

Codes of Ethics

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ACEC Professional and Ethical Conduct Guidelines

PREAMBLE

Consulting engineering is an important and learned profession. The members of the profession recognize that their work has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by consulting engineers require honesty, impartiality, fairness and equity and must be dedicated to the protection of public health, safety and welfare. In the practice of their profession, consulting engineers must perform under a standard of professional behavior which requires adherence to the highest principles of ethical conduct on behalf of the public, clients, employees and the profession.

I. Fundamental Canons

Consulting engineers, in the fulfillment of their professional duties, shall:

1. Hold paramount the safety, health and welfare of the public in the performance of their professional duties.
2. Perform services only in areas of their competence.
3. Issue public statements only in an objective and truthful manner.
4. Act in professional matters for each client as faithful agents or trustees.
5. Avoid improper solicitation of professional assignments.

II. Rules of Practice

1. Consulting engineers shall hold paramount the safety, health and welfare of the public in the performance of their professional duties.

a. Consulting engineers shall at all times recognize that their primary obligation is to protect the safety, health, property and welfare of the public. If their professional judgment is overruled under circumstances where the safety, health, property or welfare of the public are endangered, they shall notify their client and such other authority as may be appropriate.

b. Consulting engineers shall approve only engineering work which, to the best of their knowledge and belief, is safe for public health, property and welfare and in conformity with accepted standards.

c. Consulting engineers shall not reveal facts, data or information obtained in a professional capacity without the prior consent of the client except as authorized or required by law or these Guidelines.

d. Consulting engineers shall not permit the use of their name or firm nor associate in business ventures with any person or firm which they have reason to believe is engaging in fraudulent or dishonest business or professional practices.

e. Consulting engineers having knowledge of any alleged violation of these Guidelines shall cooperate with the proper authorities in furnishing such information or assistance as may be required.

2. Consulting engineers shall perform services only in the areas of their competence.

a. Consulting engineers shall undertake assignments only when qualified by education or experience in the specific technical fields involved.

b. Consulting 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. Consulting engineers may accept an assignment outside of their fields of competence to the extent that their services are restricted to those phases of the project in which they are qualified and to the extent that they are satisfied that all other phases of such project will be performed by registered or otherwise qualified associates, consultants or employees, in which case they may then sign the documents for the total project.

3. Consulting engineers shall issue public statements only in an objective and truthful manner.

a. Consulting 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.

b. Consulting engineers may express publicly a professional opinion on technical subjects only when that opinion is founded upon adequate knowledge of the facts and competence in the subject matter.

c. Consulting engineers shall issue no statements, criticisms, or arguments on technical matters which 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 they may have in the matters.

4. Consulting engineers shall act in professional matters for each client as faithful agents or trustees.

a. Consulting engineers shall disclose all known or potential conflicts of interest to their clients by promptly informing them of any business association, interest or other circumstances which could influence or appear to influence their judgment of the quality of their services.

b. Consulting 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 to, and agreed to, by all interested parties.

c. Consulting engineers in public service as members of a governmental body or department shall not participate in decisions with respect to professional services solicited or provided by them or their organizations in private engineering practices.

d. Consulting engineers shall not solicit or accept a professional contract from a governmental body on which a principal or officer of their organization serves as a member.

5. Consulting engineers shall avoid improper solicitation of professional assignments.

a. Consulting engineers shall not falsify or permit misrepresentation of their, or their associates', academic or professional qualifications. They shall not misrepresent or exaggerate their degree of responsibility in or for the subject matter of prior assignments. Brochures or other presentations incident to the solicitation of assignments shall not misrepresent pertinent facts concerning employees, associates, joint ventures or past accomplishments with the intent and purpose of enhancing their qualifications and their work.

b. Consulting engineers shall not offer, give, solicit or receive, either directly or indirectly, any political contribution in an amount intended to influence the award of a contract by public authority, or which may be reasonably construed by the public of having the effect or intent to influence the award of the 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.

Adopted October 1980

Special Note: These guidelines do not prohibit design competitions, free services, or contingent arrangements.

Code of Ethics of the Information Processing Society of Japan

Preamble:

In recognition of information technologies having powerful and pervasive influence over society across national borders, and in the hope that information technologies will contribute to society and promote public welfare, we, the members of the Information Processing Society of Japan, shall abide by the following rules of conduct together with any applicable laws and orders in our research, development and use of information technologies.

1. As members of society:

1.1 We shall not cause harm to the life, safety and property of others

1.2 We shall respect the person and privacy of others.

1.3 We shall honor intellectual property rights and the fruits of intellectual endeavors of others.

1.4 We shall observe the operational standards and rules of information systems and networks.

1.5 We shall give due consideration to cultural diversity in society.

2. As professionals:

2.1 We shall continuously strive to improve our professional competence and put in our best efforts in performing our professional works.

2.2 We shall honor facts and data.

2.3 We shall give due consideration to the influence and risks information technologies may impose upon society and users.

2.4 We shall honor contracts and agreements with clients and preserve the confidentiality of clients' privileged information.

3. As organizational leaders:

3.1 We shall meet the demands of all persons affected by the development and operation of information systems and give due consideration to preserving their dignity.

3.2 We shall, in interconnecting different information systems, acknowledge the existence of information systems with differing management policies, and give due consideration to such interconnection not causing harm to the person of any and all individuals.

3.3 We shall prepare rules for the proper and appropriate exploitation of resources with respect to the development and operation of information systems, and assume the responsibility of implementing such rules.

3.4 We shall provide opportunities to other members of organizations to which we belong to be educated in the principles, limitations and risks of information technologies. Note:

This Code of Ethics will not necessarily be applicable to all situations a member would face, and it may conflict with other codes of ethics governing different areas of research, or it may be unclear which provision(s) hereof should govern in a given situation (including the case where certain provisions hereof conflict with each other with respect to a specific conduct). Therefore, it is the responsibility of each member himself or herself to make a determination as to the selection, prioritizing, etc., of the provision(s) hereof which should govern in a specific situation.

Addendum:

1. This Code of Ethics shall come into effect on 20 May, 1996. 2. The Information Processing Society of Japan shall establish a committee, as needed, for the purpose of interpreting or reconsidering this Code of Ethics.

FIET Code of Ethics

Introduction

FIET is the 11 million strong International Federation of Commercial, Clerical, Professional and Technical Employees. FIET was founded in 1904 in Amsterdam and is now based in Geneva, Switzerland. FIET has around 420 affiliates in over 100 countries. Within FIET there is a special department for professional and managerial staff which represents also engineers and scientists. FIET cooperates with INES (International Network of Engineers and Scientists for Global Responsibility). Together with INES they have organized a major international congress for engineers and scientists in Amsterdam last year on "Challenges of Sustainable Development". Recently the Committee for Professional and Managerial Staff (P&MS) has adopted its own code on professional, social and ethical responsibility which is meant to be kind of guideline for professionals organised their member organizations.

Code of Ethics

CODE OF PROFESSIONAL, SOCIAL AND ETHICAL RESPONSIBILITY FOR PROFESSIONAL AND MANAGERIAL STAFF Preamble

FIET P&MS World Committee has decided to promote the following Code of Professional, Social and Ethical Responsibility for members of unions affiliated to FIET who work in a professional or managerial capacity. It represents the standards which it is reasonable to expect members to comply with when carrying out their duties within their special fields. FIET affiliates represent a very broad range of individuals who are employed as professionals or managers by corporate bodies operating in many countries of the world and who consequently find themselves working under different cultural, economic and social conditions, and under diverse laws, statutes and regulations which frequently interact or overlap.

Continual radical changes in economy, sciences and technologies play a key role in the working lives of professional and managerial staffs. Scientific and technological processes are exerting a greater influence on the work and lives of professional and managerial staff than at any other time in our history. The belief that technology can progressively solve the problems which it has often created for itself has to some extent been undermined. Professional and managerial staff are now often faced with scepticism and uncertainty created by the complexities and apparent inflexibility of technologies, where disagreement amongst experts on possible consequences sometimes calls the objectivity of scientific advance into question.

Because of the diversity of circumstances in which professional and managerial staff work around the globe it is not possible to reach immediately all the objectives set up by this Code. Though the focus of this code is directed towards the responsibilities of professionals and managers, it does not diminish those of other participants, such as employers, shareholders, governments, politicians and the general public.

This code does not set out to vary any contract of employment which may exist between an individual member of an affiliated union and the employer. Nor is it intended to do so. Nor is it a substitute for members' obligations to the individual rules of their trade unions affiliated to FIET.

Professional and Managerial Staff

Article 1. General

In the pursuit of their professional activities, professional and managerial staff shall take into account not merely the scientific, technical and economic considerations, but also the social, environmental and ethical implications of their work. The responsibility of professional and managerial staff for the sustainable welfare of the community is an integral part of their professional responsibility.

Professional and managerial staff shall ensure that their activity contributes to an equitable distribution of world resources.

Article 2. Sustainability

Professional and managerial staff shall take all steps to maintain sustainable systems of work and to avoid dangers which may cause death, injury or ill-health to any person. They shall also avoid damage to nature and goods by any act or omission as a consequence of the execution of their duties.

Professional and managerial staff shall take all steps to safeguard public interest in matters of health and safety.

Article 3. Human Rights

Professional and managerial staff shall respect and defend human rights, including trade union rights, in particular by promoting international standards.

They shall have the right to be unionised and shall actively take part in the working community, in particular in unions, with their professional skills.

Article 4. Regulations and Standards

Professional and managerial staff shall familiarise themselves with the culture, economic and social background, laws and regulations appropriate to the country in which their work is being undertaken.

Article 5. Professional Integrity

Professional and managerial staff shall act in a manner which neither compromises nor impairs, nor is likely to compromise or impair, their professional integrity in the performance of their duties. In particular they shall take all steps to make business agreements clear and fair, including the social clauses.

Professional and managerial staff shall uphold equity and dignity and conduct their affairs faithfully.

Article 6. Industrial Democracy

Professional and managerial staff shall support the democratic process in industry, in particular collective bargaining and the establishment of arrangements for participation by employees in companies and in the workplace.

They shall seek to ensure that those affected by organisational change, or by the introduction of new technologies, are adequately consulted about the implementation of the changes and systems and their effect on working conditions.

Article 7. Data Protection and Privacy

Professional and managerial staff shall ensure that protection of personal data and privacy is effective, in particular by observing relevant national or international laws and regulations.

Article 8. Information and Training

Professional and managerial staff shall take steps both to maintain and develop their professional competence and knowledge within their special fields and to keep abreast of developments in economic, scientific, technical, social or other related disciplines relevant to their field of professional activity.

Professional and managerial staff shall take steps to further the information education and training facilities of their subordinates and to encourage their employers to allow appropriate facilities for their staff so that they can participate in continuing professional development courses and seminars.

Professional and managerial staff shall familiarise themselves with the systems applications in the workplace and display an understanding of their implications for employees and a willingness and understanding to respect the needs and interests of all interested parties.

Article 9. Confidentiality

Professional and managerial staff shall not disclose or authorise the disclosure of information covered by " professional secret ", which has been acquired by them in the course of their professional activities and which is not already in the public domain, without prior written consent for disclosure.

Professional and managerial staff shall, however, make information public where disclosure is in the public interest.

Article 10. Moral Conflict

Those who inform the public in accordance with previous articles, or refuse to work on projects which violate previous articles, shall be protected from dismissal and shall not incur other disadvantages in the work place.

National Trade Unions

Article 11. Promotion

Trade unions affiliated to FIET with professional and managerial staff in their membership shall distribute this code to their members and promote professional, social and ethical responsibility at the workplace.

Article 12. Protection

Trade unions shall encourage the professional, social and ethical responsibility of professional and managerial staff and protect their members in case of conflicts by means of legal advice and support and through collective agreements.

Article 13. Report back

Trade unions shall report back to the FIET P&MS World Committee their experience of good practice and conflicts concerning the professional, social and ethical responsibility of professional and managerial staff.

FIET P&MS World Committee

Article 14. Interdisciplinary dialogue

FIET will use its good offices to facilitate discussion between individuals of different disciplines and specialisations and to ensure dialogue takes place on topics selected by the FIET P&MS World Committee. A record of the discussions will be made public from time to time.

Article 15. Implementation

The FIET P&MS World Committee will organise procedures for the discussion and implementation of this code at regional and at world level.

The FIET P&MS World Committee will establish a library of experiences of good practice or conflicts concerning the professional, social and ethical responsibility of professional and managerial staff.

The FIET P&MS World Committee will act with relevant organisations and institutions to promote the contents of this code and to ensure respect for it.

Article 16. Review

The FIET P&MS World Committee is committed to a periodical review of the effectiveness and relevance of its code of professional, social and ethical responsibility.

Adopted by FIET's P&MS Committee on 13 May 1997

The Chemist's Code of Conduct

The Chemists Code of Conduct is a copyrighted document of the American Chemistry Society. The document cannot be reproduced, or altered from its original format or wording, without permission from the American Chemical Society.

The American Chemical Society expects its members to adhere to the highest ethical standards. Indeed, the federal Charter of the Society (1937) explicitly lists among its objectives "the improvement of the qualifications and usefulness of chemists through high standards of professional ethics, education, and attainments..."

Chemists have professional obligations to the public, to colleagues, and to science. One expression of these obligation is embodied in "The Chemist's Creed," approved by the ACS Council in 1965. The principles of conduct enumerated below are intended to replace "The Chemist's Creed." They were prepared by the Council Committee on Professional Relations, approved by the Council (March 16, 1994), and adopted by the Board of Directors (June 3, 1994) for the guidance of Society members in various professional dealings, especially those involving conflicts of interest.

Chemists acknowledge responsibilities to:

The Public Chemists have a professional responsibility to serve the public interest and welfare and to further knowledge of science. Chemists should actively be concerned with the health and welfare of co-workers, consumers, and the community. Public comments on scientific matters should be made with care and precision, without unsubstantiated exaggerated, or premature statements.

The Science of Chemistry Chemists should seek to advance chemical science, understand the limitations of their knowledge, and respect the truth. Chemists should ensure that their scientific contribution, and those of their collaborators are thorough, accurate, and unbiased in design, implementation, and presentation..

The Profession Chemists should remain current with developments in their field, share ideas and information, keep accurate and complete laboratory records, maintain integrity in all conduct and publications, and give due credit to the contributions of others. Conflicts of interest and scientific misconduct, such as fabrication, and plagiarism, are incompatible with this Code.

The Employer Chemist should promote and protect the legitimate interests of their employers, perform work honestly and competently, fulfill obligations, and safeguard proprietary information.

Employees Chemist, as employers, should treat subordinates with respect for their professionalism and concern for their well-being, and provide them with a safe, congenial working environment, fair compensation, and proper acknowledgement of their scientific contributions.

Students Chemists should regard the tutelage of students as trust conferred by society for the promotion of the student's learning and professional development. Each student should be treated respectfully and without exploitation.

Associates Chemists should treat associates with respect, regardless of the level their formal education, encourage them, learn with them, share ideas honestly, and give credit for their contributions.

Clients Chemists should serve clients faithfully and incorruptibly, respect confidentiality, advise honestly, and charge fairly.

The Environment Chemists should understand and anticipate the environmental consequences of their work. Chemists have responsibility to avoid pollution and to protect the environment.

Code of Ethics of Quebec Engineers of the Order of Quebec Engineers (OIQ)

Code de deontologies des ingenieurs du Quebec, l' Ordre des ingenieurs du Quebec (OIQ), 1983

Division I: General Provisions

1.01 This Regulation is made pursuant to section 87 of the Professional Code (R.S.Q., c. C26).

1.02 In this Regulation, unless the context indicates otherwise, the word "client" means a person to whom an engineer provides professional services, including an employer.

1.03 The Interpretation Act (R.S.Q., c. 1-16), with present and future amendments, applies to this Regulation.

Division II: Duties and Obligations Towards the Public

2.01 In all aspects of his work, the engineer must respect his obligations towards man and take into account the consequences of the performance of his work on the environment and on the life, health and property of every person.

2.02 The engineer must support every measure likely to improve the quality and availability of his professional services.

2.03 Whenever an engineer considers that certain works are a danger to public safety, he must notify the Ordre des ingenieurs du Quebec (Order) or the persons responsible for such work.

2.04 The engineer shall express his opinion on matters dealing with engineering only if such opinion is based on sufficient knowledge and honest convictions.

2.05 The engineer must promote educational and information measures in the field in which he practices.

Division III: Duties and Obligations Towards Clients

1. General Provisions

3.01.01 Before accepting a mandate, an engineer must bear in mind the extent of his proficiency and aptitudes and also the means at his disposal to carry out the mandate.

3.01.02 An engineer must at all times acknowledge his client's right to consult another engineer. If it is in the client's interest, the engineer shall retain the services of experts after having informed his client thereof, or he shall advise the latter to do so.

3.01.03 An engineer must refrain from practicing under conditions or in circumstances which could impair the quality of his services.

2. Integrity

3.02.01 An engineer must fulfill his professional obligations with integrity.

3.02.02 An engineer must avoid any misrepresentation with respect to his level of competence or the efficiency of his own services and of those generally provided by the members of his profession.

3.02.03 An engineer must, as soon as possible, inform his client of the extent and the terms and conditions of the mandate entrusted to him by the latter and obtain his agreement in that respect.

3.02.04 An engineer must refrain from expressing or giving contradictory or incomplete opinions or advice, and from presenting or using plans specifications and other documents which he knows to be ambiguous or which are not sufficiently explicit.

3.02.05 An engineer must inform his client as early as possible of any error that might cause the latter prejudice and which cannot be easily rectified, made by him in the carrying out of his mandate.

3.02.06 An engineer must take reasonable care of the property entrusted to his care by a client and he may not lend or use it for purposes other than those for which it has been entrusted to him.

3.02.07 Where an engineer is responsible for the technical quality of engineering work, and his opinion is ignored, the engineer must clearly indicate to his client, in writing, the consequences which may result therefrom.

3.02.08 The engineer shall not resort to dishonest or doubtful practices in the performance of his professional activities.

3.02.09 An engineer shall not pay or undertake to pay, directly or indirectly, any benefit, rebate or commission in order to obtain a contract or upon the carrying out of engineering work.

3.02.10 An engineer must be impartial in his relations between his client and the contractors, suppliers and other persons doing business with his client.

3. Availability and Diligence

3.03.01 An engineer must show reasonable availability and diligence in the practice of his profession

3.03.02 In addition to opinion and counsel, the engineer must furnish his client with any explanations necessary to the understanding and appreciation of the services he is providing him.

3.03.03 An engineer must give an accounting to his client when so requested by the latter.

3.03.04 An engineer may not cease to act for the account of a client unless he has just and reasonable grounds for so doing. The following shall, in particular, constitute just and reasonable grounds

(a) the fact that the engineer is placed in a situation of conflict of interest or in a circumstance whereby his professional independence could be called in question;

(b) inducement by the client to illegal, unfair or fraudulent acts;

(c) the fact that the client ignores the engineer's advice.

3.03.05 Before ceasing to exercise his functions for the account of client, the engineer must give advance notice of withdrawal within a reasonable time.

4. Responsibility

3.04.01 An engineer must affix his seal and signature on the original and the copies of every plan, specification, technical report, survey, contract specification and other engineering documents prepared by himself or prepared under his immediate control and supervision by persons who are not members of the Order.

An engineer may also affix his seal and signature on the original and the copies of documents mentioned in this section which have been prepared, signed and sealed by another engineer.

An engineer must not affix his seal and signature except in the cases provided for in this section.

5. Independence and Impartiality

3.05.01 An engineer must, in the practice of his profession, subordinate his personal interest to that of his client.

3.05.02 An engineer must ignore any intervention by a third party which could influence the performance of his professional duties to the detriment of his client. Without restricting the generality of the foregoing, an engineer shall not accept, directly or indirectly, any benefit or rebate in money or otherwise from a supplier of goods or services relative to engineering work which he performs for the account of a client.

3.05.03 An engineer must safeguard his professional independence at all times and avoid any situation which would put him in conflict of interest.

3.06.04 As soon as he ascertains that he is in a situation of conflict of interest, the engineer must notify his client thereof and ask his authorization to continue his mandate.

3.05.05 An engineer shall share his fees only with a colleague and to the extent where such sharing corresponds to a distribution of services and responsibilities.

3.05.06 In carrying out a mandate, the engineer shall generally act only for one of the parties concerned, namely, his client. However, where his professional duties require that he act otherwise, the engineer must notify his client thereof. He shall accept the payment of his fees only from his client or the latter's representative.

6. Professional Secrecy

3.06.01 An engineer must respect the secrecy of all confidential information obtained in the practice of his profession.

3.06.02 An engineer shall be released from professional secrecy only with the authorization of his client or whenever so ordered by law.

3.06.03 An engineer shall not make use of confidential information to the prejudice of a client or with a view to deriving, directly or indirectly, an advantage for himself or for another person.

3.06.04 An engineer shall not accept a mandate which entails or may entail the disclosure or use of confidential information or documents obtained from another client without the latter's consent

7. Accessibility of Records

3.07.01 An engineer must respect the right of his client to take cognizance of and to obtain copies of the documents that concern the latter in any record which the engineer has made regarding that client.

8. Determination and Payment of Fees

3.08.01 An engineer must charge and accept fair and reasonable fees.

3.08.02 Fees are considered fair and reasonable when they are justified by the circumstances and correspond to the services rendered. In determining his fees, the engineer must, in particular, take the following factors into account: (a) like time devoted to the carrying out of the mandate; (b) the difficulty and magnitude of the mandate; (c) the performance of unusual services or services requiring exceptional competence or speed; (d) the responsibility assumed.

3.08.03 An engineer must inform his client of the approximate his services and of the terms and conditions of payment. He shall refrain from demanding advance payment of his fees; he may however, demand payment on account.

3.08.04 An engineer must give his client all the necessary explanations for the understanding of his statement of fees and the terms and conditions of its payment.

Division IV: Duties and Obligations Towards the Profession

1. Derogatory Acts

4.01.01 In addition to those referred to in section 57 and 58 Professional Code, the following acts are derogatory to the dignity of the profession. (a) participating or contributing to the illegal practice profession; (b) pressing or repeated inducement to make use professional services; (c) communicating with the person who lodged a complaint without the prior written permission of the syndic or his assistant, whenever he is informed of an inquiry into his professional conduct or competence or whenever complaint has been laid against him; (d) refusing to comply with the procedures for the conciliation and arbitration of accounts and with the arbitrators' award; (e) taking legal action against a colleague on a matter relative to the practice of the profession before applying conciliation to the president of the Order. (f) refusing or failing to present himself at the office syndic, of one of his assistants or of a corresponding syndic, upon request to that effect by one of those persons; (g) not notifying the syndic without delay if he believe an engineer infringes this Regulation.

2. Relations with the Order and Colleagues

4.02.01 An engineer whose participation in a council for the arbitration of accounts, a committee on discipline or a professional inspection committee is requested by the Order, must accept this duty unless he has exceptional grounds for refusing.

4.02.02 An engineer must, within the shortest delay, answer all correspondence addressed to him by the syndic of the Order, the assistant syndic or a corresponding syndic, investigators or members of the professional inspection committee or the secretary of the said committee.

4.02.03 An engineer shall not abuse a colleague's good faith, be guilty of breach of trust or be disloyal towards him or willfully damage his reputation. Without restricting the generality of the foregoing the

engineer shall not, in particular: (a) take upon himself the credit for engineering work which belongs to a colleague;

(b) take advantage of his capacity of employer or executive to limit in any way whatsoever the professional autonomy of an engineer employed by him or under his responsibility, in particular with respect to the use of the title of engineer or the obligation of every engineer to true to his professional responsibility.

4.02.04 Where a client requests an engineer to examine or review engineering work that he has not performed himself, the latter must notify the engineer concerned thereof and, where applicable ensure that the mandate of his colleague has terminated.

4.02.05 Where an engineer replaces a colleague in engineering work, he must notify that colleague thereof and make sure that the latter's mandate has terminated.

4.02.06 An engineer who is called upon to collaborate with a colleague must retain his professional independence. If a task is entrusted to him and such task goes against his conscience or his principles he may ask to be excused from doing it.

3. Contribution to the Advancement of the Profession

4.03.01 An engineer must, as far as he is able, contribute to the development of his profession by sharing his knowledge and experience with his colleagues and students, and by his participation as professor or tutor in continuing training periods and refresher training courses.

National Society of Professional Engineers (NSPE) Code of Ethics for Engineers

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 which 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 which 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 this Code.
 - d. Engineers shall not permit the use of their name or associate in business ventures with any person or firm which they believe are engaged in fraudulent or dishonest enterprise.
 - e. 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 which 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 which 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 of intent to 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 actively participate in strikes, picket lines, or other collective coercive action.

f. 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 shall seek opportunities 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 shall endeavor to extend public knowledge and appreciation of engineering and its achievements.

3. Engineers shall avoid all conduct or practice which 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.

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. Employer should indemnify the Engineer for use of the information for any purpose other than the original purpose.

As Revised July 1996

"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-a-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 items incumbent on members of NSPE to endeavor to live up to its provisions. This applies to all pertinent sections of the Code.

IEEE (Institute of Electrical and Electronics Engineers) Code of Ethics

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

1. to accept responsibility in making engineering decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;
2. to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;
3. to be honest and realistic in stating claims or estimates based on available data;
4. to reject bribery in all its forms;
5. to improve the understanding of technology, its appropriate application, and potential consequences;
6. to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;
7. to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;
8. to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;
9. to avoid injuring others, their property, reputation, or employment by false or malicious action;
10. to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

- Approved by the IEEE Board of Directors, August 1990

The Institution of Engineers, Australia Code of Ethics

Preamble

Engineering is a creative process of synthesising and implementing the knowledge and experience of humanity to enhance the welfare, health and safety of all members of the community, with due regard to the environment in which they live and the sustainability of the resources employed. It involves a diversity of related functions ranging from the development and application of engineering science through to the management of engineering works. The members of the Institution of Engineers, Australia are bound by a common commitment to promote engineering and facilitate its practice for the common good based upon shared values of:

ethical behaviour competent performance innovative practice engineering excellence equality of opportunity social justice unity of purpose sustainable development

The community places its trust in the judgement and integrity of members to pursue the above values and to conduct their activities in a manner that places the best interests of the community above those of personal or sectional interests. The Code of Ethics provides a statement of principles which has been adopted by the Council of the Institution as the basis upon which members shall conduct their activities in order to merit community trust. It is also the framework from which rules of conduct may be developed.

The Tenets of the Code of Ethics embrace principles which are immutable, however, changing community perceptions require that periodic reviews of the Tenets are conducted. The 1994 issue of the Code represents a significant revision of the text to reflect the changes in expectations of the community and the broader role of the Institution in community affairs. The Code is accompanied by a section which provides more specific guidance on the application of the principles to meet community expectations. Members are required to abide by the Tenets as part of their commitment to participate in the affairs of the Institution. Accordingly, all members are required to give active support to the proper regulation of qualifications, employment and practice in engineering.

Members acting in accordance with this Code will have the support of the Institution. The manner and extent of the support will be determined by the Council of the Institution on the merits of each case.

The Code of Ethics

The members of the Institution of Engineers, Australia, are committed to the Cardinal Principles of the Code:

to respect the inherent dignity of the individual to act on the basis of a well informed conscience to act in the interest of the community and to uphold its Tenets.

The Tenets of the Code of Ethics are:

1. members shall at all times place their responsibility for the welfare, health and safety of the community before their responsibility to sectional or private interests, or to other members;

2. members shall act in order to merit the trust of the community and membership in the honour, integrity and dignity of the members and the profession;
3. members shall offer services, or advise on or undertake engineering assignments, only in areas of their competence and shall practise in a careful and diligent manner;
4. members shall act with fairness, honesty and in good faith towards all in the community, including clients, employers and colleagues;
5. members shall apply their skill and knowledge in the interest of their employer or client for whom they shall act as faithful agents or advisers, without compromising the welfare, health and safety of the community;
6. members shall take all reasonable steps to inform themselves, their clients and employers and the community of the social and environmental consequences of the actions and projects in which they are involved;
7. members shall express opinions, make statements or give evidence with fairness and honesty and on the basis of adequate knowledge;
8. members shall continue to develop relevant knowledge, skill and expertise throughout their careers and shall actively assist and encourage those under their direction to do likewise;
9. members shall not assist, induce or be involved in a breach of these Tenets and shall support those who seek to uphold them.

Guidance for Members

The Code of Ethics establishes the standard which the members of the Institution adopt to regulate their working habits and relationships. The principles on which it is based should apply equally in the members personal lives.

The Code is structured on two tiers covering Cardinal Principles which guide all behaviour and the linked Tenets based on more specific principles to which the members of the Institution ascribe. The following section amplifies the essence of the Cardinal Principles and identifies the specific principles which underlie the Tenets. Subsequent sections provide interpretations of the Tenets as they apply to practices and situations in which members may find a need for ethical guidance.

Principles

The Cardinal Principles express the beliefs and values of the members of the Institution based on the recognition that: (a) there are fundamental common ties that bind all humanity together and that our institutions derive their ultimate value from people. Accordingly, our expectations and performance in dealing with others should be conducted with fairness and honesty and members should accord the highest importance to freedom of choice, equality of opportunity and social justice;

(b) in the face of conflicting requirements, the content and quality of our choices are finally a matter of personal responsibility, and that in coming to any decision members should give due weight to all relevant facts and guiding principles as far as they can be ascertained;

(c) members hold a privileged and trusted position in the community. Members have a duty ensure that this position is not used for personal or sectional interests to the detriment of the wider community.

The Tenets express the shared commitment of the members to act in a manner which upholds the Cardinal Principles and are based on the more specific principles expressed by:

behaviour engendering community trust; risk being managed in the interest of the community; the community having the right to be informed; a responsibility of service to clients or employers; practice being in accord with sustainability and environmental principles; fairness in dealing with others; relationships being on an open and informed basis; opinions or evidence being a balanced and full representation of the truth; knowledge being current to serve best the interests of the community, employers and clients; awareness of the consequences of one's own actions; a shared responsibility to uphold the Tenets.

Interpretation

The nine Tenets of the Code are of necessity couched in broad terms. The comments which follow are provided to expand on and discuss some of the more difficult and interrelated components of the Code, without narrowing its focus. They are provided to assist members to understand the Code. However, they are not part of the Code. The specific interpretations and guidance on ethical obligations raised should not be seen as limiting the scope of the Code nor should they be seen as exhaustive. A breach of the Code of Ethics occurs when a member acts contrary to one of the nine Tenets judged on the circumstances of the case and not on the emphasis of the interpretations.

A member or other person requiring further guidance should obtain it from a Divisional Office or the National Office of the Institution.

The Community

The commitment of members to act in the interest of the community is fundamental to the ethical values of the profession. The term community should be interpreted in its widest context to comprise all groups in society, including the member's own workplace. Members' obligation to the welfare, health and safety of the community involves the application of sound engineering judgement based on experience and relevant analysis to arrive at the appropriate balance of considerations which must apply in any given situation. Protection of the environment is both a short term and long term concern of the community and needs to be considered by members at all times. Members' obligations extend to taking reasonable steps to understand the consequences of their own actions and the actions of those with or for whom they are working.

Members:

- a. shall work in conformity with accepted engineering and environmental standards and a manner which does not jeopardise the public welfare, health or safety;
- b. shall endeavour at all times to maintain engineering services essential to public health and safety;
- c. shall have due regard to requirements for the health and safety of the workforce;
- d. shall give due weight to the need to achieve sustainable development and to conserve and restore the productive capacity of the earth;

e. shall endeavour to ensure that information provided to the public is relevant and in a readily understood form;

f. shall avoid assignments taken on behalf of clients or employers that are likely to create a conflict of interest between the member or their clients or employers and the community;

g. shall not use association with other persons, corporations, or partnerships to conceal unethical acts;

h. shall not involve themselves with any practice which they know to be of a fraudulent, dishonest or criminal nature, whether involving engineering activities or otherwise. Successful prosecution before a Court for any such action may be deemed to be a breach of the Code of Ethics. Areas of Competence and Description of Qualifications

Members should understand the distinction between working in an area of competence and working competently. Working in an area of competence requires members to operate within their qualifications and experience. Working competently requires sound judgement. If an error of judgement occurs the outcome may be construed as negligence, however, it does not necessarily imply that the member has acted unethically. Should consequent processes, including dispute resolution, reveal unethical behaviour the member concerned may subsequently face a further investigation under the Disciplinary Regulations.

Members:

a. shall neither falsify nor misrepresent their own, or their associates' qualifications, experience and prior responsibility;

b. in the practice of consulting engineering, shall not describe themselves, nor permit themselves to be described, nor act as consulting engineers unless they are eligible to be Corporate Members and occupying a position of professional independence and are either prepared to design and supervise engineering work or act as unbiased and independent advisers on engineering matters;

c. shall inform their employers or clients, and make appropriate recommendations on obtaining further advice, if an assignment requires qualifications and experience outside their fields of competence;

d. shall acknowledge that the terms 'professional engineer', 'engineer' or 'member of the engineering profession' are used to describe only those persons eligible to be Graduate or Corporate Members of the Institution. Members who are not so eligible shall not indicate that they possess such qualifications;

e. shall acknowledge that the term 'engineering technologist' is used by the Institution to describe only those persons eligible to be Affiliates of the Institution. Members who are not so eligible shall not indicate that they possess such qualifications;

f. shall acknowledge that the term 'engineering associate' is used by the Institution to describe only those persons eligible to be Associates of the Institution. Members who are not so eligible shall not indicate that they possess such qualifications.

Clients and Employers

Members have a responsibility to provide loyal service to their employer or client for whom they should apply their knowledge and skills with fairness, honesty and in good faith. Such loyalty extends to informing the employer or client of any possible adverse consequences of proposed activities based

on accepted engineering practice of the day and taking all reasonable steps to find alternative solutions. Loyalty to the employer or client also requires that strict confidentiality be applied with respect to information or property available to the member as a result of the service provided. Members should not reveal facts, data or information obtained without the prior consent of its owner. The only exception to the provision of loyal service which can be condoned is when the welfare, health or safety of the community, or the environment on which they depend, is threatened by actions of the employer or client and all attempts to have the employer or client modify the proposed actions have been unsuccessful.

Members should relate to an employer or client on an open and informed basis so as to establish a position of trust. Any circumstances which may be regarded as detrimental to the maintenance of trust should be avoided or disclosed.

Members:

a. shall promote the principle of selection of consulting engineers by clients upon the basis of merit, and shall not compete with other consulting engineers on the basis of fees alone. It shall not be a breach of the Code of Ethics for members to provide information as to the basis upon which they usually charge fees for particular types of work. Also, it shall not be a breach of the Code of Ethics for members to submit a proposal for the carrying out of work which proposal includes, in addition to a technical proposal, an indication of the resources which members can provide and information as to the basis upon which fees will be charged or as to the amount of the fees for the work which is proposed to be done. In this respect it is immaterial whether or not members are aware that others may have been requested to submit proposals, including fee proposals, for the same work;

b. may use circumspect advertising (which includes direct approaches to prospective clients by any reasonable means) which is not misleading, to announce their practice and availability. Information given must be truthful, factual and free from ostentatious or laudatory expressions or implications;

c. shall, when acting as administrator of a contract, be impartial as between the parties in the interpretation of the contract. This requirement of impartiality shall not diminish the duty of members to fairly apply their skill and knowledge in the interests of their employers or clients;

d. shall keep their employers or clients fully informed on all matters, including financial interests, which are likely to lead to a conflict of interest;

e. shall advise their clients or employers when they judge that a project will not be viable, whether on the basis of commercial, technical, environmental or any other such risk which the member might reasonably have been expected to consider;

f. shall inform their clients or employers of the possible consequences in the event that a member's judgements are over-ruled on matters relating to the welfare of the community. Where justified by the consequences which result from the matter continuing, members shall endeavour further to persuade the client or employer to discontinue with the matter. If unsuccessful, members may make the details of the adverse consequences known to the public without incurring a breach of the Code of Ethics;

g. shall neither disclose nor use confidential information gained in the course of their employment without express permission, unless permission unduly withheld would jeopardise the welfare, health or safety of the community;

h. shall not undertake, nor should they be expected to undertake, professional work without remuneration which is adequate to ensure that they are able to carry out their responsibilities in accordance with recognised professional standards;

i. shall not accept compensation, financial or otherwise, from more than one party for services on the same project, nor provide free services, unless the circumstances are fully disclosed to, and agreed to, by all interested parties;

j. shall neither solicit nor accept financial or other valuable considerations, including free engineering designs, from material or equipment suppliers for specifying their products;

k. shall neither pay nor offer directly or indirectly inducements to secure work;

l. shall neither solicit nor accept gratuities, directly or indirectly, from contractors, their agents, or other parties dealing with their clients or employers in connection with work for which they are responsible.

Colleagues

The Tenets of the Code of Ethics are based on shared values and a shared responsibility to uphold them. Members have an obligation to exercise fairness in dealing with others and to provide support and assistance when required. Members should avoid any actions or statements which can be construed as being unfairly critical of a colleague or intended to favour their own position at the expense of a colleague.

Members: a. shall exercise due restraint in explaining their own work, shall give proper credit to those to whom proper credit is due and shall acknowledge the contributions of subordinates and others;

b. shall accept, as well as give, honest and fair professional criticism when commenting on another's work or making public comment;

c. shall compete on the basis of merit and not compete unfairly;

d. shall neither maliciously nor carelessly do anything to injure, directly or indirectly, the reputation, prospects or business of others;

e. shall, where acting as a representative on behalf of an employer, recognise that other members, who are employees, are colleagues to whom the Code of Ethics applies;

f. shall uphold the principle of adequate and appropriate remuneration;

g. shall neither attempt to supplant another individual or organisation who has been duly appointed by a client or employer nor accept engagement from a client or employer in replacement of another without first ascertaining that the appointment has been terminated by due notice;

h. shall examine the circumstances and determine the appropriateness of accepting an engagement from a client if they have evidence that they are to replace another, having first made all reasonable efforts to make the other aware of the situation;

i. shall, if asked by a client to review the work of another, discuss the review with the other person or organisation prior to submitting the review if it is possible to do so;

j. shall not unfairly criticise others for their past work where such work was conducted in accordance with the accepted standards and practices and community values of the time, and in accordance with the needs of the time;

k. shall not continue in a business association with, nor practise with, any person who has been removed from membership of the Institution because of unethical conduct;

ACTING AS AN EXPERT WITNESS

An expert witness provides a special and unique service to legal or quasi-legal proceedings established for the purpose of making judgements. Once accepted by the judge or arbitrator, an expert witness is normally afforded two important privileges: the freedom to remain in the proceedings at all times and the freedom to express an opinion.

At all times the expert witness owes the proceedings total objectivity. The role of expert witness is to give the tribunal the benefit of his or her special training and experience in order to help the tribunal understand matters which it would not otherwise understand and thus help the tribunal to come to the right decision.

This duty to the tribunal is not inconsistent with the duty the expert owes to the client. In fact the best way to discharge this duty is to be completely non-partisan.

An expert is not an advocate. Advocacy by an expert diminishes the value of advice both to the client and to the proceedings.

It follows that:

a. members' reports, statements or testimony before any tribunal shall be objective and accurate. They shall express an opinion only on the basis of adequate knowledge and technical competence in the area, but this shall not preclude a considered speculation based intuitively on experience and wide relevant knowledge;

b. members shall reveal the existence of any interest, pecuniary or otherwise, that could be taken to affect their judgement in a technical matter about which they are making a statement or giving evidence;

c. members should ensure that all reports and opinions given to a client prior to a hearing include all relevant matters of which they are aware, whether they are favourable or unfavourable;

d. members giving evidence as experts should listen very carefully to the question put, and ensure that each answer is given objectively, truthfully and completely and covers all matters relevant to the question of which they have knowledge; and

e. when discharging these responsibilities, members should have regard to the normal practice at the time of the occurrence of the incident which gave rise to the call for advice.

Public Comments or Statements

Public comment and statements by members should comply with generally accepted standards of the community. The presentation of arguments should be made in a way that maintains and enhances

community trust in the values and expertise of the membership of the Institution. A loss of community trust would be contrary to the best interests of the community in circumstances where the members' comments might be crucial to the welfare, health and safety of the community. Members should display restraint in the manner in which they comment on engineering matters, especially in circumstances where the member, by explicit reference or implication, gives the public reason to believe that their comments are made on the basis of relevant knowledge.

It follows that:

- a. members may, if they consider that by so doing they can constructively advance the well-being of the community, contribute to public discussion on engineering matters in their area of competence;
- b. in areas outside of a member's area of competence, but those in which a member can demonstrate adequate knowledge, comment may be made on details of a project within that area of knowledge. Adequate knowledge generally applies to a narrow aspect of an area of competence. Adequate knowledge may be acquired from working in a related area of competence or through continued professional development. However, adequate knowledge in a narrow area is not generally a sufficient basis for public comment or advice on the overall solution to an engineering task outside of a member's area of competence.
- c. in areas outside of a member's area of competence, and in which the member is not able to demonstrate adequate knowledge, public comment or statements should be limited to enquiries which seek to provide deeper understanding. In this respect the member may draw on experience in engineering training and analysis as a basis for asking objective questions which may assist the public to evaluate engineering works without the member implying personal competence or knowledge in the area.

Whistleblowing

In the course of a member's employment situations may arise concerning the employer or client organisation, which may present the member with a significant moral problem. These could include criminal behaviour, threats to public safety or unethical policies. The member has a responsibility under the Code of Ethics to ensure that any such practices are brought to the attention of those with direct authority to rectify the problem or, if the warnings are not acted upon, to raise the matter elsewhere. A decision to undertake an act of whistleblowing is a serious matter and the member must be aware of the personal costs that may be involved.

Whistleblowing differs from the broader aspects of public comment or statements in that it normally involves access to privileged information, either directly or indirectly, which is not otherwise in the public domain. Comment on the information available may lie outside a member's area of competence.

Because of the complex nature of the issue of whistleblowing the following practical and common sense guidance is set out for the benefit of members;

Make any objections to unethical practices promptly so as to avoid any misinterpretation of the motives for doing so.

Focus on the issues and proceed in a tactful, low-key manner to avoid unnecessary personal antagonism which might distract attention from solving the problem.

Keep supervisors informed of your actions, as much as possible, both through informal discussion and formal memoranda.

Be accurate in your observations and claims, and keep formal records documenting relevant events.

Raise the problem initially through normal organisational channels.

Consult colleagues for advice and avoid isolation.

Consult with the Institution through the Chief Executive on the ethical issues involved, or with other organisations as appropriate.

Seek legal advice concerning potential legal liabilities.

Reference to material that may be of assistance to members is available from the Institution's National Office.

Scope of application and disciplinary procedures

of the Code of Ethics

The Code applies to all Institution members, and to non-members who have agreed to be bound by them under any arrangement approved by Council.

The Membership

The provisions of the Code are not limited by the geographic location of the member, except in any circumstance where their compliance would represent a breach of the laws or regulations of the location concerned. Collectively, the Institution's membership comprises the following:

Professional Engineers: persons who have completed an engineering degree accredited by the Institution or who have obtained other Australian or overseas qualifications and experience to a standard recognised by the Institution as equivalent to such qualifications.

The Institution adopts internationally recognised criteria for admission of such persons as professional engineers in the grade of Graduate, and for advancement to the corporate membership grades.

Engineering Technologists: persons who have completed a course in engineering technology or other relevant disciplines, accredited by the Institution or who have obtained other Australian or overseas qualifications and experience to a standard recognised by the Institution as equivalent to such qualifications.

The Institution establishes criteria for admission of such persons as engineering technologists in the grade of Affiliate. This grade also includes those who have a three-year degree in a relevant science and an active interest in the engineering field.

Engineering Associates: persons who have completed a recognised Australian associate diploma and related work experience in a technical field of engineering, or who have obtained other Australian or overseas qualifications and experience to a recognised equivalent standard.

The Institution establishes criteria for admission of such persons as engineering associates in the grade of Associate.

National Professional Engineers Register (NPER)

The National Professional Engineers Register (NPER) is a register, administered by the Institution, for professional engineers who meet stringent qualification, experience and continuing professional development criteria. When a professional engineer is entered on the register, he or she acknowledges a commitment to ethical practice and a willingness to maintain an appropriate level of professional competence through continuing professional development. Non-members of the Institution may apply for registration.

Section Three of the National Professional Engineers Register (NPER-3) is reserved for practising professional engineers. The Register identifies the disciplines in which practitioners can demonstrate the skills, knowledge and experience appropriate for independent practice.

Procedures for Handling Alleged Breaches of The Code

The Council of the Institution has approved regulations to govern the investigation of alleged breaches of the Code of Ethics. The regulations provide for a process to investigate alleged breaches and to reflect the importance which the Council places on all members upholding the ethical standards of the membership.

When a complaint is received by the Institution an attempt is made to reach a resolution through conciliation. Subsequently, if necessary, the matter is examined by the Chief Executive to determine whether or not a formal investigation is required. In coming to a decision the Chief Executive considers the nature of the evidence submitted and whether or not the matters giving rise to the complaint, if substantiated, would amount to improper conduct. If a Conciliator's report is available, this is also taken into account.

Complaints of a minor nature are decided by a Senior Office Bearer. More serious complaints are referred to an Investigating Panel. A hearing may be held and, if necessary, witnesses will be called.

The following sanctions may be applied: admonition, reprimand, a fine, suspension of membership, deregistration, expulsion from the Institution.

Details of the decision and the reasons for it are sent to the member concerned, who may lodge an appeal. The regulations provide for appeals to be heard by an Appeals Board.

Where breaches are proven, the decision are normally published. Where appropriate, similar publicity will also be given to complaints which are dismissed.

A booklet published by the Institution, entitled *Disciplinary Regulations and Regulations for Dealing with Failure to Maintain Appropriate Engineering Standards* is obtainable free from any office of the Institution on request.

Application to other Professional Engineering Organisations

The Councils of the Institution of Engineers, Australia, the Association of Professional Engineers Scientists and Managers, Australia, and the Association of Consulting Engineers, Australia, have each adopted the provisions of this Code as binding on the actions of members of their respective

organisations. In this regard the Councils have jointly advised and recommend to all professional engineers in Australia that the interests of the community and of their profession will be best served by commitment to the provisions of the Code of Ethics through full individual membership and active support of each of the organisations for which they are eligible.

Related Institution Policy Statements and Documents

Environment Principles for Engineers Policy on Sustainability. Policy on Occupational Health and Safety Policy on Continuing Education

Association of Computer Machinery (ACM) Code of Conduct

1. General Moral Imperatives.

As an ACM member I will . . .

1.1 Contribute to society and human well-being

This principle concerning the quality of life of all people affirms an obligation to protect fundamental human rights and to respect the diversity of all cultures. An essential aim of computing professionals is to minimize negative consequences of computing systems, including threats to health and safety. When designing or implementing systems, computing professionals must attempt to ensure that the products of their efforts will be used in socially responsible ways, will meet social needs, and will avoid harmful effects to health and welfare.

In addition to a safe social environment, human well-being includes a safe natural environment. Therefore, computing professionals who design and develop systems must be alert to, and make others aware of, any potential damage to the local or global environment.

1.2 Avoid harm to others

"Harm" means injury or negative consequences, such as undesirable loss of information, loss of property, property damage, or unwanted environmental impacts. This principle prohibits use of computing technology in ways that result in harm to any of the following: users, the general public, employees, employers. Harmful actions include intentional destruction or modification of files and programs leading to serious loss of resources or unnecessary expenditure of human resources such as the time and effort required to purge systems of computer viruses.

Well-intended actions, including those that accomplish assigned duties, may lead to harm unexpectedly. In such an event, the responsible person or persons are obligated to undo or mitigate the negative consequences as much as possible. One way to avoid unintentional harm is to carefully consider potential impacts on all those affected by decisions made during design and implementation.

To minimize the possibility of indirectly harming others, computing professionals must minimize malfunctions by following generally accepted standards for system design and testing. Furthermore, it is often necessary to assess the social consequences of systems to project the likelihood of any serious harm to others. If system features are misrepresented to users, coworkers, or supervisors, the individual computing professional is responsible for any resulting injury.

In the work environment, the computing professional has the additional obligation to report any signs of system dangers that might result in serious personal or social damage. If one's superiors do not act to curtail or mitigate such dangers, it may be necessary to "blow the whistle" to help correct the problem or reduce the risk. However, capricious or misguided reporting of violations can, itself, be harmful. Before reporting violations, all relevant aspects of the incident must be thoroughly assessed. In particular, the assessment of risk and responsibility must be credible. It is suggested that advice be sought from other computing professionals. (See principle 2.5 regarding thorough evaluations.)

1.3 Be honest and trustworthy

Honesty is an essential component of trust. Without trust an organization cannot function effectively. The honest computing professional will not make deliberately false or deceptive claims about a system or system design but will instead provide full disclosure of all pertinent system limitations and problems.

A computer professional has a duty to be honest about his or her own qualifications and about any circumstances that might lead to conflicts of interest.

Membership in volunteer organizations such as ACM may at times place individuals in situations where their statements or actions could be interpreted as carrying the "weight" of a larger group of professionals. An ACM member will exercise care to not misrepresent ACM or positions and policies of ACM or any ACM units.

1.4 Be fair and take action not to discriminate

The values of equality, tolerance, respect for others, and the principles of equal justice govern this imperative. Discrimination on the basis of race, sex, religion, age, disability, national origin, or other such factors is an explicit violation of ACM policy and will not be tolerated.

Inequities between different groups of people may result from the misuse of information and technology. In a fair society all individuals would have equal opportunity to participate in, or benefit from, the use of computer resources regardless of race, sex, religion, age, disability, national origin or other such similar factors. However, these ideals do not justify unauthorized use of computer resources nor do they provide an adequate basis for violation of any other ethical imperatives of this code.

1.5 Honor property rights including copyrights and patents

Violation of copyrights, patents, trade secrets and the terms of license agreements is prohibited by law in most circumstances. Even when software is not so protected, such violations are contrary to professional behavior. Copies of software should be made only with proper authorization. Unauthorized duplication of materials must not be condoned.

1.6 Give proper credit for intellectual property

Computing professionals are obligated to protect the integrity of intellectual property. Specifically, one must not take credit for other's ideas or work, even in cases where the work has not been explicitly protected, for example by copyright or patent.

1.7 Respect the privacy of others

Computing and communication technology enables the collection and exchange of personal information on a scale unprecedented in the history of civilization. Thus there is increased potential for violating the privacy of individuals and groups. It is the responsibility of professionals to maintain the privacy and integrity of data describing individuals. This includes taking precautions to ensure the accuracy of data, as well as protecting it from unauthorized access or accidental disclosure to inappropriate individuals. Furthermore, procedures must be established to allow individuals to review their records and correct inaccuracies.

This imperative implies that only the necessary amount of personal information be collected in a system, that retention and disposal periods for that information be clearly defined and enforced, and that personal information gathered for a specific purpose not be used for other purposes without

consent of the individual(s). These principles apply to electronic communications, including electronic mail, and prohibit procedures that capture or monitor electronic user data, including messages, without the permission of users or bona fide authorization related to system operation and maintenance. User data observed during the normal duties of system operation and maintenance must be treated with strictest confidentiality except in cases where it is evidence for the violation of law, organizational regulations, or this code. In these cases, the nature or contents of that information must be disclosed only to proper authorities (See 1.9)

1.8 Honor Confidentiality

The principle of honesty extends to issues of confidentiality of information whenever one has made an explicit promise to honor confidentiality or, implicitly, when private information not directly related to the performance of one's duties becomes available. The ethical concern is to respect all obligations of confidentiality to employers, clients, and users unless discharged from such obligations by requirements of the law or other principles of this Code.

2. More Specific Professional Responsibilities.

As an ACM computing professional I will . . .

2.1 Strive to achieve the highest quality, effectiveness and dignity in both the process and products of professional work

Excellence is perhaps the most important obligation of a professional. The computing professional must strive to achieve quality and to be cognizant of the serious negative consequences that may result from poor quality in a system.

2.2 Acquire and maintain professional competence

Excellence depends on individuals who take responsibility for acquiring and maintaining professional competence. A professional must participate in setting standards for appropriate levels of competence and strive to achieve those standards. Upgrading technical knowledge and competence can be achieved in several ways: doing independent study; attending seminars, conferences, or courses; and being involved in professional organizations.

2.3 Know and respect existing laws pertaining to professional work

ACM members must obey existing local, state, province, national, and international laws unless there is a compelling ethical basis not to do so. Policies and procedures of the organization in which one participates must also be obeyed. But compliance must be balanced with the recognition that sometimes existing laws and rules may be immoral or inappropriate and, therefore, must be challenged.

Violation of a law or regulation may be ethical when that law or rule has inadequate moral basis or when it conflicts with another law judged to be more important. If one decides to violate law or rule because it is viewed as unethical, or for any other reason, one must fully accept responsibility for one's actions and for the consequences.

2.4 Accept and provide appropriate professional review

Quality professional work, especially in the computing profession, depends on professional reviewing and critiquing. Whenever appropriate, individual members should seek and utilize peer review as well as provide critical review of the work of others.

2.5 Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks

Computer professionals must strive to be perceptive, thorough, and objective when evaluating, recommending, and presenting system descriptions and alternatives. Computer professionals are in a position of special trust and therefore have a special responsibility to provide object, credible evaluations to employers, clients, users, and the public. When providing evaluations, the professional must also identify any relevant conflicts of interest, as stated in imperative 1.3.

As noted in the discussion of principle 1.2 on avoiding harm, any signs of danger from systems must be reported to those who have opportunity and/or responsibility to resolve them. See the guidelines for imperative 1.2 for more details concerning harm, including the reporting of professional violations.

2.6 Honor contracts, agreements, and assigned responsibilities

Honoring one's commitments is a matter of integrity and honesty. For the computer professional this includes ensuring that system elements perform as intended. Also, when one contracts for work with another party, one has an obligation to keep that party properly informed about progress toward completing that work.

A computing professional has a responsibility to request a change in any assignment that he or she feels cannot be completed as defined. Only after serious consideration and with full disclosure of risks and concerns to the employer or client, should one accept the assignment. The major underlying principle here is the obligation to accept personal accountability for professional work. On some occasions other ethical principles may take the greater priority.

A judgment that a specific assignment should not be performed may not be accepted. Having clearly identified one's concerns and reasons for that judgment but failing to procure a change in that assignment, one may yet be obligated, by contract or by law, to proceed as directed. The computing professional's ethical judgment should be the final guide in deciding whether or not to proceed. Regardless of the decision, one must accept the responsibility for the consequences. However, performing assignments "against one's own judgment" does not relieve the professional of responsibility for any negative consequences.

2.7 Improve public understanding of computing and its consequences

Computing professionals have a responsibility to share technical knowledge with the public by encouraging understanding of computing, including the impacts of computer systems and their limitations. This imperative implies an obligation to counter any false views related to computing.

2.8 Access computing and communication resources only when authorized to do so

Theft or destruction of tangible and electronic property is prohibited by imperative 1.2 -- "Avoid harm to others." Trespassing includes accessing communication networks and computer systems or communication system is addressed by this imperative. Trespassing includes accessing communication networks and computer systems, or accounts and/or files associated with those systems, without

explicit authorization to do so. Individuals and organizations have the right to restrict access to their systems so long as they do not violate the discrimination principle (see 1.4).

No one should enter or use another's computing system, software, or data files without permission. One must always have appropriate approval before using system resources, including .rm57 communication prots, file space, other system peripherals, and computer time.

3. Organizational Leadership Imperatives.

As an ACM member and an organizational leader, I will . . .

3.1 Articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities

Because organizations of all kinds have impacts on the public, they must accept responsibilities to society. Organizational procedures and attitudes oriented toward quality and the welfare of society will reduce harm to members of the public, thereby serving public interest and fulfilling social responsibility. Therefore, organizational leaders must encourage full participation in meeting social responsibilities as well as quality performance.

3.2 Manage personnel and resources to design and build information systems that enhance the quality of working life

Organizational leaders are responsible for ensuring that computer systems enhance, not degrade, the quality of working life. When implementing a computer system organizations must consider the personal and professional development, physical safety, and human dignity of all workers. Appropriate human-computer ergonomic standards should be considered in system design and in the workplace.

3.3 Acknowledge and support proper and authorized uses of an organization's computing and communications resources

Because computer systems can become tools to harm as well as to benefit an organization, the leadership has the responsibility to clearly define appropriate and inappropriate uses of organizational computing resources. While the number and scope of such rules should be minimal, they should be fully enforced when established.

3.4 Ensure that users and those who will be affected by a system have their needs clearly articulated during the assessment and design of requirements. Later the system must be validated to meet requirements

Current system users, potential users and other persons whose lives may be affected by a system must have their needs assessed and incorporated in the statement of requirements. System validation should ensure compliance with those requirements.

3.5 Articulate and support policies that protect the dignity of users and others affected by a computing system

Designing or implementing systems that deliberately or inadvertently demean individuals or groups is ethically unacceptable. Computer professionals who are in decision-making positions should verify that systems are designed and implemented to protect personal privacy and enhance personal dignity.

3.6 Create opportunities for members of the organization to learn the principles and limitations of computer systems

This complements the imperative on public understanding (2.7). Educational opportunities are essential to facilitate optimal participation of all organizational members. Opportunities must be available to all members to help them improve their knowledge and skills in computing, including courses that familiarize them with the consequences and limitations of particular types of systems. In particular, professionals must be made aware of the dangers of building systems around oversimplified models, the improbability of anticipating and designing for every possible operating condition, and other issues related to the complexity of this profession.

4. Compliance with the Code

As an ACM member I will . . .

4.1 Uphold and promote the principles of this Code

The future of the computing profession depends on both technical and ethical excellence. Not only is it important for ACM computing professionals to adhere to the principles expressed in this Code, each member should encourage and support adherence by other members.

4.2 Treat violations of this code as inconsistent with membership in the ACM

Adherence of professionals to a code of ethics is largely a voluntary matter. However, if a member does not follow this code by engaging in gross misconduct, membership in ACM may be terminated.

American Mathematical Society Ethical Guidelines

Prepared by the Special Advisory Committee on Professional Ethics, which consisted of Murray Gerstenhaber, Frank Gilfeather, Elliott Lieb, and Linda Keen (chair), and adopted by the Council in the Spring of 1995 in the name of the Society.

Ethical Guidelines of the American Mathematical Society

To assist in its chartered goal, "...the furtherance of the interests of mathematical scholarship and research ...", and to help in the preservation of that atmosphere of mutual trust and ethical behavior required for science to prosper, the American Mathematical Society, through its Council, sets forth the following guidelines. While it speaks only for itself, these guidelines reflect its expectations of behavior both for its members and for all members of the wider mathematical community including institutions engaged in the education or employment of mathematicians or in the publication of mathematics.

It is not intended that something not mentioned here is necessarily outside the scope of AMS interest. These guidelines are not a complete expression of the principles that underlie them but will, it is expected, be modified and amplified by events and experience. These are guidelines, not a collection of rigid rules.

The American Mathematical Society, through its Committee on Professional Ethics (COPE), may provide an avenue of redress for individual members injured in their capacity as mathematicians by violations of its ethical principles. COPE, in accordance with its procedures, will, in each case, determine the appropriate ways in which it can be helpful (including making recommendations to the Council of the Society). However, the AMS cannot enforce these guidelines and it cannot substitute for individual responsibility or for the responsibility of the mathematical community at large.

I. Mathematical Research And Its Presentation

The public reputation for honesty and integrity of the mathematical community and of the Society is its collective treasure and its publication record is its legacy.

The correct attribution of mathematical results is essential, both as it encourages creativity, by benefiting the creator whose career may depend on the recognition of the work, and as it informs the community of when, where, and sometimes how original ideas have entered into the chain of mathematical thought. To that end, mathematicians have certain responsibilities which include the following:

To endeavor to be knowledgeable in their field, especially as regards related work; To give proper credit (even to unpublished sources because the knowledge that something is true or false is valuable, however it is obtained); To use no language that suppresses or improperly detracts from the work of others; To correct in a timely way or withdraw work that is erroneous or previously published.

A claim of independence may not be based on ignorance of well disseminated results. Errors and oversights can occur, but it is the responsibility of the person making the error to set the record straight.

On appropriate occasions, it may be desirable to offer or accept joint authorship when independent researchers find that they have produced identical results. However, the authors listed for a paper must all have made a significant contribution to its content, and all who have made such a contribution must

be offered the opportunity to be listed as an author. To claim a result in advance of its having been achieved with reasonable certainty injures the community by restraining those working toward the same goal. Publication of results that are announced must not be unreasonably delayed. Because the free exchange of ideas necessary to promote research is possible only when every individual's contribution is properly recognized, the Society will not knowingly publish anything that violates this principle, and it will seek to expose egregious violations anywhere in the mathematical community.

II. Social Responsibility of Mathematicians

The Society promotes mathematical research together with its unrestricted dissemination, and to that end encourages all and will strive to afford equal opportunity to all to engage in this endeavor. Mathematical ability must be respected wherever it is found, without regard to race, gender, ethnicity, age, sexual orientation, religious or political belief, or disability.

The growing importance of mathematics in society at large and of public funding of mathematics may increasingly place members of the mathematical community in conflicts of interest. The appearance of bias in reviewing, refereeing, or in funding decisions must be scrupulously avoided, particularly where decisions may affect one's own research, that of close colleagues, or of one's students; in extreme cases one must withdraw.

A reference or referee's report fully and accurately reflecting the writer's views is often given only on the understanding that it be confidential or that the name of the writer be withheld from certain interested parties; therefore, a request for a reference or report must be assumed, unless there is a statement to the contrary, to carry an implicit promise of confidentiality or anonymity which must be carefully kept unless negated by law. The writer of the reply must respond fairly, and keep confidential any privileged information, personal or mathematical, that the writer receives. If the requesting individual, institution, agency or company becomes aware that confidentiality or anonymity can not be maintained, that must immediately be communicated, and if known in advance, must be stated in the original request.

Where choices must be made and conflicts are unavoidable, as with editors or those who decide on appointments or promotions, it is essential to keep careful records which, even if held confidential at the time, would, when opened, demonstrate that the process was, indeed, fair.

Freedom to publish must sometimes yield to security concerns, but mathematicians should resist excessive secrecy demands whether by government or private institutions.

When mathematical work may affect the public health, safety or general welfare, it is the responsibility of mathematicians to disclose the implications of their work to their employers and to the public, if necessary. Should this bring retaliation, the Society will examine the ways in which it may want to help the "whistle-blower", particularly when the disclosure has been made to the Society.

III. Education and Granting of Degrees

Holding a Ph.D. degree is virtually indispensable to an academic career in mathematics and is becoming increasingly important as a certificate of competence in the wider job market. An institution granting a degree in mathematics is certifying that competence and must take full responsibility for it by insuring the high level and originality of the thesis work, and sufficient knowledge by the recipient of important branches of mathematics outside the scope of the thesis. The original results in a thesis should be publishable in a recognized journal. When there is evidence of plagiarism it must be

carefully investigated, even if it comes to light after granting the degree, and, if proven, the degree should be revoked.

Mathematicians and organizations involved in advising graduate students should honestly inform them about the employment prospects they may face upon completion of their degrees. No one should be exploited by the offer of a temporary position at a low salary and/or a heavy work load.

IV. Publications

The Society will not take part in the publishing, printing or promoting of any research journal where there is some acceptance criterion, stated or unstated, that conflicts with the principles of these guidelines. It will promote the quick refereeing and timely publication of articles accepted to its journals.

Editors are responsible for the timely refereeing of articles and must judge articles by the state of knowledge at the time of submission. Editors and referees should accept a paper for publication only if they are reasonably certain the paper is correct.

The contents of an unpublished and uncirculated paper should be regarded by a journal as privileged information. If the contents of a paper become known in advance of publication solely as a result of its submission to or handling by a journal, and if a later paper based on knowledge of the privileged information is received anywhere (by the same or another journal), then any editor aware of the facts must refuse or delay publication of the later paper until after publication of the first---unless the first author agrees to earlier publication of the later paper.

At the time a manuscript is submitted, editors should notify authors whenever a large backlog of accepted papers may produce inordinate delay in publication. A journal may not delay publication of a paper for reasons of an editor's self interest or of any interest other than the author's. The published article should bear the date on which the manuscript was originally submitted to the journal for publication, together with the dates of any revisions. Editors must be given and accept full scientific responsibility for their journals; when a demand is made by an outside agency for prior review or censorship of so-called "sensitive" articles, that demand must be resisted and, in any event, knowledge of the demand must be made public.

All mathematical publishers, particularly those who draw without charge on the resources of the mathematical community through the use of unpaid editors and referees, must recognize that they have made a compact with the community to disseminate information, and that compact must be weighed in their business decisions.

Both editors and referees must respect the confidentiality of materials submitted to them unless these have previously been made public, and above all may not appropriate to themselves ideas in work submitted to them or do anything that would impair the rights of authors to the fruits of their labors. Editors must preserve the anonymity of referees unless there is a credible allegation of misuse.

These are ethical obligations of all persons or organizations controlling mathematical publications, whatever their designation.

American Society of Mechanical Engineers (ASME) Code of Ethics of Engineers

The Fundamental Principles

Engineers uphold and advance the integrity, honor, and dignity of the Engineering profession by:

- I. Using their knowledge and skill for the enhancement of human welfare;
- II. Being honest and impartial, and serving with fidelity the public, their employers and clients; and
- III. Striving to increase the competence and prestige of the engineering profession.

The Fundamental Canons

1. Engineers shall hold paramount the safety, health and welfare of the public in the performance of their professional duties.
2. Engineers shall perform services only in areas of their competence.
3. Engineers shall continue their professional development throughout their careers and shall provide opportunities for the professional development of those engineers under their supervision.
4. Engineers shall act in professional matters for each employer or client as faithful agents or trustees, and shall avoid conflicts of interest.
5. Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others.
6. Engineers shall associate only with reputable persons or organizations.
7. Engineers shall issue public statements only in an objective and truthful manner.
8. Engineers shall consider environmental impact in the performance of their professional duties.

NOTE THAT THE ASME ADDS A STATEMENT OF FIVE TIMES THIS LENGTH TITLED "THE ASME CRITERIA FOR INTERPRETATION OF THE CANONS"

The American Society of Civil Engineers

Code of Ethics¹

Fundamental Principles²

Engineers uphold and advance the integrity, honor and dignity of the engineering profession by:

- 1.using their knowledge and skill for the enhancement of human welfare and the environment;
- 2.being honest and impartial and serving with fidelity the public, their employers and clients;
- 3.striving to increase the competence and prestige of the engineering profession; and
- 4.supporting the professional and technical societies of their disciplines.

Fundamental Canons

- 1.Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development³ in the performance of their professional duties.
- 2.Engineers shall perform services only in areas of their competence.
- 3.Engineers shall issue public statements only in an objective and truthful manner.
- 4.Engineers shall act in professional matters for each employer or client as faithful agents or trustees, and shall avoid conflicts of interest.
- 5.Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others.
- 6.Engineers shall act in such a manner as to uphold and enhance the honor, integrity, and dignity of the engineering profession.
- 7.Engineers shall continue their professional development throughout their careers, and shall provide opportunities for the professional development of those engineers under their supervision.

Guidelines to Practice Under the Fundamental Canons of Ethics

CANON 1. Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development in the performance of their professional duties.

- a.Engineers shall recognize that the lives, safety, health and welfare of the general public are dependent upon engineering judgments, decisions and practices incorporated into structures, machines, products, processes and devices.
- b.Engineers shall approve or seal only those design documents, reviewed or prepared by them, which are determined to be safe for public health and welfare in conformity with accepted engineering standards.
- c.Engineers whose professional judgment is overruled under circumstances where the safety, health and welfare of the public are endangered, or the principles of sustainable development ignored, shall inform their clients or employers of the possible consequences.
- d.Engineers who have knowledge or reason to believe that another person or firm may be in violation of any of the provisions of Canon 1 shall present such information to the proper authority in writing and shall cooperate with the proper authority in furnishing such further information or assistance as may be required.
- e.Engineers should seek opportunities to be of constructive service in civic affairs and work for the advancement of the safety, health and well-being of their communities, and the protection of the environment through the practice of sustainable development.

f. Engineers should be committed to improving the environment by adherence to the principles of sustainable development so as to enhance the quality of life of the general public.

CANON 2. Engineers shall perform services only in areas of their competence.

a. Engineers shall undertake to perform engineering assignments only when qualified by education or experience in the technical field of engineering involved.

b. Engineers may accept an assignment requiring education or experience outside of their own fields of competence, provided their services are restricted to those phases of the project in which they are qualified. All other phases of such project shall be performed by qualified associates, consultants, or employees.

c. Engineers shall not affix their signatures or seals to any engineering plan or document dealing with subject matter in which they lack competence by virtue of education or experience or to any such plan or document not reviewed or prepared under their supervisory control.

CANON 3. Engineers shall issue public statements only in an objective and truthful manner.

a. Engineers should endeavor to extend the public knowledge of engineering and sustainable development, and shall not participate in the dissemination of untrue, unfair or exaggerated statements regarding engineering.

b. 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.

c. Engineers, when serving as expert witnesses, shall express an engineering opinion only when it is founded upon adequate knowledge of the facts, upon a background of technical competence, and upon honest conviction.

d. Engineers shall issue no statements, criticisms, or arguments on engineering matters which are inspired or paid for by interested parties, unless they indicate on whose behalf the statements are made.

e. Engineers shall be dignified and modest in explaining their work and merit, and will avoid any act tending to promote their own interests at the expense of the integrity, honor and dignity of the profession.

CANON 4. Engineers shall act in professional matters for each employer or client as faithful agents or trustees, and shall avoid conflicts of interest.

a. Engineers shall avoid all known or potential conflicts of interest with their employers or clients and shall promptly inform their employers or clients of any business association, interests, or circumstances which could influence their judgment or the quality of their services.

b. Engineers shall not accept compensation 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 to and agreed to, by all interested parties.

c. Engineers shall not solicit or accept gratuities, directly or indirectly, from contractors, their agents, or other parties dealing with their clients or employers in connection with work for which they are responsible.

d. Engineers in public service as members, advisors, or employees of a governmental body or department shall not participate in considerations or actions with respect to services solicited or provided by them or their organization in private or public engineering practice.

e. Engineers shall advise their employers or clients when, as a result of their studies, they believe a project will not be successful.

f. Engineers shall not use confidential information coming to them in the course of their assignments as a means of making personal profit if such action is adverse to the interests of their clients, employers or the public.

g. Engineers shall not accept professional employment outside of their regular work or interest without the knowledge of their employers.

CANON 5. Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others.

a. Engineers shall not give, solicit or receive either directly or indirectly, any political contribution, gratuity, or unlawful consideration in order to secure work, exclusive of securing salaried positions through employment agencies.

b. Engineers should negotiate contracts for professional services fairly and on the basis of demonstrated competence and qualifications for the type of professional service required.

c. Engineers may request, propose or accept professional commissions on a contingent basis only under circumstances in which their professional judgments would not be compromised.

d. Engineers shall not falsify or permit misrepresentation of their academic or professional qualifications or experience.

e. Engineers shall give proper credit for engineering work to those to whom credit is due, and shall recognize the proprietary interests of others. Whenever possible, they shall name the person or persons who may be responsible for designs, inventions, writings or other accomplishments.

f. Engineers may advertise professional services in a way that does not contain misleading language or is in any other manner derogatory to the dignity of the profession. Examples of permissible advertising are as follows:

Professional cards in recognized, dignified publications, and listings in rosters or directories published by responsible organizations, provided that the cards or listings are consistent in size and content and are in a section of the publication regularly devoted to such professional cards.

Brochures which factually describe experience, facilities, personnel and capacity to render service, providing they are not misleading with respect to the engineer's participation in projects described.

Display advertising in recognized dignified business and professional publications, providing it is factual and is not misleading with respect to the engineer's extent of participation in projects described. A statement of the engineers' names or the name of the firm and statement of the type of service posted on projects for which they render services.

Preparation or authorization of descriptive articles for the lay or technical press, which are factual and dignified. Such articles shall not imply anything more than direct participation in the project described. Permission by engineers for their names to be used in commercial advertisements, such as may be published by contractors, material suppliers, etc., only by means of a modest, dignified notation acknowledging the engineers' participation in the project described. Such permission shall not include public endorsement of proprietary products.

g. Engineers shall not maliciously or falsely, directly or indirectly, injure the professional reputation, prospects, practice or employment of another engineer or indiscriminately criticize another's work.

h. Engineers shall not use equipment, supplies, laboratory or office facilities of their employers to carry on outside private practice without the consent of their employers.

CANON 6. Engineers shall act in such a manner as to uphold and enhance the honor, integrity, and dignity of the engineering profession.

a. Engineers shall not knowingly act in a manner which will be derogatory to the honor, integrity, or dignity of the engineering profession or knowingly engage in business or professional practices of a fraudulent, dishonest or unethical nature.

CANON 7. Engineers shall continue their professional development throughout their careers, and shall provide opportunities for the professional development of those engineers under their supervision.

a. Engineers 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.

b. Engineers should encourage their engineering employees to become registered at the earliest possible date.

c. Engineers should encourage engineering employees to attend and present papers at professional and technical society meetings.

d. Engineers shall uphold the principle of mutually satisfying relationships between employers and employees with respect to terms of employment including professional grade descriptions, salary ranges, and fringe benefits.

1. As adopted September 2, 1914, and most recently amended November 10, 1996.

2. The American Society of Civil Engineers adopted THE FUNDAMENTAL PRINCIPLES of the ABET Code of Ethics of Engineers as accepted by the Accreditation Board for Engineering and Technology, Inc. (ABET). (By ASCE Board of Direction action April 12-14, 1975)

3. In November 1996, the ASCE Board of Direction adopted the following definition of Sustainable Development: "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."

Conduct and Ethics in Engineering Practice Related to the North American Free Trade Agreement

NSF Grant Number SBR-941-3323

Murdough Center for Engineering Professionalism, Texas Tech University

Jimmy H. Smith, Project Director and Principal Investigator Patricia A. Barrington, Project Coordinator and Manager

Background

The NAFTA Forum on Engineering Practice has eighteen official representatives, six from each country. The representatives from the US are designated by the United States Council for International Engineering Practice (USCIEP); the representatives from Canada are designated by the Canadian Council for Professional Engineers and the representatives from Mexico are designated by several Mexico organizations: FECIC, CICM, CIEES, CONIQQ and CIME.

The Project

The provisions of the North American Free Trade Agreement (NAFTA) include requirements for addressing the practice of the professions across the borders of Canada, Mexico and the United States. These requirements include "conduct and ethics." Among the various issues being considered under the NAFTA, the issue of conduct and professional ethics is an essential element in implementing the NAFTA. In fact, the ethical aspects of international engineering practice may be the thread that holds the process together in future engineering endeavors. Thus, the objective of this project was to address the professional conduct and ethics aspect involved in the engineering relationships among the three countries.

Phase I: Organize the research team and the advisors

Phase I of the work involved organizing a research team from the three nations. The team consisted of six (6) individuals, two from each of the three nations, designated by the respective nations, assisted by a group of seven (7) advisors. One of the team members from each country also served on the eighteen member NAFTA Forum on Engineering Practice.

Phase II: Determine the issues to be considered.

Phase II of the project involved determining the critical issues. At the first meeting the team determined what each nation believed were issues that should be included in the study, and prepared an outline of a brief status report on the meeting. The following issues were considered important in the study: The diversity of cultures; The responsibility of engineers to clients, governments, and the public; The understanding and expectations of the public regarding engineering practice; The understanding and expectations of the governments regarding engineering practice; The definition and mutual understanding of "protecting the health, safety and welfare of the public"; The nature of a set of standards and criteria related to professional conduct and ethics; and the nature of disciplinary action for non-conformity with those standards.

Phase III: Develop preliminary report to NAFTA Forum on Engineering Practice

A preliminary report was prepared and a request for suggestions was presented by the team at the NAFTA Forum on Engineering Practice.

Phase IV: Refine list of issues and conduct research on the issues identified

The team continued its deliberations on ethics and enforcement issues. A list of vital elements in the codes of ethics from all three nations was refined so the team could focus their attention on the elements in common. Several codes from each nation were studied. The list below shows the types of issues considered and compared among the ethics codes from each nation.

ISSUES CONSIDERED:

Values of truth, honesty and trustworthiness; Hono(u)rable ethical practice; Safety , health and welfare of the public; Protection of the environment; Promotion of health, safety in the workplace; Work only in area of competence; Perform only careful diligent practice; Act as a faithful agent; Confidentiality; Conflict of interest (- avoid - disclose); Continuing competence of individual; Advance the body of knowledge; Opportunities of advancement of subordinates; Fairness, courtesy & good faith toward clients, colleagues; Including avoidance of unfair competition; Credit where due; Accept-give honest and fair professional criticism; Clear presentation of consequences if engineering decisions/judgments are overruled/disregarded; Whistleblowing in the public interest; Report illegal/unethical engineering decisions/practices to appropriate agencies; Be aware of societal/environmental consequences of actions/project; Inform clients/employers of consequences of actions/projects; Interpret engineering issues to public objectively/truthfully; Dedication to profession; Service to society; Wise resource use and conservation; Wise energy use and conservation; Eliminate adverse environmental impacts; Comply with environmental laws; Try to do better than environmental laws; Accept only agreed fee; Adequate compensation; Be familiar with applicable standards, regulations, and codes; Override confidentiality (Law Code); No fraudulent connection; Cooperate with proper investigative authorities; Sign only the work you did or supervised; Coordinating responsibility; No kickbacks, bribery; No deception in soliciting professional work and; No undue political influence. At the conclusion of the Mexico City meeting, the first draft of a set of Principles of Ethical Conduct in Engineering Practice under the NAFTA was developed.

Phase V: Develop recommendations for consideration by the three nations

During this phase of the project, the draft recommendations were refined based on oral and written comments from the Forum members and others in attendance.

The following final conclusions and recommendations were included among other matters related to engineering practice in Canada, Mexico, and USA and were presented to the US Free Trade Commission by the NAFTA Forum on Engineering Practice in June 1995 in Washington DC. The Mutual Recognition Document was signed and presented to the US Trade Commissioner, Mickey Kantor.

CONCLUSIONS AND RECOMMENDATIONS

PRINCIPLES OF ETHICAL CONDUCT IN ENGINEERING PRACTICE UNDER THE NORTH AMERICAN FREE TRADE AGREEMENT

The privilege of practicing engineering is entrusted to those qualified and who have the responsibility for applying engineering skills, scientific knowledge and ingenuity for the advancement of human welfare and quality of life. Fundamental principles of conduct of engineers include truth, honesty and trustworthiness in their service to society, and honorable and ethical practice showing fairness, courtesy and good faith toward clients, colleagues and others. Engineers take societal, cultural, economic, environmental and safety aspects into consideration, and strive for the efficient use of the world's resources to meet long term human needs. In the practice of engineering:

1. Engineers shall hold paramount the health, safety and welfare of the public in the practice of their profession.
2. Engineers shall practice only in their areas of competence, in a careful and diligent manner and in conformance with standards, laws, codes, and rules and regulations applicable to engineering practice.
3. Engineers shall examine the societal and environmental impact of their actions and projects, including the wise use and conservation of resources and energy, in order to make informed recommendations and decisions.
4. Engineers shall issue public statements only in an objective and truthful manner. If representing a particular interest, the engineer shall clearly identify that interest.
5. Engineers shall sign and take responsibility for all engineering work which they prepared or directly supervised. An engineer may sign work prepared by others, but only with their knowledge and after sufficient review and verification to justify taking responsibility for that work.
6. Engineers shall act as faithful agents for their employers or clients and maintain confidentiality; they shall avoid conflicts of interest whenever possible, disclosing unavoidable conflicts.
7. Engineers shall ensure that a client is aware of the engineer's professional concerns regarding particular actions or projects, and of the consequences of engineering decisions or judgments that are overruled or disregarded. An employee engineer shall initially express those concerns to the employer.
8. Engineers shall appropriately report any public works, engineering decisions or practice that endanger the health, safety and welfare of the public. When, in an engineer's judgment, a significant risk to the public remains unresolved, that engineer may ethically make the concerns known publicly.
9. Engineers shall commit to life-long learning, strive to advance the body of engineering knowledge and should encourage other engineers to do likewise.
10. Engineers shall promote responsibility, commitment, and ethics both in the education and practice phases of engineering; they should enhance society's awareness of engineers' responsibilities to the public and encourage the communication of these principles of ethical conduct among engineers.

Reference Materials

1. Code of Ethics, Canadian Council of Professional Engineers Guideline, Canadian Engineering Qualifications Board, Ottawa, Ontario
2. Code of Ethics for Engineers, National Society of Professional Engineers, 1993
3. Code of Professional Engineering Ethics, World Federation of Engineering Organizations, October 1993
4. Code of Ethics, The Institute of Electrical and Electronics Engineers, Inc., 1990
5. Code of Ethics, The American Society of Civil Engineers, October 1980.
6. Código de Etica Profesional, Colegio de Ingenieros Civiles de Mexico, A.C., translated to English by Carlos O. Ruiz, P.E.
7. Código de etica Profesional del Ingeniero Civil, Federacion de Ingenieros Civiles de la Republica Mexicana
8. Colegio de Ingenieros Mecanicos & Electricistas, excerpt from manual on ethics

The results of this project are also on the WWW at <http://www.coe.ttu.edu/ethics/nafta.htm>

Canadian Council of Professional Engineers

National Guidelines - Code of Ethics (G03-97)

CODE OF ETHICS

Professional engineers shall conduct themselves in an honourable and ethical manner. Professional engineers shall uphold the values of truth, honesty and trustworthiness and safeguard human life and welfare and the environment. In keeping with these basic tenets, professional engineers shall:

1. hold paramount the safety, health and welfare of the public and the protection of the environment and promote health and safety within the workplace;
2. offer services, advise on or undertake engineering assignments only in areas of their competence and practise in a careful and diligent manner;
3. act as faithful agents of their clients or employers, maintain confidentiality and avoid conflicts of interest;
4. keep themselves informed in order to maintain their competence, strive to advance the body of knowledge within which they practise and provide opportunities for the professional development of their subordinates;
5. conduct themselves with fairness, courtesy and good faith towards clients, colleagues and others, give credit where it is due, and accept, as well as give, honest and fair professional criticism;
6. present clearly to employers and clients the possible consequences if engineering decisions or judgments are overruled or disregarded;
7. report to their association or other appropriate agencies any illegal or unethical engineering decisions or practices by engineers or others; and
8. be aware of and ensure that clients and employers are made aware of societal and environmental consequences of actions or projects and endeavour to interpret engineering issues to the public in an objective and truthful manner.
9. treat equitably and promote the equitable treatment of all clients, colleagues and coworkers, regardless of race, religion, gender, sexual orientation, age, physical or mental ability, marital or family status, and national origin.