

THE DANIEL W. MEAD PRIZE FOR STUDENTS

The Daniel W. Mead Prize for Students was established in 1939 to honor the memory and accomplishments of the 67th President of the American Society of Civil Engineers. The Mead Prize is awarded annually on the basis of papers on professional ethics. Each year, the topic of the contest for the forthcoming year is selected by the National Committee on Student Services. The topic chosen for the 1980 contest was "The Role of ASCE in Influencing Public Policy on Controversial Technical Issues".

One winner was selected from each of the Society's four zones and subsequently the national winner was chosen from among the four zone winners. All four winners presented their papers at the ASCE Spring Convention in Portland, Oregon on April 18, 1980.

The national winner this year was Karen Kirk of the class of 1980, Northeastern University. Her paper is presented on the following pages. It is also being published in *Issues in Engineering, Journal of Professional Activities*, ASCE.

THE ROLE OF ASCE IN INFLUENCING PUBLIC POLICY ON CONTROVERSIAL TECHNICAL ISSUES¹

By Karen Kirk²

The issue of who should be involved in forming public policy is dependent upon the prevailing social and economic climate of the day. It is therefore necessary to bring together a variety of viewpoints in order to be qualified to suggest the role of the American Society of Civil Engineers (ASCE) in public policies which concern controversial technical issues.

While researching this topic, I contacted several civil engineers and other informed individuals, all of whom were very helpful. I should like to thank Mr. Louis L. Meier, Jr., the ASCE Counsel in Washington, who was particularly helpful in answering my many questions and sending me a great deal of literature pertaining to ASCE. I should also like to thank the people who took the time to answer my questions in person or by letter: Mr. Oscar Bray, former ASCE president; Mr. Charles Par-

¹1980 Daniel W. Mead Prize Paper, ASCE.

²Class of 1980, Northeastern University; National Winner, 1980.

thum, Vice-President of Camp Dresser & McKee, Inc.; Mr. Lawrence Bergen, New England Division, U.S. Army Corps of Engineers; Mr. John Sullivan, Chas. T. Main, Inc.; Mr. Michael S. Dukakis, former governor of Massachusetts; Ms. Marcia Rockefeller, Sierra Club; Mr. R. Lawrence Whipple, ASCE; Prof. Saul Namyet, Dr. Kenneth Leet, and Prof. Richard J. Scranton of Northeastern University. The opinions stated in this paper are the opinions that I developed while researching the subject. I alone am responsible for the statements and opinions expressed in this paper.

I shall first state the problem and then pose some questions and finally explain how these questions relate to ASCE and its role in public affairs. Also several suggestions will be offered on how ASCE can fulfill this role.

The role of professional and technical societies in controversial technical issues is becoming increasingly important as our society grows more complex. Every day, decisions are made at the local, state and Federal levels of our government and often the people making these decisions are not aware or do not fully understand all the potential consequences that may be involved with a particular project or policy. Our government leaders find it more and more difficult to make sound decisions involving complex technical issues. As these issues become more complicated, they are also becoming more numerous. The technological advances of the past three decades have brought science and engineering closer to, and more involved in, the every day lives of almost everyone in this country. Legislators are constantly being bombarded with information provided through special interest groups, some of which may not be concerned with what is best for the general public. Can we be sure that the information on which our elected officials base their decisions are sound, dependable facts leading to rational conclusions?

I. Should civil engineers, as individuals, make a conscious effort to inform the public on technical issues concerning the public's safety and well-being?

Yes, civil engineers have a moral and ethical responsibility to serve the needs of the public. The first of the Fundamental Canons in the ASCE Code of Ethics states, "Engineers shall hold paramount the safety, health and welfare of the public in the performance of their professional duties." Many engineers are currently involved in fields concerning air and water pollution, public transportation, water supply and waste disposal. Engineers, in the day-to-day performance of their duties, are becoming increasingly involved in the social and economic affairs of various communities. It is essential that engineers, trained to

think and make decisions based on facts, speak out and become involved in the issues and problems facing their community. There are many instances where an engineer's input as a professional and a concerned citizen is not only welcome but also imperative.

II. Should civil engineers seek public office with the purpose of contributing their technical knowledge?

Yes, engineers, through the opportunity they have had in their education and training, are uniquely qualified for many public offices. Our government should be representative of the people it serves and should involve a variety of viewpoints on any current issue. An engineer can, through his/her technical background lend balance to any debate concerning public policy.

At the local level there are many areas where an engineering background is needed. Good planning and design can greatly enhance any community. In most cities and towns there are planning boards, zoning committees, public works boards, building code committees, park and recreation commissions, and boards of selectment or city councils. At the county or state level there are building and zoning committees, examining boards and various environmental protection agencies. As congressmen, engineers would have the training and knowledge to be capable of making sound decisions on any type of issue.

The engineer's logical approach to issues and problems can be invaluable in the decision-making and policy-forming stages.

III. What is the Role of ASCE in Influencing Public Policy?

ASCE's role in public policy can be very complex and the extent of the Society's involvement in any issue must be based on the circumstances of each particular situation. However, the type of involvement can be grouped into four comprehensive categories which are described below.

1. The ASCE's most important function is the education of its members. The Society should strive to keep its members informed on current, controversial, technical issues - thereby indirectly informing the general public. The Society, through publications such as "Issues in Engineering" and "Civil Engineering", could present the facts and all aspects of such topics by inviting other professionals, medical doctors, attorneys, and economists, to furnish articles or information pertaining to their field of expertise. Other professionals can be invited to Na-

tional Conventions and Local Section meetings to offer some insight to perspectives to which the engineer is not normally exposed. This will produce engineers who are more cognizant of the social impact of current issues. Issues such as nuclear energy, hazardous waste disposal, and offshore drilling are multifaceted problems. The physiological, environmental and economic, as well as the technical aspects of these issues must be considered. If individual members are involved in public affairs they can contribute the information they have gained through the Society when they participate in discussions or debates concerning these issues.

2. The Society should encourage and assist its members to become more involved in public affairs particularly in their own communities. The narrowly technical stereotype of the engineer is partly due to the engineer's apparent lack of concern in the social segment of projects, problems or policies. The separation between social and technical issues is becoming less distinct as our society grows more complex. The active involvement of the Society and its members in public affairs will enhance the general public's image of the civil engineering profession. The increased visibility and citizen awareness of the civil engineers in the community will help improve the public's understanding and respect for our profession. Assistance and support for individual members will encourage them to become more involved in civic affairs. By detailing how an engineering background can be applied to particular areas of government and community affairs, the Society will facilitate the engineer's decision of how he can best benefit his community. ASCE, through programs such as Continuing Education courses, could teach engineers to be more effective *public* communicators. Former Governor Michael Dukakis stated, "One of the problems that people like myself have is that we do not have all the necessary technical information. If that information can be translated into terms that we can understand, it would be very helpful." This would be beneficial in both public and private business. Other professionals, such as attorneys, can be invited as guest speakers to discuss how to organize a campaign or be a successful candidate. ASCE could also provide a medium for the exchange of ideas or experiences among engineers currently involved in civic affairs.

Engineers are an untapped resource which could and should be utilized more extensively in the community decision-making process. Many citizen advisory groups and other committees would welcome the assistance of an engineer to help ensure that their information is correct and technically sound. Marcia Rockefeller of the Sierra Club stressed the point that the presence of an engineer will also help ensure the group's credibility. Local sections could compile lists of engineers willing to

serve on such committees, endorse their credentials and recommend them to towns and cities or other public interest groups. Engineers have the education and background to ask the right questions and to attack a problem objectively, looking at all sides of the issues before drawing a conclusion.

3. The ASCE Code of Ethics states that engineers shall be involved in community affairs and shall work towards improving our environment. The Society, in addition to encouraging its members in this direction, can also pursue these goals at the National and Local Section level. The Society can increase its involvement in public policy through legislation and by offering information and guidance to legislators to ensure that wise decisions will be made concerning technical issues. But, there is a problem with ASCE advocating a particular piece of legislation. If that legislation is not supported by, or representative of the viewpoints of, the entire membership, can the Society justify spending the necessary time and money involved in promoting it? The way to avoid this conflict is to urge individuals and groups within ASCE to actively support legislation or policy which they deem appropriate. But, these groups must also be extremely cautious not to support a bill which will appear to be self-serving or may involve a conflict of interest.

Providing speakers for civic organizations and public forums and providing facts and explanations of technical aspects of projects or issues for the news media are perhaps better ways in which ASCE can influence public policy nationally and locally.

4. If an ASCE member, through his or her engineering judgment, believes that an existing project or policy, in government or private industry, should be questioned or reevaluated, ASCE should organize a task force or investigative committee which is objective and knowledgeable on the subject to offer guidance on proper conduct. If so, ASCE's duty then is to support and guide the individual in whatever corrective action is necessary. As an example, if an engineer suspected that chemical wastes from the firm employing him were contaminating a water supply and the firm ignored his warning, ASCE would act as an intermediary. ASCE should advise the engineer as to how he should report the problem and what his responsibilities are in that particular situation. The Society should also offer support in the form of a lawsuit to retain his position, economic assistance, or aid in finding a new position, if any of these become necessary as a result of the recommended action.

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The engineering profession must prove that it is concerned about the problems facing our society and is willing to cooperate with the public in solving these problems effectively. It is essential that in every community the most knowledgeable and most qualified people participate in their government if the democratic system is to function in the way in which it was designed. It is the responsibility of the Society to promote both the fact and the image of the engineer as a socially concerned, technically knowledgeable citizen by urging its members to meet these expectations in their own communities. ASCE does not need to sacrifice any of its traditional professional society activities in becoming a more socially-oriented organization. Through the efforts of its members, ASCE will become an organization that is more conscious of and more concerned about the social problems, in conjunction with the technical problems, of our society.

The role of ASCE is to help its members to be more enlightened about *all* facets of technical issues, and be more involved in public decisions concerning these issues. ASCE should also strive to assist our elected officials in making wise decisions pertaining to technical issues and point out and rectify faulty projects or policies of the past.