delaying critically needed energy research and development programs.

We strongly recommend proceeding expeditiously with H.R. 11510 and S. 2744. While noting that the Energy Reorganization Act of 1973 is intended "to bring together and direct Federal activities relating to research and development on various sources of energy" we would in closing point out that, important as H.R. 11510 and S. 2744 are, they represent but a single factor in the extraordinarily long list of vital measures that the Congress and the Administration must address without a single day's further delay if the United States is to survive, socially, economically and militarily, as a free nation.

STATEMENT OF  
AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS  
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS  
AMERICAN INSTITUTE OF MINING, METALLURGICAL, AND PETROLEUM ENGINEERS  
AMERICAN SOCIETY OF CIVIL ENGINEERS  
AMERICAN SOCIETY OF MECHANICAL ENGINEERS  
INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS  
ON  
H.R. 11510 AND S. 2744

The above listed engineering societies appreciate the opportunity to submit their views concerning H.R. 11510 and S. 2744. The membership of these societies includes approximately 480,000 engineers and scientists, many of whom are directly involved in the production, transformation, distribution and use of energy in industry and commerce, and all of whom are consumers of energy as citizens of the United States.

We are encouraged that the general public, the Congress, and the Administration are becoming aware of the real magnitude and the numerous debilitating consequences of the growing shortages of primary energy in this country. Self sufficiency in energy production, a National goal just recently proclaimed, involves large scale increases in research and development related to energy as well as a vast improvement in the overall National strategy and management of that effort. A general misunderstanding exists, however, as to the great length of time and the enormous magnitude of effort which will be required for the United States to become self sufficient in the production of environmentally clean energy.

Research and development, including large scale pilot plant and process demonstration, will be required in all phases of energy recovery, conversion, processing, distribution and utilization. Governmental attention must be devoted to areas of research and development which have heretofore been neglected. All this essential effort could come to little or naught, however, unless the research activity were effectively coordinated and the development activity effectively and efficiently managed.

The solutions to difficult problems depend upon men and not organizations, but faulty or inadequate organization can frustrate and nullify the efforts of the best of men. We share a concern in this connection that Section 106(a) of H.R. 11510 and its equivalent in S. 2744 does not reference the voluntarily developed consensus standards that have been consistently referenced by state and Federal



regulatory bodies over the years. We offer for your consideration the following wording which could be added to Section 106(a):

"The Administrator is authorized to reference American National Standards as appropriate in Administrative Regulations and Guides."

H.R. 11510 and S. 2744 recognize the need for a major step in the improvement of energy organization. Much more will be required if research and development results are to be translated into National energy production and management programs to make us self sufficient in 20 years (even by the year 2000), but a National organization for energy research and development is a necessary, first step because the products of research, development and demonstrations are going to be necessary to all future actions.

We strongly recommend proceeding expeditiously.

heard you speak and could function as a peer reference should also be supplied. The expense of deviating from your itinerary to fulfill an IEEE speaking engagement is reimbursable from IEEE funds for this program. Intercontinental travel costs are not reimbursable.

It is most important that you give as much advance notice of your travel plans as possible. Delaying until you have total confirmation of plans may make it too late to assemble an audience.

**YEAR-END REPORTS DUE.** Section meeting report and financial statement shall be forwarded to the General Manager by February 1. (Bylaws 402.8, 402.9). Your Section rebate will be delayed if these reports are not received on time. You are also requested to submit the names of newly elected officers to IEEE Headquarters within 20 days following the election. (Bylaw 402.5)

#### STUDENT NEWS

**NEW MEMBERSHIP** presentation is being prepared. It will be a slide-tape show illustrating the benefits of IEEE Student membership. Budding photographers should send good color slides or pictures of their Branch activities to Bob Asdal. They may also be used in the Student Newsletter or other IEEE publications.

**ANNUAL REPORT** and Financial Statement forms have been mailed to every Branch. One copy is to be completed and returned by February 1. Your annual rebate is contingent upon receipt of this report prior to the deadline. If you do not have the records of the previous officers, concentrate on your term and begin a new procedure to insure continuity of records.

**PERFORMANCE QUESTIONNAIRE**, taken in 1973, has been tabulated and will be distributed to Branch Counselors. The report is titled "Factors Relating to IEEE Student Branch Performance." It will provide a basis for matching your Branch's performance with others.

#### HONORS

**NEW FELLOWS** were elected by the BofD. One hundred sixteen members were so honored. The names of the new Fellows and their citations will be published in the January issue of Spectrum. The individual presentations will be made at various Section and Group/Society functions. Additional recognition will be given them during IEEE INTERCON. Fellow nominations for next year must be received in Headquarters by April 30. Forms are available by writing Emily Sirjane. A detailed article with suggestions for filling out the form and explaining the selection procedure is reprinted on pages 4A and 4B. (See Spectrum, Dec., p. 66; E. E., Oct., p. 1)

**SUMMARY OF IEEE AWARDS** and Prizes were printed in Spectrum (Nov., p. 114). Think of people in your field who deserve to be honored and submit their names. No one knows who they are better than you do. (Forms, Una Lennon. Specify the Award since forms differ.)

**WILLIAM BENNETT KOUWENHOVEN** received an Albert Lasker Medical Research Award in November for research which led to the developing of cardiac massage, defibrillators, and Pacemakers. In 1961, he received the Edison Medal from IEEE for research on defibrillators. He is a Fellow of IEEE. (See "People," Spectrum, Jan. '74.)

#### FOR YOUR INFORMATION

**GROUNDBREAKING CEREMONIES** for IEEE's new Piscataway, N. J. office building took place in October. The 36,000 sq. ft. office facility is expected to be ready for occupancy in the fall of 1974. Upon completion, the Administrative Services (including the computer) Department will occupy the site. (See E. E., June, p. 1; Apr., p. 1)

**IEEE FOUNDATION** has received a donation of \$5,000 from Westinghouse to support the IEEE Lamme Medal. The check was presented to President Chestnut by



Joe Dillard, Vice President - Technical Activities and Manager of Advanced Systems Technology, Westinghouse Electric Corporation. The presentation was made during Wescon. (See Spectrum, Dec., p. 17)

IEEE PROFESSIONAL NEWS is a report of USAC activities. It is sent to all U.S. members including students.

COMMITTEE OF SCIENTIFIC SOCIETY PRESIDENTS (CSSP) has passed a resolution urging a more directive role for engineers and scientists in the management of national science and technology. They also recommended a study of the safety of nuclear power plants.

According to CSSP members, the present energy problem is a dramatic example of the gap left by the absence of effective national coordination between government and science. At a recent meeting in Washington, D.C., they noted that abundant and timely advice that had predicted the problem was previously offered to government, but no permanent or potent mechanism existed to promote the institution of programs which would have headed off the problem before it became a crisis.

TYPOGRAPHICAL error on page 1 of the last E.E. led to "Life Member" being written as "Live Member." IEEE "Live" Member and Fellow Harry Bruncke caught it. He wrote E.E. to say, "I'm happy to see the new title of the 'Live' Member Fund Committee. Recognition is given that we former Life Members are still up and active." (Harry, I'm unhappy about the error, but happy about the inference. - Ed.)

\* \* \*

Centerfold pages:

Ivory	- Fellow Nomination	4A-4B
Green	- TAB News	4C-4F
Pink	- PAC Guidelines	4G
White	- Engineers Week	4I
Canary	- Energy Statement	4K-4N

WELCOME ABOARD!

New Group/Society Chapters in Sections:

Mexico Section: Communications Chapter  
 Richland Section: Joint Computer/Power Engineering Chapter  
 Tokyo Section: Industry Applications Chapter  
 Tokyo Section: Instrumentation & Measurement Chapter  
 Toledo Section: Joint Control Systems/Industrial Electronics & Control Instrumentation/Computer Chapter (formed by expanding Control Systems Chapter to include the other two)

Staff:

Lawrence "Larry" Liebman, Manager of Printing Services for the Publishing Services Department. He will assume the responsibilities for the purchase of composition and printing for IEEE publications. He joins the Institute after seven years with the Journal Department of Academic Press where he was Production Manager and, more recently, Manufacturing Coordinator.  
 William C. "Bill" Weber, Operations Manager, New York joins Don Larson's staff. He was Executive Director of the national Electronic Representatives Association (ERA) for four years, when he became Executive Vice President of Compar Corporation, a national distributor and manufacturers' representative firm. Most recently, he served as a special executive representative of Pacific Gas and Electric Co. He served as a city councilman in San Mateo, California and chairman of their parks and recreation commission. Weber was also active as a Wescon exhibitor and committee chairman.

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION  
 (Act of August 12, 1970: Section 3685, Title 39, United States Code)

1. Title of publication-Electrical Engineering
2. Date of filing-October 1, 1973
3. Frequency of issue-Bimonthly
4. Location of known office of publication (not printers)-IEEE, 345 E. 47th Street, New York, N.Y. 10017
5. Location of the Headquarters or general business offices of the publishers (not printers)- IEEE, 345 E. 47th Street, New York, N.Y. 10017
6. Names and addresses of Publisher, Editor, and Managing Editor  
 Publisher (name and address) -IEEE, 345 E. 47th Street, New York, N.Y. 10017  
 Editor (name and address) - Mr. Martin Gitten, IEEE, 345 E. 47th St., N.Y. 10017  
 Manager Editor (name and address) - none
7. Owner (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1% or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual owner must be given.)- The Institute of Electrical and Electronics Engineers, Inc. (membership society), 345 East 47th Street, New York, N.Y. 10017.
8. Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities. (If there are none, so state) - none
9. For optional completion by Publishers mailing at the regular rates (Section 132.121, Postal Service Manual) - 39 U.S.C. 3626 provides in pertinent part: "No person who would have been entitled to mail matter under former section 4359 of this title shall mail such matter at the rates provided under this subsection unless he files annually with the Postal Service a written request for permission to mail matter at such rates."  
 In accordance with the provisions of this statute, I hereby request permission to mail the publication named in Item 1 at the reduced postage rates presently authorized by 39 U.S.C. 3626.  
 Signature and title of editor, publisher, business manager, or owner -Martin Gitten, Ed.
10. For completion by nonprofit organizations authorized to mail at special rates (Section 132.122, Postal Manual) -The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes-have changed during the preceding 12 months. (If changed, publisher must submit explanation of change with this statement.)

11. Extent and nature of circulation	Average no. copies each issue during the preceding 12 months	Actual number of copies of single issue published nearest to filing date
A. Total no. copies printed (Net Press Run)	4,416	4,250
B. Paid circulation		
1. Sales through dealers and carriers, street vendors and counter sales	---	---
2. Mail subscriptions	3,900	3,810
C. Total paid circulation	3,900	3,810



11. Extent and nature of circulation (Cont'd)	Average no. copies each issue during the preceding 12 months	Actual number of copies of single issue published nearest to filing date
D. Free distribution by mail, carrier or other means		
1. Samples, complimentary, and other free copies	200	253
2. Copies distributed to news agents, but not sold	---	---
E. Total Disbritution (Sum of C and D)	4,100	4,063
F. Office use, left-over, unaccounted, spoiled after printing	316	187
G. Total (Sum of E & F - should equal net press run shown in A)	4,416	4,250

I certify that the statements made by me in the above are correct and complete.  
(Signature of editor, publisher, business manager, or owner) - Martin Gitten

Attachment to PS Form 3526, re Item 10:

By amendment to its certificate of consolidation, its governing instrument under New York State law, the purposes of the publisher were changed in the preceding twelve months. It is felt, however, that this change will not cause a change in the publisher's qualification for special rates. Complete details of the change, and an explanation of the reasons that no change in qualification for special rates will result, were contained in a letter dated March 16, 1973 to Mr. Darwin Sharp, Manager, Mail Classification Division, United States Postal Service, from Mr. Donald G. Fink, Executive Director of IEEE.