

History Of The IEEE Power Engineering Society

Evolution of the IEEE 1884-1987

The last quarter of the nineteenth century was marked by a tremendous growth in electrical technology. By the early 1880s the United States was criss-crossed by telegraph wires, and Europe and America were connected by underwater cable. Arc lights were in use in several cities, Thomas Edison's Pearl Street Station was supplying power for incandescent lighting, there were numerous firms manufacturing electrical equipment, and the telephone was growing in importance as a communications tool. This burgeoning electrical activity prompted the Franklin Institute to sponsor an International Electrical Exhibition at Philadelphia in 1884. This exhibition in turn proved to be the catalyst which resulted in the formation of the American Institute of Electrical Engineers—the original ancestor of today's Institute of Electrical and Electronics Engineers.

By 1884 civil, mining, and mechanical engineers had all formed their own national societies, but there was no organization of electrical engineers in America. In the April 15, 1884 issue of **THE OPERATOR**, the major American electrical journal, 25 prominent figures in electrical technology, including men like Edison, Elihu Thomson, Edwin Houston, and Edward Weston, were listed as signers of a "call" drafted by Nathaniel S. Keith. The call noted that the upcoming Philadelphia Exhibition would be attended by numerous "foreign electrical savants, engineers, and manufacturers . . ." and that ". . . it would be a lasting disgrace to American electricians if no American electrical national society was in existence to receive them with the honors due them from their collaborators in the United States."

On April 15 the signers of the call, plus five additional electrical practitioners, met in the headquarters of the American Society of Civil Engineers in New York to devise an organizational structure for the proposed electrical engineering society. The first general meeting was held on May 13, also at ASCE headquarters. Here the proposed organizational rules were adopted and officers were elected. Norvin Green, president of the Western Union Telegraph Company, was elected president, N. S. Keith, drafter of the call, became Secretary, and R. R. Hazard became Treasurer. Six Vice-Presidents were also chosen: Alexander Graham Bell, Charles D. Cross, Thomas A. Edison, George A. Hamilton, Charles H. Haskins, and Frank L. Pope.

The AIEE held its first technical session on October 7-8 at the Franklin Institute during the Exhibition. The papers presented there were published in the initial volume of **Transactions of the AIEE**, issued in

1884. The first paper, "Notes on Phenomena in Incandescent Lamps" by E. J. Houston, was a discussion of the Edison Effect, the phenomenon which became the foundation of electronics.

One of the important continuing activities of the AIEE was the development of standards for the engineering profession and the electrical industry. The Institute's earliest efforts were directed toward standardizing units, definitions, and nomenclature relating to basic electrical science. The first action in this area was the adoption of the name "henry" for the practical unit of inductance in 1890.

Although its first technical session was held in Philadelphia, most of the AIEE's early meetings were held in New York City. As the membership of the Institute grew, efforts were made to increase the participation of those living in other parts of the country. In 1902, under the presidency of Charles F. Scott, the formation of local sections was authorized, with Chicago and Ithaca, New York, becoming the first two Sections. In the same year Student Branches were organized at various engineering schools; the first such Branch was at Lehigh University. As the AIEE expanded beyond New York, it also soon expanded beyond the boundaries of the United States; in 1903 the first Section outside the U.S. was formed in Toronto.

In 1901 Schuyler Skaats Wheeler, who would later become president of the AIEE, purchased the library of the British electrical engineer, Latimer Clark. The Clark Collection was one of the world's great libraries of electrical technology. Wheeler gave this collection to the AIEE, with the stipulation that the Institute provide a suitable building for housing the library within five years. This stimulated the growing movement for a permanent home for the Institute. In 1903, Andrew Carnegie provided \$1,000,000 (later increased to \$1,500,000) to build a joint headquarters building for the American Society of Mechanical Engineers, AIEE, and the American Institute of Mining Engineers. The three societies moved into the building at 33 West 39th Street in April 1907 and were joined by the ASCE in 1917. This Engineering Societies Building served until the late 1950s when the need for more space resulted in the construction of the present United Engineering Center.

By the beginning of the twentieth century the AIEE had taken its place alongside the older engineering societies. As the scope of electrical engineering expanded, engineers became more specialized and sought to exchange information with others engaged in the same specialties. Thus, in 1903 the first Technical Committee, the High Voltage Transmission Committee, was formed.

One group of specialized electrical engineers, however, did not feel fully at home in the established, power-oriented AIEE. These were the pioneers in the exciting world of radio. To answer their needs, a new organization was formed—the IRE.

The Institute of Radio Engineers grew out of the merger of two earlier organizations. The Society of Wireless Telegraph Engineers (SWTE) was begun in 1907 in Boston by John Stone Stone. It was an outgrowth of seminars held at the Stone Wireless Telegraph Company, and membership was initially limited to employees of that company. Ultimately the membership was opened to men from Reginald Fessenden's National Electric Signaling Company and other firms. By 1911 the SWTE was barely alive, however, since Stone's company had gone out of business and Fessenden's had moved to Brooklyn, New York.

The second attempt to form an organization of radio engineers was the work of Robert Marriott in 1908. Marriott was clearly influenced by the success of the AIEE, and felt that wireless engineers could emulate the older organization. On May 14, 1908, he mailed a circular letter to some 200 persons interested in wireless, outlining the nature of his proposed society. He received nearly 60 favorable replies. A temporary organization was formed on January 23, 1909, and the first regular meeting was held on March 10 at the Engineering Societies Building in New York. The new organization was named The Wireless Institute. The Institute began successfully, but by 1912 membership had fallen to 27 from a high of 99, and Marriott's society was struggling to stay in existence.

In an attempt to salvage one strong society from two weak ones, Marriott and Alfred N. Goldsmith of The Wireless Institute and John V. L. Hogan of the SWTE met and devised a plan to consolidate the two groups. TWI met on April 5, 1912, with members of the SWTE also attending, and agreed to the proposed merger.

The new Institute of Radio Engineers held its first official meeting on May 13, 1912. At this time the members approved a constitution and elected officers.

The members of the Institute agreed from the beginning that the publishing of papers and related discussions was an important function of any engineering society, and the first issue of **The Proceedings of the Institute of Radio Engineers** was published in January 1913. Alfred N. Goldsmith became editor of the new publication, a post he would hold for 41 of the next 42 years.

The name selected for the new organization indicates something of the ambitions and aims of the founders. By explicitly excluding the word "American" the radio engineers were attempting to become an international society. These ambitions were soon realized. By the end of 1915 there were 83 members from eleven countries other than the United States, and when the Institute named its first Fellow in 1914, it chose a citizen of Germany, Jonathan Zenneck. In 1930 the IRE began the custom of always electing a Vice-President from a country other than the United States, and in 1957 both President and Vice-President were from outside the U.S.

As with the AIEE, one of the main concerns of the IRE was standardization. The report of the first Standardization Committee, published in 1913, dealt with definitions of terms, letter and mathematical symbols, and methods of testing and rating equipment. In the years 1920-1930 the IRE began to coordinate its standards activities with radio and electrical trade associations such as the National Electrical Manufacturers Association and the Radio Manufacturers Association, generally limiting the Institute's efforts to promulgating standards for definitions, symbols, and testing methods.

In an area related to standardization, the IRE throughout its history cooperated with the Federal Government in the development of regulations for the broadcasting industry. In the years 1922-1925 Secretary of Commerce Herbert Hoover held a series of National Radio Conferences in which the IRE actively participated. These conferences led to the formation of the Federal Radio Commission (later the Federal Communications Commission) in 1927.

The growth of the IRE reflected the growth of the radio industry in general. In the years prior to World War I maritime radio was the most important segment of the industry, and coastal cities had the largest concentrations of radio engineers. Thus, the first local section was organized in Washington, D.C. in 1914, and by 1917 there were sections in Boston, Seattle, and San Francisco. In the post-war years domestic broadcasting became more important; by 1925 there were sections in Philadelphia, Chicago, and Toronto.

Almost from the beginning the IRE set out to attract younger members. It established a Junior Member grade for those under 21 in 1916, and in 1932 created a Student grade for those in engineering schools. Though the Junior grade was dropped in 1943, it was not until 1947 that the first formal Student Branches were organized, at the College of the City of New York and New York University.

As happened in the AIEE, members of the IRE who shared a common technical specialty sought ways to interact more directly. In 1948, therefore, the Institute authorized the Professional Group system.

The first two Groups were "Audio" and "Broadcast Engineers." Prior to World War II, the IRE was relatively small compared to other engineering societies and its requirements for office space were modest; "headquarters" were usually located in the New York offices of one of the national officers. In 1924 the Institute leased space at 37 West 39th Street and in 1928 moved a few doors down the street into the Engineering Societies Building. By 1934 more space was needed, and the offices were moved to the McGraw-Hill Building at 330 West 42nd Street, where they remained until 1946, when the Institute purchased a former mansion at 1 East 79th Street. Over the years the IRE acquired two adjacent buildings, and this group was its home until 1963.

For the first 30 of its existence, the IRE was one of the smallest of the major engineering societies. But IRE members were practitioners of the technology of the future.

The years after World War II, however, brought drastic changes to the field of electrical engineering. Electrical technology was moving rapidly; radar, computers, television, solid-state electronics, and space exploration were burgeoning fields. Electronics began attracting the majority of electrical engineering students and offering the majority of new electrical engineering jobs. This translated into a dramatic increase in membership in the IRE.

Justifiably alarmed by this trend, the AIEE in 1957 appointed a task force to devise a plan for dealing with the situation. The task force, headed by W. A. Lewis, a member of both the AIEE and the IRE, issued its report in 1959. It found that 1) the AIEE had failed to enter new fields as they opened up; 2) the Institute had insufficient appeal to college students; and 3) the board and committee structure did not adequately cover the whole field of electrical engineering. The task force's recommendations included revising the Technical Committee structure to resemble that of the IRE's Professional Groups. The recommendations were not put into effect, however, because the movement toward merger with the IRE had begun in earnest.

Merger was becoming ever more logical. Neither society adequately represented the whole breadth of electrical engineering. There was duplication of staff, publications, and activities. The difficulties were first overcome on college campuses, where Student Branches of the AIEE and the IRE began to join together. In 1950, the Boards of both societies authorized the creation of joint Student Branches.

On the national level efforts at closer cooperation continued. In 1956, John D. Ryder and Morris Hooven, Presidents of the IRE and AIEE respectively, worked out a reciprocal membership plan. In 1958 AIEE President L. F. Hickernell and IRE Presi-

dent D. G. Fink worked out additional arrangements for closer cooperation.

In January 1961, IRE past President Ronald McFarlan was invited to attend an AIEE board meeting, where he described the organization and philosophy of his institute. Later in the year, Clarence Linder, President of the AIEE made a similar appearance before the board of the IRE. After these meetings events moved rapidly. Representatives of the two societies met and arranged for the appointment of a joint ad hoc Committee to discuss the specifics of a merger. The eight-man committee did its work well; by October 1961 the IRE board authorized its President, Patrick E. Haggerty, to present the AIEE with a resolution that the merger go forward.

The Merger Committee was enlarged to fourteen members in 1962 and set out to devise merger recommendations which could be presented to the membership of both societies later in the year. In the election that followed, 87 percent of the voting members of each society approved the merger. Donald G. Fink, a Fellow of both the AIEE and the IRE, was chosen as General Manager of the new Institute of Electrical and Electronics Engineers. On January 1, 1963 the IEEE was officially born.

The merger resulted in the death of one periodical and the birth of another. **Electrical Engineering**, the AIEE publication, had suffered from a lack of advertising revenue for years, and was dropped. **Proceedings of the IRE** was profitable from an advertising standpoint, but its papers were too esoteric to serve the diverse membership of the new society. In 1964 **Spectrum** was launched as the new "core" publication, with **Proceedings** remaining as a high quality technical journal available by separate subscription.

In 1973 the IEEE took a step away from the traditions of both of its predecessors with the adoption of a new constitution. The IEEE gave up its role as a "learned society" concerned solely with the advancement and dissemination of knowledge, and assumed the role of a "professional society" concerned with the non-technical as well as technical interests of its members. The United States Activities Board was created to oversee the non-technical operations of the IEEE within the United States.

Almost three decades have passed since the formation of the IEEE. Today the Institute is the largest professional association in the world, with over 300,000 members, and its activities now extend far beyond anything its forebears could have foreseen. It remains, however, just as it was a century ago, the premier spokesman for the most significant and exciting technological field of its time.

Prepared by the IEEE Center for the History of Electrical Engineering

Power Group Off to a Strong Start— Officials Stress Opportunities for Members

C. A. Woodrow

Chairman, Power Group



Welcome to the many thousands of Charter Members of our Power Group. In early February 500 of you attended an Open Forum during the first Winter Power Meeting, listened to reports from the Interim Ad Com, actively discussed our plans, but finally unanimously endorsed the preliminary actions taken and the plans proposed.

All of you who signed attendance records were given a "Forum Report." It summarizes the presentations and discussions, but it also indicates the immediate organizational changes which were proposed during the Forum and adopted by Ad Com. Other suggestions are receiving careful thought.

In this July charter issue of the *IEEE Transactions on Power Apparatus and Systems*, you will receive messages from many of our officers and departmental chairmen. As you know, our 1964 Winter Power Meeting in New York City was a huge success, and we have received approval from the IEEE Executive Committee to continue that meeting for 1965 and 1966. Plans are well underway for a 1965 Summer Power Meeting in Detroit, Mich., and a 1966 Summer Power Meeting in New Orleans, La. Many more meeting plans have been finalized. These will be covered by L. F. Kennedy, Meetings Department Chairman.

Our Constitution has been approved by the IEEE Executive Committee and our Administrative Committee Bylaws are now available. Copies have been sent to all members of the Council as well as to Section Chairmen.

Our first Council meeting will take place early in February 1965 at the Winter Power Meeting in New York City. Present indications are that at that time we shall have nearly 70 Council members. We now have members-at-large from all nine regions including Canada, Region No. 7; Europe, Region No. 8; and the rest of the world, Region No. 9. However, probably the most important members are the Chapter representatives. By June 1, well over 30 charter Chapters had been formed and more are expected but few repre-

sentatives have been selected. We ask that Chapters proceed as quickly as possible to select Council delegates "in accordance with the IEEE Constitution for Sections and the Bylaws of (your) Section." We intend to solicit guidance informally from all Council members in the very near future on matters of extreme importance to all of us. The sooner we have the representatives, the better will be our over-all performance.

There has been considerable confusion concerning application for IEEE Power Group membership. Material has gone out from Headquarters on a wide mailing list, and the May issue of *Power Apparatus and Systems* as well as this issue includes an application form. In addition, however, we ask that you check with your Power associates and make sure that all interested engineers take advantage of the opportunity presented in this most important Power operation.

R. W. Gillette

Vice Chairman, Power Group



Prior to the merger of AIEE and IRE into IEEE, there was some concern among AIEE members in the Power field that the new Institute might be less effective in its coverage of this basic segment of electrical engineering.

A reading of the Constitution and Bylaws of the Power Group will make it clear that here have been provided the means for serving the Power Engineer even better than before.

Retained are the technical committees with their normal functions including the preparation of technical papers and standards, a Meetings Department to provide the forums for the presentation of papers, and a Publications Department which will publish them for the record.

The formation of Chapters of the Power Group in the geographical Sections of the Institute, over 30 of which have already been approved, is an expansion of service to Power-oriented members of IEEE which will be of value to many members who may not be able to participate actively in the work of national

committees or attend meetings far from their home base.

To make the Power Group the vital part of the Institute which it can, and should be, requires that IEEE members identify themselves with it by joining it and receiving its *Transactions* (automatically upon payment of the \$6 annual Group Dues).

Those who attended the 1964 Winter Power Meeting in New York found that the Power Group was an active, working force demonstrating its vigor and readiness to meet the needs of the power engineer in his professional society.

Lend your support by joining at once and participating in the program of the Power Group and by getting others in IEEE to do the same!

T. E. Marburger

Secretary, Power Group



Every good organization should have an organization chart or, as they say at the ball game, "You can't tell the players without a program." Our Power Group organization chart is detailed on the opposite page and is arranged to clarify the chain of command and to delineate the delegation of authority within the organization.

May we suggest you read the Power Group Bylaws first, then refer to the chart; after understanding the functions of individuals and committees, it should be quite easy to see how they fit together to form a practical working group.

Please bear in mind that the Power Group has been established and is in operation for members of IEEE who are interest in *Power*. If you are Power-oriented in the fields of generation, transmission, system engineering, protective relaying and devices, engineering education, instruments and measurements, electric equipment and materials, and other allied Power engineering activities, then we say, "The Power Group is for YOU!"

After many meetings of Ad Hoc committees, much personal effort by dedicated Power engineers, and a great deal of help from Headquarters, we hang out our shingle—we are in business, officially.

If you have been active in presenting and reading technical papers, you will

recognize many of the names shown on the chart; if you have attended former AIEE general meetings, you have probably met some of these engineers; and, if you become an active member of the Power Group, these are the engineers you will be associated with in furthering your professional career.

We will publish in a future issue of *IEEE Transactions on Power Apparatus and Systems* the names of operating committee chairmen, subcommittee chairmen, and committee members, so you will know with whom to get in touch in your area of interest concerning Power engineering matters.

Our Bylaws indicate that each Region will have two Members-at-Large and each Chapter will have a Delegate on the Council. The Council members for the period July 1, 1964, to June 30, 1965, are listed in the following:

Members-at-Large

Region No. 1

H. R. Stewart H. W. Grissler
Boston, Mass. Newark, N. J.

Region No. 2

S. M. Hamill, Jr. F. W. Willcutt
Cincinnati, Ohio Washington, D.C.

Region No. 3

S. Cambias, Jr. W. R. Brownlee
New Orleans, La. Birmingham, Ala.

Region No. 4

Earle Wild T. W. Schroeder
Chicago, Ill. Decatur, Ill.

Region No. 5

E. L. Hough J. B. Robuck,
St. Louis, Mo. Dallas, Tex.

Region No. 6

C. F. Hochgesang E. W. Greenfield
San Francisco, Calif. Pullman, Wash.

Region No. 7

F. L. Lawton J. M. Hambley
Montreal, Que., Canada Toronto, Ont., Canada

Region No. 8

F. J. Lane, London, England

Region No. 9

H. Kimura, Tokyo, Japan

Chapter Delegates

Akron

J. F. Doering
1316 Winhurst Drive, Akron 13, Ohio

Atlanta

L. H. Curtis
Westinghouse Electric Corp.
1299 Northside Drive, N.W.,
Atlanta, Ga.

Baltimore

F. W. Koch
13 Tamworth Road, Baltimore, Md.

Binghamton

W. E. Candors, Jr.
19 Hotchkiss Ave., Hillcrest,
Binghamton, N. Y.

Boston

W. F. Hamm
11 Perkins Ave., Hyde Park, Mass.

Central Indiana

Zane Todd
3718 S. LaSalle St., Indianapolis, Ind.

Central Texas

J. W. Pettinos
P. O. Box 1771, San Antonio, Tex.

Chicago

Walter Kreydick
Metropolitan Sanitary District
100 E. Erie St., Chicago, Ill. 60611

Cincinnati

R. J. Reiman
3371 Nandale, Cincinnati 39, Ohio

Cleveland

J. R. Linders
Cleveland Electric Illuminating Co.
Box 5000, Cleveland 1, Ohio

Connecticut

E. L. Johnson
40 Briarwood Road, West Hartford,
Conn.

Dallas

R. S. Miner
Dallas Power & Light Co.
1506 Commerce St., Dallas, Tex.

Dayton

W. L. Wray
4433 Woodner Road, Dayton 40, Ohio

Denver

G. B. Marshall
Public Service Co. of Colorado
Box 840, Denver, Colo.

East Tennessee

Campbell McCord
Tennessee Valley Authority
Knoxville, Tenn. 37902

Florida West Coast

Lester Ulm, Jr.
Tampa Electric Co.
P. O. Box 111, Tampa, Fla. 33601

Foothill

S. H. Gold
1037 N. Primrose, Rialto, Calif.

Houston

John M. McReynolds
Houston Lighting and Power Co.
Fannin and Walker Sts., Houston,
Tex.

Kansas City

H. R. Vaughan
Westinghouse Electric Corp.
101 W. 11 St., Kansas City 6, Mo.

Los Angeles

R. A. Norry
32 Esperanza, Sierra Madre, Calif.

Memphis

R. D. Barrett
136 Bendel Circle, Memphis 17, Tenn.

Mid-Hudson

Ernest W. Paquin
12 Barr Ave., Cornwall-on-Hudson,
N. Y.

Nebraska

H. C. Sampers
423 Electric Bldg.
1623 Harney St., Omaha, Neb.

New Orleans

M. L. Hurstell
4900 Kendall Drive, New Orleans 22,
La.

North Jersey

Herbert Blaicher, Jr.
Jersey Central Power & Light Co.
Punch Bowl Rd., Morristown, N. J.

Oklahoma City

T. R. Hoke
Oklahoma Gas & Electric Co.
Box 1498, Oklahoma City 1, Okla.

Philadelphia

H. W. Carlson
Philadelphia Electric Co.
9th & Sansom Sts., Philadelphia, Pa.

Phoenix

E. H. Hill
710 E. Hayward Ave., Phoenix, Ariz.

Portland

D. A. Gillies
1617 N.E. 132 Ave., Portland 30,
Oreg.

Rochester

H. H. Nearing
47 Coolidge Ave., Spencerport, N. Y.

San Diego

J. H. Van Buuren
2854 Greyling Drive, San Diego 11,
Calif.

San Francisco

J. E. Barkle
Bechtel Corp.
101 California St., San Francisco,
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Schenectady

H. W. Bibber
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Union College, Schenectady, N. Y.

Seattle

R. E. Mithoug
7347 Dibble Ave., N.W., Seattle,
Wash. 98107

POWER GROUP
ORGANIZATION CHART

GROUP OFFICERS
COUNCIL AND ADMINISTRATIVE
COMMITTEE



C. A. Woodrow
Chairman



R. W. Gillette
Vice Chairman

COUNCIL

MEETS ANNUALLY
ELECTS GROUP OFFICERS AND MEMBERS-AT-LARGE.
RATIFIES CONSTITUTIONAL AMENDMENTS.
ESTABLISHES MAJOR POLICY.

CONSISTS OF: MEMBERS-AT-LARGE (2 x REGIONS);
CHAPTER DELEGATES; GROUP OFFICERS; DEPARTMENT
CHAIRMAN AND CHAIRMAN OF OPERATING COMMITTEES.

GROUP OFFICERS
COUNCIL AND ADMINISTRATIVE
COMMITTEE



T. E. Marburger
Secretary



J. T. Lusignan, Jr.
Treasurer

ADMINISTRATIVE COMMITTEE

MEETS AT LEAST THREE TIMES EACH YEAR
NOMINATES GROUP OFFICERS AND MEMBERS-AT-LARGE.
APPROVES APPOINTMENTS. AMENDS BY-LAWS.

CONSISTS OF: FOUR MEMBERS-AT-LARGE;
THE FOUR GROUP OFFICERS; JUNIOR PAST CHAIRMAN;
THREE STANDING COMMITTEE CHAIRMEN;
AND THE FOUR DEPARTMENT CHAIRMEN.

**NOMINATING
COMMITTEE**



J. H. Kinghorn
Chairman

**CONSTITUTION
AND BY-LAWS
COMMITTEE**



R. W. Gillette
Chairman

**FINANCE
COMMITTEE**



J. T. Lusignan, Jr.
Chairman

MEMBERS-AT-LARGE



A. P. Fugill



Bradley Cozzens



C. T. Hatcher



C. T. Pearce

DEPARTMENTS

**TECHNICAL
OPERATIONS**



E. L. Kanouse
Chairman

PUBLICATIONS



J. D. Robinson
Chairman

MEETINGS



L. F. Kennedy
Chairman

ORGANIZATION



Howard Hess
Chairman

Southeastern Michigan

R. E. Albrecht
6520 S. Jackson Road, Jackson, Mich.

Syracuse

G. E. Winner
300 Erie Blvd., W., Syracuse 2, N. Y.

Twin Cities

A. W. Benkusky
8911 Stanlen Rd., Minneapolis, Minn.

Utah

D. L. Jans
Westinghouse Electric Corp.,
235 W. S. Temple St., Salt Lake City
1, Utah

Washington

John H. Rixse
717 Grand View Drive, Alexandria,
Va.

J. T. Lusignan, Jr.

Treasurer, Power Group



The flexibility and autonomy of Group operation carries with it responsibilities that must be recognized. The Group sponsors a publication and meetings program that is a part of the total IEEE effort on behalf of electrical and electronics engineers. Without Groups, the IEEE could not begin to do all the things that are accomplished. Conversely, no Group itself could do all that is possible for it to do as a part of IEEE. This close relationship between IEEE and Group is brought into sharp focus by the relationship of the IEEE dues and the Group fee.

The dues carry the burden of across-the-board IEEE activities, starting with local Section activities and including the work of the officers, Directors, and Headquarters staff. The dues also provide a subsidy of Group activities. Part of the subsidy is in the form of rebates for Chapter meetings; part is a direct 25% subsidy of the Group publication program.

The Group fee carries the burden of the Group's administrative operations, special awards, and similar activities. By far, the largest part of the Group fee goes into the publication program. The program must be scaled to the size of the Group membership because IEEE cannot directly support the total publication programs of all the Groups if

the Group members do not themselves contribute to the effort.

How does the above apply, specifically, to the Power Group? An IEEE member pays \$15.00 dues and \$6.00 Group fee. The Group fee is used in the following manner. Roughly \$4.50 is put into the publication program. The IEEE matches this with a direct subsidy of \$1.50, making the total input for publications exactly the \$6.00 per member paid in fees! One could put this another way: The entire Group fee goes into publications and all other Group activities are supported by IEEE to the extent of \$1.50. In addition to all this, the IEEE pays rebates for Sectional meetings sponsored by the Power Group Chapters.

Some IEEE members who are interested in Power have been heard to say that they will refuse to pay the Power Group fee. Were these members actually interested in Power to the extent that they formerly subscribed to the bi-monthly *Power Apparatus and Systems* at \$6.00 per year? These subscribers really have a bargain now. The bi-monthly has become the monthly *IEEE Transactions on Power Apparatus and Systems*, still for \$6.00. The IEEE dues are at the reduced level of \$15.00, and all other Group activities are thrown in as a bonus.

In the past AIEE offered certain benefits at far less than cost. This was possible because only a few members asked for these benefits; the bulk of the membership subsidized these benefits for a few. This era is past. With our Power Group, all members benefit directly, both individually and collectively, through the support of our chosen field. Do you not owe to yourself the satisfaction and advantages of membership in IEEE and in the Power Group?

J. H. Kinghorn

Chairman, Nominating Committee



The inauguration of the new Power Group is an important step in the fulfillment of the expectations which went with the merger of AIEE and IRE. For our area of interest it brings with it the opportunity for a new look at the way we conduct our technical affairs and the chance to adopt as well as to discard where new conditions in our technical environment and in IEEE call for change.

The new setup under which we start operation is, I hope, only a beginning. It is an effort to reach for those opportunities which are new while retaining those features which long experience has told us are good. We must now cultivate an awareness of our further needs and press for their fulfillment. We must have members, and most particularly younger ones, who will accept the responsibility which has been vested in our new organization and who can, with our rich heritage of experience, bring us to higher levels of service to the Power engineering profession. Our continuing objective must, therefore, be to develop in our membership a full awareness of why we exist, to encourage innovation which will improve our usefulness, and so to generate new and vigorous leadership toward our goals.

A. P. Fugill

Member-at-Large



In drafting the Power Group Constitution and Bylaws, the Initial Administrative Committee kept constantly in mind the need to protect the right of each individual member of the Power Group to participate in its control. The Ad Com also realized that a closely knit, centralized administration was essential for effective operation of Group activities. To accomplish both objectives, a clear, convenient channel of communications must be maintained at all times between the Group members and the administrative organization.

The solution adopted by the Ad Com is described in the Constitution and Bylaws. The governing body for the Group is the Council on which each Chapter of the Power Group has a representative and on which each IEEE Region has at least one member, with an average of two. The remaining Council members are Group officers and administrators selected to provide a broad representation from the Power industry and educational institutions.

The Administrative Committee of the Council is a group of officers and key administrators, small enough to provide an effective Group management. The authority for normal operation is delegated through adequate control channels to committee officers who have been appointed with full opportunity for

recommendations from Group members.

Initially, the four departments—Technical Operations, Publications, Meetings, and Organization—co-ordinate the activities of their constituent operating committees and establish operating policies. The 26 operating and standing committees administer the day-to-day activities of the Group.

The Chapters, formed within the IEEE Section format, are responsible for Group participation in Section and regional meetings and liaison between local members and the central Group organization.

It is intended that the policies stated in the Constitution and Bylaws will be implemented in actual Group operation by Group and Department Operating Manuals which are now in preparation.

Bradley Cozzens

Member-at-Large



The IEEE Power Group is your organization. At the time of the merger, the Power interest of the membership covered only one-half of the AIEE members. The new

Constitution allowed the various technical groups to continue their activities both in the Sections and on a national level.

The PG activity had deep-seated roots in the IRE and it had worked very successfully, but it met with considerable resistance in the AIEE organization. With the much larger IEEE organization, the utilization of the PG unit as the representative of the particular field, with its Subgroup in the PG to represent specialists, appears to be the most logical way of accomplishing the objectives of the Institute and supplying the needs of its members.

The organization of the Power Group has been somewhat of an innovation in that it encompasses many more members and areas of interest than had been the general practice. Thus, if the full Power membership, or a large representative portion of it, joins the PG, the financial status will be such that publications can be issued promptly and be of high quality, thereby avoiding the long-standing criticism that by the time papers are published they have been fully reviewed in trade literature.

The Power Group has retained all of its committee activities in the Technical Operating Division and has many

of the functions formerly related to Sections and Section operations carried into the other administrative divisions of the Group. The Council and Ad Com make it a truly representative group.

The current thinking that we will have a Winter and a Summer General Power Meeting with special technical meetings in specific fields as may be required, gives the Power specialist the opportunity to associate with other authorities in his own field to his direct benefit. The participation of the Group in the International Convention, or other general IEEE meetings, will also provide the member with the Power interest the chance to review progress in other fields of the electrical engineering art, and to use such items as may be applicable in the Power industry.

Each of us who has worked on the Organizing Committee feels that this is a prime opportunity for each member with the Power interest, and will afford for such members the best means of keeping abreast of industry developments, with the benefit of association with his counterparts.

C. T. Hatcher

Member-at-Large



During the period when the Boards of Directors of AIEE and IRE were working on merger plans for the now-existing IEEE, considerable attention was given to a proposal to organize the new Institute along Divisional lines. Those of us particularly interested in maintaining the AIEE Power Division as an operating unit were in favor of this type of organization. As the IEEE organization was eventually formed, it did not actually incorporate the Divisional proposal. However, the organization did provide for bringing segments of the Institute who had a community of interest together in Groups.

The Power Division has moved actively and quickly in formulating its plans for a Power Group in order to maintain its unity. All necessary steps have now been taken and Board approval obtained for initiating a unified Group on Power.

This first step is now an accomplished fact and we have a Group in which every Institute member interested in the broad field of Power can become a

member. In order that this move continue to set a broad pattern for Institute operations and to ensure its complete success in coming years, it is highly desirable and necessary that all interested indicate their support and interest by becoming a Power Group member.

E. L. Kanouse

Chairman, Technical Operations



The Technical Operations Department (TOD) of the IEEE Power Group consists of the 12 technical committees of the former Power Division of the IEEE Technical

Operations Committee, plus the Standards Co-ordinating Committee. Before the merger, 11 of these technical committees functioned together as the AIEE Power Division, one of the five divisions of the AIEE Technical Operations Department. Reference to the Power Group Organization Chart will show that the present TOD bears the same relation to the Power Group as the unit of the same name did to the AIEE.

The functions, as well as the names and organizational relations, of the technical committees continue under the Power Group. These include responsibility for the organization of sessions at Power General Meetings and IEEE Conventions, and for the initiation and management of Special Technical Conferences. The solicitation and review of papers for presentation at meetings and for publication continues as a major job of the technical committees. The close tie between the TOD and the Publications Department is also a traditional relationship in this form of organization.

Another important function of the technical committees is the initiation, development, and maintenance of IEEE Standards in their fields. Through the Standards Co-ordinating Committee, on which each technical committee is represented, conflict and duplication in Power Standards work is prevented. However, each technical committee recommends directly to the IEEE Standards Committee.

The Technical Operations Department and its committees look forward to the stimulus and satisfaction of having an identifiable membership to serve. Especially valuable should be the participation of the Power Group Chapters in developing active personnel

and extending the work of the Power Group into the Sections.

Eleven of the technical committees associated with the Power Group Technical Operations Department have been continuously associated since 1948 when they were brought together in order to form the AIEE Power Group.

The term "Group" soon gave way to "Division," and the five Divisions were then further organized and the AIEE Technical Operations Department was established.

The term "Division" is currently in retirement.

L. F. Kennedy

Chairman, Meetings



The Meetings Department up to the present time has operated with very limited personnel, but it has put in shape a program of meetings through the summer of 1967

so that the members-at-large, and particularly the Technical Committees, can plan their activities with full knowledge of when and where meetings will be held. This has been done pretty much on a crash basis but in keeping with the philosophy that we must have a fairly long-term meeting schedule in order to plan our activities properly.

Here the question of our future arises. We need volunteers to help the half-dozen individuals who have worked so hard to bring us to our present place. These six people need assistance in order to keep the Group activities functioning for the future.

We would appreciate suggestions from all members concerning subject matter for Special Technical Conferences to be held not only in the long-term future, but which also might be added to the present meeting schedule.

The Meetings Department would appreciate hearing from Sections that would like to play host to future Power meetings, both the Special Technical Conferences as well as the Summer Meetings.

We particularly wish to express our appreciation to the Detroit, New Orleans, and Portland (Oreg.) Sections for their full co-operation in assisting to formulate the initial schedule of meetings.

Jack D. Robinson

Chairman, Publications



Starting with this issue, the *IEEE Transactions on Power Apparatus and Systems* will become the common denominator of the Power Group. While a few hundred members contribute papers, and a few thousands attend meetings, every Power Group member will receive *Power Apparatus and Systems*.

Let us pause here to appraise IEEE communications. As IEEE members, each of us receives *IEEE Spectrum*, which is aimed at giving us a broad overview of the total electrical engineering complex. Its purpose is not to upgrade our knowledge within our field of specialty—but rather to give us an understandable look at related technologies. *Power Apparatus and Systems*, however, has a dual role. First, it is the communications channel for our best technical papers. It is our "Transactions," although it is not limited to printing *Transactions* papers alone. In its second aspect, it is concerned with reporting important events within the Power Group.

Power Apparatus and Systems is an evolving magazine. With only a few issues in the present format completed, we have already made several changes as the result of constructive suggestions from readers. Our final posture can only become apparent when we know the final size of the Power Group. Most of your Power Group membership money goes for the support of this magazine. Since the per-unit costs of a publication may vary two to one over the range of our possible membership, you can see that our membership determines in large measure the future character of this publication.

Over the years the number of *Transactions* papers submitted has exceeded our ability to publish them—even though the AIEE subsidized the old *Power Apparatus and Systems* subscriptions nearly dollar for dollar. In today's organization we must stand on our own feet, with no subsidy. To meet this challenge, two specific actions have been undertaken. First, in cooperation with Ed Kanouse, new, stricter ground rules are being prepared for the selection of *Transactions* contributions. You, the reader, will benefit enormously from this more careful sifting of papers.

The second action was to arrange publication of our backlog of papers (through 1963) in a single *Transactions* volume which will be distributed free to *Power Apparatus and Systems* member subscribers as of June 30, 1964. It also will be available in hard-bound copies to these subscribers at an additional fee; nonsubscribers may obtain either soft- or hard-bound copies at slightly higher cost. Discussions and closures are being published with the papers, and the issue will be indexed in a manner similar to that used for previous volumes of *Transactions*. Libraries and schools are urged to include this volume as a part of their continuing *Transactions*. The mass printing and a lower-cost printing method has made this updating possible.

The prospects for a meaningful Power Group publications program are excellent indeed.

Howard Hess

Chairman, Organization



The Organization Department, through its five committees, will be reaching into the "grass roots" of IEEE membership to carry out its aims for the Power Group.

Chronologically, the two most significant committees are those on Chapters (H. C. Brem, chairman) and Membership (D. T. Michael, chairman). At this stage of formation of the Power Group, Chapters and members hold a sort of "hen-and-egg" relationship. The Group has urgent need of both in order to function effectively, and in moving actively to promote both new Chapters and new memberships, the work of the Chapters Committee and of the Membership Committee is quite certain frequently to overlap. Mr. Brem and Mr. Michael will strive to keep the lines reasonably straight without delaying any action, because the prime concern is to "get going."

All IEEE Sections are urged to establish their Power Group Chapters as quickly as possible. The procedure is rather simple and is clearly outlined in Section 406 of the IEEE Bylaws, and in Section 7.6 of the IEEE Section Manual. The Chapters Committee will aid if it can, but action must be carried out by the Section.

In addition to promoting individual membership in the Power Group, the



Membership Committee will advise the Group on activities and services which will attract and benefit new members.

A very important phase of the Department's work will be the enhancing of relations between all segments of the Power industry and educators, students, and college placement directors. The Power Engineering Education Committee (L. Dwon, chairman) will be enlisting help from many members in all regions on this problem.

The Recognition Committee (A. H. Kidder, chairman) will continually search the Group membership and solicit the aid of the Chapters in seeking suitable candidates and encouraging their nomination for the grade of Fellow. It will also advise Ad Com on the establishment of Group awards.

And last, but far from least, the Public Relations Committee (J. J. O'Connor, chairman) will aid with the dissemination of information effectively to appraise Group members, IEEE members, and the general public of Power Group activities.

In undertaking the various phases of its work, the Organization Department is looking forward to the active assistance and the advice and suggestions of the IEEE Sections and of the Chapters and members of the Power Group. Only from the "roots" will the plant derive its strength.

D. T. Michael

Chairman, Membership Committee

The Power Group has the potential to become the largest Professional Group in the IEEE and every effort is being made to realize this objective.

Initially we are stressing the organization of local Chapters; 32 have been approved thus far with more in the process of formation.

The effort in these Chapters should be directed towards a program of meetings which will hold the interest of Chapter members and will attract new members. The Professional Group organization permits IEEE members to organize into special areas of interest so that Group programs should cater to these specialized interests with the objective of presenting information which will help Group members in their particular specialized jobs.

Programs of this type will not only be able to compete with the many demands on members' time, but will do much to meet the tremendous problem of keeping our members up to date in their specialized fields of activity.

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