

# Engineering Ethics Update

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## Introducing the National Institute for Engineering Ethics

For over thirty years the National Society of Professional Engineers (NSPE) has maintained a Board of Ethical Review (BER), which annually reviews real-life situations involving ethical considerations. These cases, submitted by practicing engineers, are edited to remove any possible identification with the individuals and localities involved. The compilations of these BER cases are a primary resource in the teaching of ethics to both engineering students and for discussion groups of practicing engineers.

Nevertheless, the membership of NSPE has become increasingly concerned regarding the need for greater awareness and educational efforts directed toward the subject of ethics as applied to engineering practice. Therefore, late in 1987, a steering committee was established by NSPE leadership to study the feasibility of forming a National Institute for Engineering Ethics (NIEE). The steering committee was composed of NSPE leaders and several prominent ethicists from universities and agencies. These nonengineer members of the committee were prominent members of the faculty at major universities having colleges of engineering. They each specialized in ethics and philosophy studies as applied to technical subjects.

In its deliberations, the steering committee found that it was most appropriate to establish the NIEE by building on the unique work of the BER and so recommended to the NSPE Board of Directors. The Board approved the organization of NIEE in July 1988.

Since July 1988, NIEE has completed an organization structure, formulated programs, and begun production of this newsletter, "Engineering Ethics Update." In addition, an outstanding video presentation entitled "Gilbane Gold" has been produced and is now available. It portrays the ethical dilemma faced by a young professional engineer in a very difficult situation.

NIEE programs will focus on producing educational materials and resources that create broader awareness of both theoretical and applied ethics in the practice of engineering. The formation of NIEE has met with considerable enthusiasm. This is most encouraging to those in NIEE as they further develop existing programs

and formulate new programs intended to be of practical assistance to the engineering profession.

## NIEE Commission Responsibilities And Initial Activities Announced

Following a July 24, 1989, meeting of NIEE, Chairman Herbert Koogle, EE., announced the following assignments and work plans for the new organization. These included results of the initial organizing meeting held on January 9:

### **Commission on Education:**

To develop teaching materials for students in academic and nonacademic settings, with an initial focus on the interface between engineers and managers.

Work plans include development of a discussion guide for the video "Gilbane Gold," recently completed, and the development of both an "NIEE List of Approved Ethics Teaching Materials" and an "NIEE Directory of Key Ethics Resource Persons in Academia, Practice, and Professional Societies." Support from the Commission has also been given to the Center for the Study of Ethics in the Professions (at Illinois Institute of Technology) for a proposal to the National Science Foundation entitled "Ethics Across the Curriculum." The proposed project would include, in addition to workshops for engineering faculty, a workshop for professional society representatives to help them acquire the capacity to include engineering ethics in continuing education.

Vivian Weil, Ph.D., Chairman

E. Walter LeFevre, PE                      Donald L. Bender, PE

Paul R. Munger, PE                      Robert J. Haefeli, PE

### **Commission on Research & Study:**

To assess needs for research and development in ethical dilemmas, maintain a library of ethical knowledge, and carry out needed research.

Work plans include a survey of corporate ethics officers, professional society ethics committee chairmen, the NSPE practice divisions, and others. This survey will identify concerns of engineers in the field of ethics, working in cooperation with the NSPE Research Committee. Other issues on which the Commission expects to focus include global ethical concerns, conflicts of

interest, and policy questions relating to hazardous materials, political contributions, and nepotism.

Victor A. Vaughn, PE., Chairman

Deborah G. Johnson, Ph.D. Rochelle Hollander, Ph.D.

Herbert G. Koogle, PE

#### Commission on Practice Applications:

To market teaching materials, seminars, and the results of R&D studies to engineers, engineering companies, government agencies, and other institutions concerned with ethical issues in engineering or engineering-related businesses.

The University of Texas at Austin hosted an August workshop to develop recommendations on how to integrate instructional materials and training skills into existing curricula on the subject of "Safety, Ethics, and Legal Liability." The invitation-only workshop, on August 25-26, 1989, was attended by 35 representatives from private industry, utilities, the legal profession, the military, and academic institutions. Funded by the National Science Foundation, the workshop planners declared this phase of the project eminently successful.

Participants were divided into three focus groups on safety, liability, and ethics. Each was charged, first, to identify needs, and second, to suggest methods of implementing proposed topics and instructional materials.

Reports from each focus group were presented at the conclusion of the workshop. For additional information, contact Dr. Margaret Maxey at 512-471-7501, or write to The University of Texas at Austin, Chair of Free Enterprise, Petroleum/CPE 3168, Austin, Texas 78712.

Margaret N. Maxey, Ph.D., Chairman

Jimmy H. Smith, EE.

John RM. Alger, PE.

Stanley M. Wilbur, PE.

Jerry A. Sills, Ph.D.

Neil A. Norman, PE., President-Elect of NSPE, is a member at large of NIEE.

## "Gilbane Gold," Case Study in Engineering Ethics Now Available

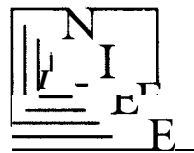
At the plenary session of NSPE's January 1989 annual meeting, Herbert Koogle, PE., Chairman of NIEE, and Charles Samson, EE., past President of NSPE, announced completion of "Gilbane Gold," a 24-minute videotape of an engineer's ethical dilemma pitting environmental pollution against business expansion. Since that time, a discussion guide has also been produced and made available with the videotape, providing a one-hour presentation and discussion seminar. Special recognition was given to Victor O. Shinnerer for his company's contribution of \$30,000, allowing the project to be carried out. Total cost of \$67,000 was covered by several companies and many individual contributions.

Don Bender, EE., Chairman of the project, said that the package is offered in nationwide distribution, primarily for engineering colleges, industrial concerns, governmental organizations and other institutions concerned with ethical problems in engineering. Copies can be purchased for \$98 (\$68 to educational institutions) by calling 703-684-2882 and asking for "Gilbane Gold."

## The Professional Engineer And the International Community

How can U.S. engineers doing business overseas cope with the differing ethics and value systems of foreign countries? After discussion of this issue at a recent NIEE meeting, E. Joyce Dixon agreed to present a paper on the subject and provide a summary for *Engineering Ethics Update*. She is Executive Director of the National Academy of Forensic Engineers, a chartered affinity group of NSPE. The full paper will appear in the next issue of the *Journal of the National Academy of Forensic Engineers*.

From Socrates to Sams, individuals have faced the legal, ethical, and moral questions of the society in which they live. But the tales brought back by the explorers of distant lands make clear that differing designs for living are found in other cultures and locations. In this time of increasing International trade competition it is important that we understand these cultural differences. The latest buzzword in the U.S. is "ethics." There is a strong thrust from many sectors to implement policies ensuring ethical behavior. But what is meant by the word "ethics?" The writer proposes a twofold definition: The big "E" of ethical obligation is to protect the safety and welfare of the human community. The professional must be guided by this *Ethic*, no matter in what culture or location of practice.



*Engineering Ethics Update* is published by the National Institute for Engineering Ethics (NIEE), 1420 King Street, Alexandria, VA 22314.

For information on how to join NIEE, call 703/684-2840.

President: Herbert G. Koogle, EE.

Commission Chairmen: Education: Vivian Weil, Ph.D.; Research and Study: Victor A. Vaughn, PE.;

Practice Applications: Margaret N. Maxey, Ph.D.

Editor: John Alger, PE.

NIEE was established in 1988 by the National Society of Professional Engineers.

Then there is the little "e," which is the *ethic* or code of conduct for business practice and relationships with clients and fellow professionals. These codes vary greatly between cultures and nationalities. Ordinary practice in one culture may be deemed unethical or even illegal in another. The self-imposed constraints of U.S. engineers doing business abroad, constraints deriving from cultural or personal codes of behavior in the U.S. and from our domestic legal limitations, may disadvantage the American professional. Engineers by training proceed as if there is a solution to all problems if only one Ends the *correct* mathematical equation. Conversely, social scientists have learned by training and empirical observation that each societal problem must be dealt with individually because of the numerous human variables involved. The professional engineer abroad must conform to a personal and U.S. societal code of ethics and legal constraints while seeking flexibility in the light of local practices. As a result, dilemmas are inherent in the situation presented to the professional practitioner. For example, if American employees are permitted to adhere to local "business customs" they may carry these "customs" back to the U.S. where they

might be viewed as unethical behavior.

The first step toward agreement on codes of behavior within the international community might be the gathering of professionals from around the world to discuss standards that would be acceptable to as many as possible of the countries that choose to participate. An initial step in this direction for professionals in the United States necessarily would be to acknowledge the existence of such differences and determine to avoid labelling these differences as "unethical behavior" simply because they do not conform to our domestic customs.

The professional practitioner in the United States who elects to practice abroad has much to ponder and resolve. Cultures are different. But, in the writer's opinion, it is incumbent upon ethical humans in all cultures to exercise good judgement in determining that body of practice which will, to the greatest extent feasible, provide the restraints and directives agreed upon by the consensus of the governing culture. That is why it is so important for international forums to discuss, and hopefully, to agree upon a code of conduct for the practice of professional engineering in the international community.

## Facts about NIEE

- Established in 1988 by National Society of Professional Engineers, with cooperation from professional and corporate ethicists;

- Activities controlled by Board of Governors composed of representatives from engineers, educators, and ethicists representing the General Dynamics Corporation, Oak Ridge National Laboratory, National Science Foundation, Illinois Institute of Technology, University of Texas, Rensselaer Polytechnic Institute, University of Missouri, and several consulting engineering firms;

- Funded solely by membership dues and contributions.

## How To Join

Name \_\_\_\_\_

Address \_\_\_\_\_

Membership: CI individual (\$15 annually)

Member of NSPE CI Yes CI No

NSPE Membership # \_\_\_\_\_

Payment:  Check enclosed  Visa  MasterCard

Credit card # \_\_\_\_\_

Expiration Date \_\_\_\_\_

Signature \_\_\_\_\_

Send to: NIEE, PO. Box 96163,  
Washington, D.C. 20090-6163.

Account No. 10-414-42-10-001

## Must We Give Up Ethics To Eat?

"I gave up ethics-to eat!" is the title of an article that originally appeared in the December 1957 Issue of "Consulting Engineer," according to Emerson W. Pugh, President of The Institute of Electrical and Electronic Engineers (IEEE). He discusses this issue in the president's column of the April 1989 issue of "The Institute" newsletter by raising questions, offering a simplified code of ethics, and encouraging a dialogue within IEEE. How are our ethical principles to be established? he asks. Can they be applicable worldwide? Who judges our behavior? How can ethics be enforced? Should ethical principles be discarded if they cannot be enforced or if many people violate them? Mr. Pugh says he does not have good answers for many of these questions, but he feels that IEEE members seem to believe they know what ethics is, and that it is sometimes as important to adhere to ethical principles as it is to eat.

## The What, Why, and Who of NSPE's Board of Ethical Review (BER)

Robert Haefeli, PE., Chairman of the NSPE Board of Ethical Review (BER), has provided the following explanation of the responsibilities, organization, and operation of the BER:

The BER is charged under the bylaws of NSPE to

render impartial opinions relating to interpretation of the NSPE Code of Ethics. It is composed of seven members appointed by the President of NSPE, one member from each of the six geographic administrative regions plus one additional member. Each member serves a three-year term, with consecutive reappointment allowed for one additional three-year term. The Chairman of BER is appointed by the NSPE President to serve a maximum of two years.

The BER establishes its own rules of procedure within prescribed limits, and it is assisted by Arthur Schwartz, Legal Counsel of NSPE, and his staff. Coordination and liaison with NSPE officers and directors is accomplished through Stanley M. Wilbur, EE., Northeast Regional Vice President (Tel.No.: 802-864-0223).

The various duties of the BER, as specified by the National Directors of NSPE, are summarized below:

1. To render opinions on the interpretation and intent of the NSPE Code of Ethics, for either real or hypothetical situations.

2. To provide opinions suitable for publication by NSPE.

3. To recommend to the NSPE Board appropriate modifications to the NSPE Code of Ethics.

4. To develop materials on ethical standards of the profession suitable for use both by NSPE members and other engineering organizations.

5. To cooperate in the coordination of ethical concerns and activities with other committees and divisions of the NSPE and other professional and technical societies.

6. To evaluate the degree to which ethical standards are being met, and to identify ethical concerns that require further study.

The BER currently has the following seven people assigned to it, representing a broad spectrum of NSPE membership and interests throughout the 55 state and

territorial societies:

Eugene N. Bechamps, PE., Florida (Tel.No.: 305-266-7062)

John F.X. Browne, PE., Michigan (Tel.No.: 313-642-6226)

Herbert G. Koogler, PE., New Mexico (Tel.No.: 505-296-2672)

Lindley Manning, PE., Nevada (Tel.No.: 702-786-2711)

Paul E. Pritzker, PE., Massachusetts (Tel.No.: 617-891-4357)

Robert J. Haefeli, EE. New Jersey (Tel.No.: 609-520-8888)

Activities of the BER are largely handled through correspondence; but at least once each year the BER meets at the Alexandria, Virginia, headquarters of NSPE to deliberate on various ethical dilemmas submitted to it as cases during the prior year by the various NSPE state societies and other sources. The resulting interpretations of the NSPE Code of Ethics are published, by case, for the guidance of NSPE members as well as others. Those interested can purchase the bound volumes of opinions. The first such volume was printed in 1965. Six volumes are now available, covering cases through 1988. The sixth volume also contains a useful cross reference of key words for all opinions rendered during the past 34 years.

The BER recommends that all engineers, whether members of NSPE or not, place a copy of the BER opinions in their library, become familiar, through study, with their recommendations, and apply those recommendations to the everyday practice of engineering. Engineering clientele, attorneys, regulatory bodies, and national, state, and local government agencies may also be interested in those opinions. Contact NSPE on telephone number 1-703-684-2882 for information as to cost and availability of the six volumes of BER opinions.