

Codes of Ethics

IN THIS APPENDIX, the code of the National Society of Professional Engineers (NSPE) is printed, and web sources for most of the other major engineering codes are provided, together with a few comments on features of the codes that are worth particular notice. The NSPE code has been selected for inclusion for two primary reasons. First, membership in the NSPE is open to all professional engineers, regardless of their particular engineering discipline, such as electrical, mechanical, or civil engineering. For this reason, the code is in principle applicable to all engineers. This feature distinguishes the NSPE code from the codes of those professional societies that are open only to members of a particular engineering discipline. Electrical engineers, for example, might not be especially interested in the code of mechanical or civil engineering, but they should be interested in the provisions of the NSPE code since they are potential members of this organization. Second, the NSPE code is a very complete code and in general is representative of the other codes. Codes do, however, address the ethical problems that arise in their particular branch of engineering, and there may be some differences in the codes because of this. Codes may also differ because of the special "culture" of the professional societies.

Because the NSPE code is printed here in full and is in general representative of engineering codes of ethics, several features of the code deserve mention:

- The highest ethical obligation of engineers is to the "safety, health, and welfare of the public." Virtually every engineering code contains similar wording and makes it clear that the obligation to the public takes priority over obligations to clients or employers.
- Engineers must also act for clients or employers as "faithful agents or trustees," with the implicit understanding that this obligation is subordinate to the obligation to the public.
- Engineers must practice only in their areas of competence.
- Engineers must act objectively, truthfully, and in a way that avoids deception and misrepresentation, especially to the public. This includes avoiding bribes or other actions that might compromise an engineer's professional integrity.

- Engineers are encouraged (not required) to participate in civic affairs, such as career guidance for youth, and not only to promote or "work for the advancement of the safety, health, and well-being of their community."
- Engineers are encouraged (not required) to adhere to the principles of sustainable development in order to protect the environment for future generations. In an endnote, sustainable development is defined as "meeting human needs...while conserving and protecting environmental quality and the natural resource base essential for human development." Increasingly, codes are making reference to the concept of sustainable development as well as the obligation to protect the environment.
- Finally, engineers have an obligation to other engineers and to the engineering profession. The obligation to other engineers requires them to refrain from such activities as untruthfully criticizing the work of other engineers and to give credit to other engineers when appropriate. The obligation to the engineering profession requires them to conduct their work (and their advertising) with dignity as well as according to ethical standards.

NSPE CODE OF ETHICS FOR ENGINEERS1

Preamble

Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness, and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.

I. Fundamental Canons

Engineers, in the fulfillment of their professional duties, shall:

- 1. Hold paramount the safety, health, and welfare of the public.
- 2. Perform services only in areas of their competence.
- 3. Issue public statements only in an objective and truthful manner.
- 4. Act for each employer or client as faithful agents or trustees.
- 5. Avoid deceptive acts.
- 6. Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.

II. Rules of Practice

- 1. Engineers shall hold paramount the safety, health, and welfare of the public.
 - a. If engineers' judgment is overruled under circumstances that endanger life or property, they shall notify their employer or client and such other authority as may be appropriate.
 - b. Engineers shall approve only those engineering documents that are in conformity with applicable standards.

- c. Engineers shall not reveal facts, data, or information without the prior consent of the client or employer except as authorized or required by law or
- d. Engineers shall not permit the use of their name or associate in business ventures with any person or firm that they believe is engaged in fraudulent or dishonest enterprise.
- e. Engineers shall not aid or abet the unlawful practice of engineering by a person or firm.
- f. Engineers having knowledge of any alleged violation of this Code shall report thereon to appropriate professional bodies and, when relevant, also to public authorities, and cooperate with the proper authorities in furnishing such information or assistance as may be required.
- 2. Engineers shall perform services only in the areas of their competence.
 - a. Engineers shall undertake assignments only when qualified by education or experience in the specific technical fields involved.
 - b. Engineers shall not affix their signatures to any plans or documents dealing with subject matter in which they lack competence, nor to any plan or document not prepared under their direction and control.
 - c. Engineers may accept assignments and assume responsibility for coordination of an entire project and sign and seal the engineering documents for the entire project, provided that each technical segment is signed and sealed only by the qualified engineers who prepared the segment.
- 3. Engineers shall issue public statements only in an objective and truthful manner.
 - a. Engineers shall be objective and truthful in professional reports, statements, or testimony. They shall include all relevant and pertinent information in such reports, statements, or testimony, which should bear the date indicating when it was current.
 - b. Engineers may express publicly technical opinions that are founded upon knowledge of the facts and competence in the subject matter.
 - c. Engineers shall issue no statements, criticisms, or arguments on technical matters that are inspired or paid for by interested parties, unless they have prefaced their comments by explicitly identifying the interested parties on whose behalf they are speaking, and by revealing the existence of any interest the engineers may have in the matters.
- 4. Engineers shall act for each employer or client as faithful agents or trustees.
 - a. Engineers shall disclose all known or potential conflicts of interest that could influence or appear to influence their judgment or the quality of their services.
 - b. Engineers shall not accept compensation, financial or otherwise, from more than one party for services on the same project, or for services pertaining to the same project, unless the circumstances are fully disclosed and agreed to by all interested parties.
 - c. Engineers shall not solicit or accept financial or other valuable consideration, directly or indirectly, from outside agents in connection with the work for which they are responsible.

- d. Engineers in public service as members, advisors, or employees of a governmental or quasi-governmental body or department shall not participate in decisions with respect to services solicited or provided by them or their organizations in private or public engineering practice.
- e. Engineers shall not solicit or accept a contract from a governmental body on which a principal or officer of their organization serves as a member.
- 5. Engineers shall avoid deceptive acts.
 - a. Engineers shall not falsify their qualifications or permit misrepresentation of their or their associates' qualifications. They shall not misrepresent or exaggerate their responsibility in or for the subject matter of prior assignments. Brochures or other presentations incident to the solicitation of employment shall not misrepresent pertinent facts concerning employers, employees, associates, joint venturers, or past accomplishments.
 - b. Engineers shall not offer, give, solicit, or receive, either directly or indirectly, any contribution to influence the award of a contract by public authority, or which may be reasonably construed by the public as having the effect or intent of influencing the awarding of a contract. They shall not offer any gift or other valuable consideration in order to secure work. They shall not pay a commission, percentage, or brokerage fee in order to secure work, except to a bona fide employee or bona fide established commercial or marketing agencies retained by them.

III. Professional Obligations

- 1. Engineers shall be guided in all their relations by the highest standards of honesty and integrity.
 - a. Engineers shall acknowledge their errors and shall not distort or alter the facts
 - b. Engineers shall advise their clients or employers when they believe a project will not be successful.
 - c. Engineers shall not accept outside employment to the detriment of their regular work or interest. Before accepting any outside engineering employment, they will notify their employers.
 - d. Engineers shall not attempt to attract an engineer from another employer by false or misleading pretenses.
 - e. Engineers shall not promote their own interest at the expense of the dignity and integrity of the profession.
- 2. Engineers shall at all times strive to serve the public interest.
 - a. Engineers are encouraged to participate in civic affairs; career guidance for youths; and work for the advancement of the safety, health, and well-being of their community.
 - b. Engineers shall not complete, sign, or seal plans and/or specifications that are not in conformity with applicable engineering standards. If the client or employer insists on such unprofessional conduct, they shall notify the proper authorities and withdraw from further service on the project.
 - c. Engineers are encouraged to extend public knowledge and appreciation of engineering and its achievements.

- d. Engineers are encouraged to adhere to the principles of sustainable development* in order to protect the environment for future generations.
- 3. Engineers shall avoid all conduct or practice that deceives the public.
 - a. Engineers shall avoid the use of statements containing a material misrepresentation of fact or omitting a material fact.
 - b. Consistent with the foregoing, engineers may advertise for recruitment of personnel.
 - c. Consistent with the foregoing, engineers may prepare articles for the lay or technical press, but such articles shall not imply credit to the author for work performed by others.
- 4. Engineers shall not disclose, without consent, confidential information concerning the business affairs or technical processes of any present or former client or employer, or public body on which they serve.
 - a. Engineers shall not, without the consent of all interested parties, promote or arrange for new employment or practice in connection with a specific project for which the engineer has gained particular and specialized knowledge.
 - b. Engineers shall not, without the consent of all interested parties, participate in or represent an adversary interest in connection with a specific project or proceeding in which the engineer has gained particular specialized knowledge on behalf of a former client or employer.
- 5. Engineers shall not be influenced in their professional duties by conflicting interests.
 - a. Engineers shall not accept financial or other considerations, including free engineering designs, from material or equipment suppliers for specifying their product.
 - b. Engineers shall not accept commissions or allowances, directly or indirectly, from contractors or other parties dealing with clients or employers of the engineer in connection with work for which the engineer is responsible.
- 6. Engineers shall not attempt to obtain employment or advancement or professional engagements by untruthfully criticizing other engineers, or by other improper or questionable methods.
 - a. Engineers shall not request, propose, or accept a commission on a contingent basis under circumstances in which their judgment may be compromised.
 - b. Engineers in salaried positions shall accept part-time engineering work only to the extent consistent with policies of the employer and in accordance with ethical considerations.
 - c. Engineers shall not, without consent, use equipment, supplies, laboratory, or office facilities of an employer to carry on outside private practice.

^{*&}quot;Sustainable development" is the challenge of meeting human needs for natural resources, industrial products, energy, food, transportation, shelter, and effective waste management while conserving and protecting environmental quality and the natural resource base essential for future development. —As Revised July 2007

- 7. Engineers shall not attempt to injure, maliciously or falsely, directly or indirectly, the professional reputation, prospects, practice, or employment of other engineers. Engineers who believe others are guilty of unethical or illegal practice shall present such information to the proper authority for action.
 - a. Engineers in private practice shall not review the work of another engineer for the same client, except with the knowledge of such engineer, or unless the connection of such engineer with the work has been terminated.
 - b. Engineers in governmental, industrial, or educational employ are entitled to review and evaluate the work of other engineers when so required by their employment duties.
 - c. Engineers in sales or industrial employ are entitled to make engineering comparisons of represented products with products of other suppliers.
- 8. Engineers shall accept personal responsibility for their professional activities, provided, however, that engineers may seek indemnification for services arising out of their practice for other than gross negligence, where the engineer's interests cannot otherwise be protected.
 - a. Engineers shall conform with state registration laws in the practice of engineering.
 - b. Engineers shall not use association with a nonengineer, a corporation, or partnership as a "cloak" for unethical acts.
- 9. Engineers shall give credit for engineering work to those to whom credit is due, and will recognize the proprietary interests of others.
 - a. Engineers shall, whenever possible, name the person or persons who may be individually responsible for designs, inventions, writings, or other accomplishments.
 - b. Engineers using designs supplied by a client recognize that the designs remain the property of the client and may not be duplicated by the engineer for others without express permission.
 - c. Engineers, before undertaking work for others in connection with which the engineer may make improvements, plans, designs, inventions, or other records that may justify copyrights or patents, should enter into a positive agreement regarding ownership.
 - d. Engineers' designs, data, records, and notes referring exclusively to an employer's work are the employer's property. The employer should indemnify the engineer for use of the information for any purpose other than the original purpose.
 - e. Engineers shall continue their professional development throughout their careers and should keep current in their specialty fields by engaging in professional practice, participating in continuing education courses, reading in the technical literature, and attending professional meetings and seminars.

"By order of the United States District Court for the District of Columbia, former Section 11(c) of the NSPE Code of Ethics prohibiting competitive bidding, and all policy statements, opinions, rulings or other guidelines interpreting its scope, have been rescinded as unlawfully interfering with the legal right of engineers, protected under the antitrust laws, to provide price information to prospective clients; accordingly, nothing contained in the NSPE Code of Ethics, policy statements,

opinions, rulings or other guidelines prohibits the submission of price quotations or competitive bids for engineering services at any time or in any amount."

Statement by NSPE Executive Committee

In order to correct misunderstandings which have been indicated in some instances since the issuance of the Supreme Court decision and the entry of the Final Judgment, it is noted that in its decision of April 25, 1978, the Supreme Court of the United States declared: "The Sherman Act does not require competitive bidding." It is further noted that as made clear in the Supreme Court decision:

- 1. Engineers and firms may individually refuse to bid for engineering services.
- 2. Clients are not required to seek bids for engineering services.
- 3. Federal, state, and local laws governing procedures to procure engineering services are not affected, and remain in full force and effect.
- 4. State societies and local chapters are free to actively and aggressively seek legislation for professional selection and negotiation procedures by public agencies.
- 5. State registration board rules of professional conduct, including rules prohibiting competitive bidding for engineering services, are not affected and remain in full force and effect. State registration boards with authority to adopt rules of professional conduct may adopt rules governing procedures to obtain engineering services.
- 6. As noted by the Supreme Court, "nothing in the judgment prevents NSPE and its members from attempting to influence governmental action..."

NOTE: In regard to the question of application of the Code to corporations vis-à-vis real persons, business form or type should not negate nor influence conformance of individuals to the Code. The Code deals with professional services, which services must be performed by real persons. Real persons in turn establish and implement policies within business structures. The Code is clearly written to apply to the Engineer, and it is incumbent on members of NSPE to endeavor to live up to its provisions. This applies to all pertinent sections of the Code.

1420 King Street Alexandria, Virginia 22314-2794 703/684-2800 • Fax:703/836-4875 www.nspe.org

Publication date as revised: July 2007 Publication #1102

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS (AIChE)

www.aiche.org/About/Code.asps

The AIChE code requires members to "never tolerate harassment" and to "treat fairly all colleagues and co-workers." It states that members "shall" pursue the positive goal of "using their knowledge and skill for the enhancement of human welfare." Also, members "shall" protect the environment.

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

www.asce.org/inside/codeofethics.cfm

The ASCE code contains a number of statements about obligations to protect the environment and to adhere to the principles of sustainable development. These obligations are characterized as something engineers "should" (not "shall") adhere to in their professional work.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, ASME INTERNATIONAL

www.asme.org/NewsPublicPolicy/Ethics/Ethics_Center.cfm

The ASME code is divided into two parts. The Fundamental Principles and Fundamental Canons are in one document, and the ASME Criteria for Interpretation of the Canons are in another document. The first of the three Fundamental Principles states that engineers "use their knowledge and skills for the enhancement of human welfare."

ASSOCIATION FOR COMPUTING MACHINERY (ACM)

Short version: www.acm.org/about/se-code#short Full version: www.acm.org/about/se-code#full

The ACM code for "software engineering" has a more informal tone than the other codes and tends to use a different vocabulary from the other codes. According to the code, the "public interest" takes priority over the interests of the employer. Software "shall" not only be safe but also should "not diminish quality of life, diminish privacy, or harm the environment." The "ultimate effect" of work in software engineering should be "the public good." When appropriate, software engineers "shall" also "identify, document, and report significant issues of social concern."

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

www.ieee.org/web/membership/ethics/code_ethics.html

According to the code, members recognize "the importance of our technologies in affecting the quality of life throughout the world." Members agree to "accept responsibility in making decisions consistent with the safety, health, and welfare of the public, and to disclose promptly factors that might endanger the public or the environment." They also agree to "improve the understanding of technology, its appropriate application, and potential consequences." Finally, members agree to "treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin."

INSTITUTE OF INDUSTRIAL ENGINEERS (IIE)

www.iienet2.org/Details.aspx?id=299

In addition to providing Fundamental Principles and Fundamental Canons of its own, the IIE also endorses the Canon of Ethics provided by the Accreditation Board for Engineering and Technology. The Fundamental Principles state that engineers uphold and advance the integrity, honor, and dignity of the engineering profession by (among other things) "using their knowledge and skill for the enhancement of human welfare." The Fundamental Principles and Fundamental Canons make no mention of the environment.

NOTE

1. Reprinted by permission of the National Society of Professional Engineers (NSPE), www.nspe.org.