

vectorial symbols representing the electromagnetic-mechanical reactions with the respective spatial co-ordinates.

Experience in the classroom over a period of years, alike with electrical and nonelectrical students, has demonstrated the superiority of the new mnemonic rule.

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A New Unity Plan Proposal

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Editor's Note: This article is published because it represents the views of a large group of members. Publication does not constitute endorsement by the Institute, which will continue to work through Engineers Joint Council toward a Unity Organization.

ALMOST 200 YEARS AGO the original 13 American Colonies faced the vital problem of uniting among themselves and, as a matter of practical necessity, compromised their various differences and jealousies in a Constitutional Convention which produced the Constitution of the United States of America—a document universally recognized as an outstanding landmark in the field of government.

For many years engineers have sought to realize unity in the engineering profession. The latest attempt, Plan A proposed by the Engineers Joint Council (EJC) Exploratory Group, has so far achieved only partial success, although most of the societies have not had an opportunity to decide on whether or not to join the Council.

Why is it that engineers have failed so often to achieve this goal which is so desirable from the standpoint of both society and the individual engineer? It is a difficult question to answer. Perhaps the force of external circumstances has not been great enough to cause the principal groups involved to compromise and yield some of their individual independence and freedom of action to a single higher authority. Perhaps past attempts have mistakenly insisted upon society membership instead of individual membership, and thus failed to obtain the full support of individual engineers. Perhaps mutual mistrust between supervisory and nonsupervisory engineers, and organized and unorganized engineers, has contributed to the difficulties of the situation. Certainly many of the best brains in the profession have worked long and arduously on the problem without success.

Although there is general agreement among engineers on the need for unification and a number of plans have been proposed, as yet no one of these has received the full support of the profession. The Unity Organization outlined in this article is suggested by the Pittsfield General Electric Engineers Association as a possible solution.

We agree in general with the actions of the Institute on this matter in recent years, except for the fact that unfortunately a workable Unity Organization is still unrealized.

We feel that the following policies (which were adopted by the Board of Directors in 1950) are proper for the Institute:

1. To work continually for the unification of the profession.
2. To recognize the fact that the Institute finds its chief reason for existence in the technical field.
3. To handle questions on nontechnical affairs as necessary and as they arise on an emergency basis until through unification they can be handled on a general professional basis.

We feel that the Board of Directors properly represented the desires of most Institute members in twice favoring the proposal of Plan C, a combination of the EJC with the National Society of Professional Engineers (NSPE), including revisions of both constitutions, as the Unity Organization, rather than the Plan A proposed by the Exploratory Committee.

We are pleased to note that AIEE President Quarles has recognized the importance of the unity question in his

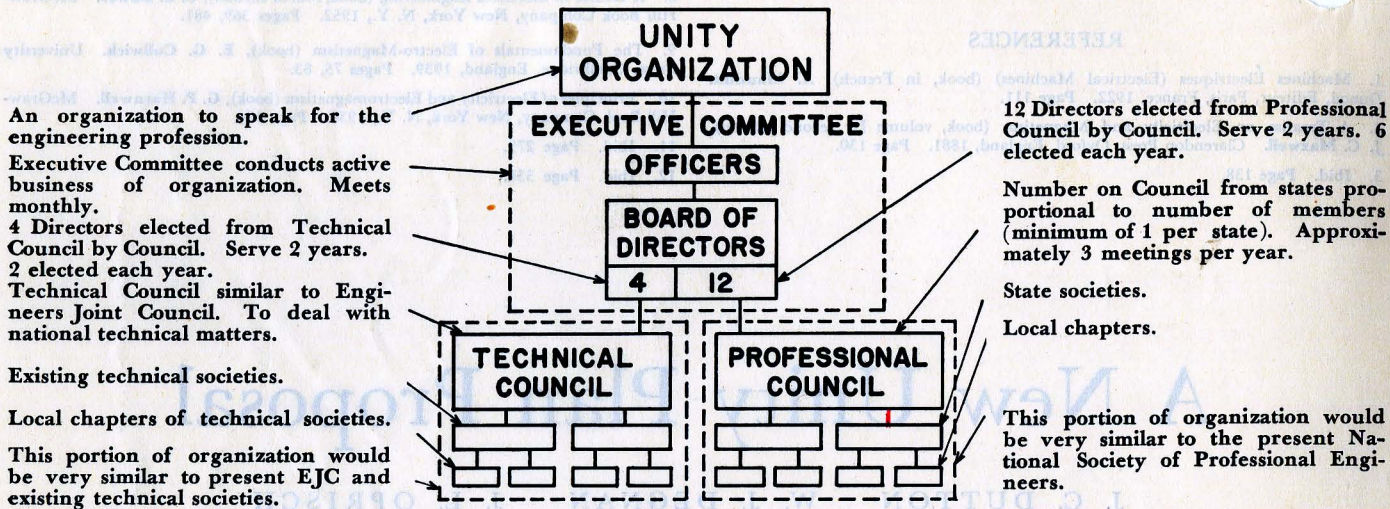
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UNITY ORGANIZATION PROPOSAL

By

General Electric Engineers Association

(Bridgeport, Fort Wayne, Lynn, Pittsfield, Schenectady, and Syracuse)



A. Membership

1. Professional Engineer (those who meet or have met the Salary Stabilization Board qualifications).
2. Scientists (such as physicists, chemists, metallurgists) with educational and experience requirements similar to Salary Stabilization Board qualifications for engineers.
3. Engineers and scientists in training.
4. Students.

B. Financial

1. Dues from individual members.
2. Technical societies to support the Technical Council.

C. Committees

1. Standing committees shall exist to perform functions of public, organizational and internal affairs. Some of the major committees would be Education, Legislative Affairs, Public Relations, Publications, National Defense, Economic Status, Civic Affairs, and Ethics.
 - (a) Standing committees shall exist at the national, state, and local levels.
 - (b) National committees shall be appointed by the Executive Committee.

Such an organization is designed to include all members of the engineering profession with the maximum of participation by the members at the local level in shaping policies. The governing body should represent the viewpoints of all parts of the profession and be directly responsible to the individual members, rather than through other societies. Activities should include economic matters in addition to technical, professional matters.

addresses at the recent General meetings of the Institute.

As members of the Pittsfield General Electric Engineers Association (a nonunion organization), the authors also have long been interested in unity and previously discussed some of our views in a letter to the editor (*EE*, Jun '52, p 587). In response to a suggestion from an individual member of the Exploratory Group and also at the suggestion of the General Electric Engineers Association's Interworks Co-ordinating Committee, the National Societies Committee of the Pittsfield Association has endeavored to plan an organization to fit the needs of the profession as we understand them today. This was done with the following requirements in mind:

1. To plan an organization consistent with the "Five Principles" considered as essential by General Electric engineers in a poll conducted in December 1951. These principles, which received 85-95-per-cent support, are summarized as follows: The Unity Organization should include all members of the engineering profession with the maximum of participation by the members at the local level in shaping policies. The governing body should represent the viewpoints of all parts of the profession and be directly

responsible to the individual members, rather than through other societies. Definite consideration should be given to the economic as well as the professional status of the engineer.

2. To propose an organization which, assuming that the various groups of the profession approach the matter with a sincere spirit of co-operation and sacrifice, could be realized in a reasonably short time.

3. To attain unity through the modification or combination of existing organizations and to do this in such a way that the resulting organization would be definitely recognized as the Unity Organization. (A large overriding organization, while considered as ideal by some, appears too difficult to attain in any reasonable time and was, therefore, not considered seriously at this time.)

The resulting plan,*† as shown in the diagram, has the

* The block diagram and notes shown in this article are the latest revision of the plan. The original plan was modified slightly at the General Electric Engineers Association's Interworks Co-ordinating Committee meeting in January 1953. The original plan is described in the Fall 1952 issue of the *Massachusetts Professional Engineer*. Principal changes are

1. Professional Council was formerly Board of Directors.
2. Board of Directors was formerly the Trustees.
3. Membership grades were previously Professional Registered Engineer (only grade eligible to hold office), Engineer (eligible for registration but unregistered), Engineer-in-training, Student engineers.

following important advantages: (Note: The committee members active in formulating this plan are not members of the NSPE although one is a Registered Professional Engineer).

1. This plan provides an organization which will include all engineers.

2. The Board of Directors is the governing body and 75 per cent of its members are from the Professional Council which is elected by the membership of the state and local chapters.

3. Provided that the members exercise their voting rights and responsibilities, the organization will be democratic and representative of the profession since the membership of the Professional Council is distributed according to the membership strength of the state societies (for example, one director per state plus one director for each 1 per cent of the total membership).

4. The technical societies are included in the Unity Organization by means of the Technical Council. They can continue their activities as at present, since no important changes are required.

5. The plan does not tie the various groups of the profession together so tightly as to be cumbersome, yet it brings together the principal engineering organizations.

6. The Executive Committee provides a small body to conduct the active affairs of the organization and provides for directors from both the Professional Council (12) and the Technical Council (4), thus representing all viewpoints.

7. The 2-year term for directors and the election of half the directors each year assures continuity of activity in the organization.

A survey questionnaire** was distributed to all engineers at General Electric Plants in Schenectady, N. Y., Fort Wayne, Ind., Lockland, Ohio, Syracuse, N. Y., Lynn, Mass., Pittsfield, Mass., Philadelphia, Pa., and Bridgeport, Conn., to survey the reaction of engineers at all levels to this general form of plan. The number of ballots distributed was 4,982. The results are shown in Table I and predominant comments are noted in the following with certain explanatory notes in parentheses:

1. The restriction of office holding to Registered Engineers (part of the original proposal) received much unfavorable comment. (As now planned there is no such restriction.)

2. There was concern as to the participation or lack of participation of the Unity Organization in collective

Table I

Works	Per Cent Returned	Per Cent Yes	Per Cent No
Pittsfield.....	.67	.84	.14
Syracuse.....	.42	.68	.30
Lynn.....	.44	.86	.13
Bridgeport.....	.80	.66	.31
Philadelphia*.....	.88*	.31*	.66*
Schenectady.....	.32	.63	.23
Fort Wayne.....	.43	.73	.19
Lockland.....	.63	.85	.10

* Distributed only to those represented by Philadelphia's independent union, Association of Engineers and Engineering Assistants.

bargaining. (The plan does not include collective bargaining. The recent trend toward collective bargaining by engineers has caused much concern within the profession. Although we do not feel that collective bargaining is the answer to the problems of most engineers, we definitely recognize that there are situations which make such action necessary. We believe that the objectives and activities of the Unity Organization must be far broader and more comprehensive than those of collective bargaining groups. As we see it, the Unity Organization would be a basic organization covering the professional interests which all engineers share in common, and local groups could have separate organizations if they felt them to be necessary. Coexistence with engineers belonging to both organizations seems quite feasible.)

3. There was some misunderstanding concerning the status of groups in the organization. (Individual membership only is planned.)

CONCLUSIONS

1. We feel that the search for unity already has gone too long, and that if it fails to be achieved soon, it may very well never be realized. The time available for a solution is fast running out.

2. We suggest to readers in considering this plan that, bearing in mind the long series of attempts to achieve a Unity Organization, they consider the proposal broadly—and support it if it meets their basic requirements. It is very easy to deadlock over small details and “fail to see the forest for the trees.” Our fine American Constitution never would have been born if our forebears had lost sight of their broad primary objective and failed to realize the spirit of co-operation and sacrifice which was essential to success. Can we somehow help history to repeat itself?

3. We believe that this is the first time that the individual members of a large group of engineers have been polled and invited to comment on any unity plan. In view of the widespread interest in a Unity Organization, the failure of the Exploratory Group's proposal to obtain acceptance, and the widespread support shown for this proposal in the poll of General Electric engineers (including about 600 comments), we feel that this plan offers an excellent opportunity finally to achieve unity.

4. We hope that AIEE, NSPE, and other engineering societies will find some value in this plan and support it or one similar to it. We particularly hope that you—the individual reader—will decide you would support a plan of this type and LET YOUR SUPPORT BE KNOWN. THE TIME FOR ACTION IS NOW!

† Definition of a “professional engineer” (extract from Salary Stabilization Board Interpretation 12, July 1, 1952):

(a). A professional engineer is a person who, by reason of his special knowledge of the mathematical and physical sciences and the principles and methods of engineering analysis and design, acquired by professional education and practical experience, is qualified to apply such special knowledge for the purpose of rendering professional services or accomplishing creative work, such as consultation, investigation, evaluation, planning, design, or supervision of construction for the purpose of assuring compliance with specifications and design in connection with structures, machines, processes, works, or projects.

(b). A person is qualified as a professional engineer by reason of his professional education if he holds a professional engineering degree from a college, university, or institution of technology, authorized under the laws of the jurisdiction in which it is located to grant academic degrees in professional engineering.

(c). A person licensed or registered to practice as a professional engineer in any state, territory, or possession of the United States or in the District of Columbia is qualified as a professional engineer.

** This survey questionnaire described the original plan.