WFEO MODEL CODE OF ETHICS

As engineering professionals, we use our knowledge and skills for the benefit of the world, in order to create engineering solutions for a sustainable future. In doing so, we strive to serve our communities ahead of any personal or sectional interests.

To do so successfully requires ethical behavior. Simply put, ethical behavior is about making choices. In line with our obligations as professionals, we wish to ensure that the choices that we make as engineers enable us to do things which are 'good'. In addition, we wish to ensure that we do these 'good things' in a manner which is 'right'.

The WFEO Model Code of Ethics is designed to assist member organisations in guiding ethical behavior by formulating their own Codes of Ethics. A Code of Ethics must do two things. First, it must provide guidance on the **Values** we must adhere to in professional practice if we are to make the 'good' choices referred to above. Second, a Code of Ethics must set out the **Principles** we must follow in applying those values, in order to do things in a manner which is right.

The exercise of professional judgment is often difficult and complex. The inherent nature of 'professionalism' is that as engineers we always have a duty to others and an obligation to 'do the right thing'. Exactly who the 'others are', and what the 'right thing' is, will be a matter of continual balance. We are expected to get the balance right. We also know that each situation may be different, requiring specific choices depending on the circumstances.

A Code of Ethics will not give us all the answers nor tell us what to do under all circumstances. Ethical behaviour reflects an individual's perceptions of right and wrong, guided by their conscience and the values they adhere to. In drafting the WFEO Model Code of Ethics, considerable care has been taken to try and get the balance of obligations right, without making statements that could be misleading (and cause problems for members) when interpreted narrowly.

Imposition of duties upon members which they cannot realistically satisfy and the inclusion of provisions which restrain commercial activity and have a negative effect is not the function of a code of ethics.

The values and principles in the WFEO Model Code of Ethics are those which are deemed to be applicable universally to the practice of engineering. The WFEO Model Code of Ethics provides a framework for analysis and decision making about the appropriateness of particular conduct or behaviour.

As engineering practitioners our (preferred) future is dependent on engagement and trust from our community. An engineer who practises in accordance with the Model Code of Ethics and the Guidelines will meet these community expectations of responsibility.

The general question of the duties engineering practitioners owe to the community are best captured in an ethics awareness program. Member organisations of WFEO are encouraged to develop a Code of Ethics for their organisation based on the values and principles set down in the Model Code and to impart the values and principles that individuals need to assist their decision making process through ethics support programs.

The Guidelines appended to the Model Code set out the principles which underpin each value and give examples of each principle in practice.

WFEO MODEL CODE OF ETHICS

In the course of engineering practice, professional engineers will:

1. DEMONSTRATE INTEGRITY

1.1 Refrain from fraudulent, corrupt or criminal practices
1.2 Be objective and truthful
1.3 Practise fairly and with good faith towards clients, colleagues and others

2. PRACTISE COMPETENTLY

2.1 Practise in a careful and diligent manner in accordance with their areas of competence
2.2 Practise in accordance with accepted engineering practices, standards and codes
2.3 Maintain and strive to enhance the body of knowledge in which they practise

3. EXERCISE LEADERSHIP

3.1 Practise so as to enhance the quality of life in society
3.2 Strive to contribute to the advancement of the body of knowledge within which they practise, and to the profession in general
3.3 Foster the public's understanding of technical issues and the role of engineering

4. PROTECT THE NATURAL AND BUILT ENVIROMENT

4.1 Create and implement engineering solutions for a sustainable future
4.2 Be mindful of the economic, societal and environmental consequences of actions or projects
4.3 Promote and protect the health, safety and well being of the community and the environment

GUIDELINES

The primary purpose of a Code of Ethics is to protect the public and to set a high standard of proprietary conduct among engineering practitioners.

Ethical practice requires judgment, interpretation and balanced decision-making in context.

These Guidelines underpin the ethical values expressed in the Code of Ethics and provide examples of the application of those values in practice. They are not exhaustive, nor should they be interpreted as a full or exhaustive list of the ethical situations and circumstances that engineers might face. Rather, the Guidelines provide a framework for ethical decision making in the practice of engineering.

1. DEMONSTRATE INTEGRITY

1.1 Refrain from fraudulent, corrupt or criminal practices

Corruption is "the abuse of power to obtain personal gain". Corruption is not limited to money or goods. It might be to gain fame or popularity or boost an ego. Combating the disastrous effects of corruption in the global engineering and construction industry is a top priority because if corruption can be diminished, the poor of the world will be helped most.

Taking a bribe in an infrastructure contract equates to stealing a road! It means that less money is available for the provision of the infrastructure itself. Similarly, corrupt or unreasonable industrial practices are a form of corruption, as they also reduce the amount of infrastructure that can be provided for a given amount of money.

In practice, engineers must exhibit a zero tolerance attitude to fraudulent, corrupt or criminal practices. This means:

a) not engaging in misleading or deceptive conduct such as succumbing to the wrong influence.
b) neither soliciting nor accepting financial or other considerations, including free engineering designs, from material or equipment suppliers for specifying their products.
c) not accepting compensation, financial or otherwise, from the engaging party for services on the same project, nor providing free services, unless the circumstances are fully disclosed to, and agreed to, by all interested parties.
d) neither paying offering nor receiving, directly or indirectly, inducements to secure work.
e) informing an employer or client of any possible adverse consequences of proposed activities based on the accepted engineering practices of the day.
f) reporting unethical engineering activity undertaken by other engineers or non-engineers. This extends to include for example, situations in which senior officials of a firm make "executive" decisions which clearly and substantially alter the engineering aspects of the work, or protection of the public welfare or the environment arising from the work.

1.2 Be objective and truthful

Honesty, integrity, continuously updated competence, devotion to service and dedication to enhancing the life quality of society are cornerstones of professional responsibility. Within this framework, you should be objective and truthful and include all known and pertinent information on professional reports, statements and testimony.

In practice, this means:

a) endeavouring to interpret engineering issues to the public in an objective and truthful manner.
b) *applying your skills and knowledge with honesty, good faith and without personal bias.*

c) ensuring that your privileged and trusted position in the community is not used for personal or sectional interests to the detriment of the wider community.

d) revealing the existence of any interest, financial or otherwise, that might affect or give the appearance of affecting your judgment in any matter about which you are making a statement or giving evidence.

1.3 Practise fairly and with good faith towards clients, colleagues and others

As an engineer, you have a responsibility to provide loyal service to your clients and employers for whom you should apply your knowledge and skills with fairness, honesty and in good faith. You have an obligation to exercise fairness in dealing with others and to provide support and assistance when required. This includes engaging, or advising to engage, experts or specialists when such services are deemed to be in the client's or employer's best interests.

In practice, this means:

a) giving credit where it is due.
b) accepting, as well as giving, honest and fair professional criticism when commenting on another's work or making public comment.
c) not revealing facts, data or information obtained in a professional capacity without the prior consent of its owner.
d) advising your clients or employers when you judge that a project will not be viable, whether on the basis of commercial, technical, environmental or any other such risk which you might reasonably have been expected to consider.
e) avoiding any actions or statements which can be construed as being unfairly critical of a colleague or intended to favour your own position at the expense of a colleague.

2. PRACTISE COMPETENTLY

2.1 Practise in a careful and diligent manner in accordance with their areas of competence

There are three key components to engineering practice, with the Code of Ethics being just one of those components. The other two key components are competence and performance.

The Code of Ethics defines what it means to be a professional and sets standards of behaviour, competence refers to the ability to perform the activities within an occupation to the standards expected in employment and performance is associated with how these activities ought to be carried out or accomplished in an effective manner.

You need to understand the distinction between working or providing advice in an area of competence and working competently. Working in an area of competence requires you to operate within the limits of your qualifications and experiences. Working competently requires principally the application of sound judgment.

In practice, this means:

a) exercising care and communicating clearly in accepting or interpreting assignments, and in setting expected outcomes.
b) informing employers or clients, and making appropriate recommendations on obtaining further advice, if an assignment requires qualifications and experiences outside your fields of competence.

c) presenting issues fairly, accurately and with appropriate qualifiers and disclaimers, and to avoid personal, political and other non-technical biases.
d) expressing opinions on engineering issues honestly and only in areas of your competence.
e) reporting or advising on professional matters honestly and only in areas of your competence.
f) attaining and maintaining competence in all areas of involvement including being knowledgeable with the technical and legal framework and regulations governing your work.

2.2 Practise in accordance with accepted engineering practices, standards and codes

The work you undertake will be subject to various statutory regulations and compliance issues. It is important that you identify what codes and/or standards of compliance and/or legislation you are required to adhere to in respect of a particular project. This should form part of the Brief, which should also allocate responsibility for such compliance. Where statutory codes do not exist, it may be necessary to develop appropriate standards based on internationally recognised sound practice.

In practice, this means:

a) Developing a checklist of relevant codes - before each project (and during each project) review the relevance and compliance with each code identified.
b) Examining legislative impacts - seek external assistance to identify what legislation is peculiar to this project
c) Reviewing Occupational Health & Safety issues - consider anything peculiar relating to this project; address with the client any observations of unsafe work practices noted during site visits - this may not be your responsibility yet you may be held partially liable if you fail to make such comments.
d) Ensuring Sub Consultant Compliance - obtain evidence of current compliance with OH&S legislation and other code and legislative obligations.

2.3 Maintain and strive to enhance the body of knowledge in which they practice

The requirement to practice within one's area of competence is more than simply duty to a standard of care. Engineers have a responsibility to remain abreast of developments and knowledge in their area of expertise, that is, to maintain their own competence. Should there be a technologically driven or individually motivated shift in the area of practice, it is the engineer's duty to attain and maintain competence in all areas of involvement including being knowledgeable with the technical and legal framework and regulations governing their work.

In practice, this means:

a) having a commitment to ongoing professional development, continuing education and training.
b) not falsifying or misrepresenting one's own or an associates' qualifications, grades of membership, experience and responsibilities.
c) striving to contribute to the advancement of the body of knowledge within which you practice, and to the profession in general.
d) assessing and responding to the range and availability of professional knowledge, competencies and resources required to undertake the engineering project and assessing any material uncertainties in these respects.

3. **EXERCISE LEADERSHIP**

3.1 Practise so as to enhance the quality of life in society

Engineers are sometimes perceived by many in the community as being major contributors to many of the problems in the world, particularly environmental. Having been painted with that brush, engineers are expected to be fundamental in solving or correcting those problems.

But the major problems of the world in an overall sense are not those created by engineers or that can be solved by engineers alone. War, greed, misery, ignorance and political interference, plus natural disasters and human induced pollution and destruction of resources are in fact the main causes of the progressive impairment of the environment.

Rarely do major problems in society turn solely upon the application of engineering development. But engineers are active members of society and ought to be deeply involved in the promotion of sustainable development. They ought to use their talent, knowledge and imagination to assist society in removing those evils and improving the quality of life for all people.

In practice, this means:

a) aiming to deliver outcomes that do not compromise the ability of future life to enjoy the same or better environment, health, wellbeing and safety as currently enjoyed.
b) being sensitive to public concerns.
c) promoting the involvement of all stakeholders and the community in decisions and processes that may impact upon them and their environment.
d) in identifying sustainable outcomes considering all options in terms of their economic, environmental and social consequences.

3.2 Strive to contribute to the advancement of the body of knowledge within which they practice, and to the profession in general

A Code of Ethics is based on shared values and a shared responsibility to uphold those values.

In practice, this means:

a) exercising fairness in dealing with others and providing support and assistance when required.
b) offering services, advising on or undertaking engineering assignments in areas of your competence by virtue of your training and experience.
c) participating, within the framework of the practice of your profession, in providing opportunities to further the professional development of your colleagues.

3.3 Foster the public's understanding of technical issues and the role of engineering

As engineers we possess knowledge and skills on which others rely. Our future is ultimately dependent on engagement and trust from our community. It is important that we meet these community expectations by practising in ways which maintain and enhance community trust in the values and expertise of the engineering profession.

When clients or others question your reasoning, or otherwise request an explanation, there is an expectation that you will be willing and able to explain why you have arrived at your particular outcome, especially as checking and justifying what we do are embedded in the way the engineering task develops.

The notion of explaining one's reasoning and seeking peer review is thought by many to be fundamental to professional integrity, but in no way denies the appropriateness of legitimate differences of reasoned opinion arrived at in a proper and professional manner.

In practice, this means:

a) endeavouring to ensure that information provided to the public is relevant and in a readily understood form.
b) applying sound engineering judgment based on experience and relevant analysis to arrive at the appropriate balance of considerations in any given situation.
c) taking reasonable steps to understand the consequences of your actions and the actions of those working with or for you.
d) displaying restraint in the manner in which you comment on engineering matters, especially in circumstances where, by explicit reference or implication, there is a reason for the public to believe that such comments are made on the basis of relevant knowledge.

4. PROTECT THE NATURAL AND BUILT ENVIROMENT

4.1 Create and implement engineering solutions for a sustainable future

Issues regarding the environment and sustainable development know no geographical boundaries.

Sustainability is not just about the environment, but also about sustaining our social and economic future. It is not about targets, or quotas, but about strategies. It is not just about technologies, but also about transitional processes. No matter how progressive the innovations in management and technology, they can only move society so far towards sustainability. Modification of consumption behaviour, integrating political and societal aspirations and policies, and advancing the knowledge and skills to enhance the protection and restoration of natural systems all remain important issues to be addressed.

Sustainable development is the challenge of meeting current human needs for natural resources, industrial products, energy, food, transportation, shelter, and effective waster management while conserving and, if possible, enhancing the Earths' environmental quality, natural resources, ethical, intellectual and working affectionate capabilities of people and socioeconomic bases, essential for the human needs of future generations.

Growth in demand and the use of non-renewable energy resources is creating important environmental challenges around the world. These challenges range from a mixture of local or regional environmental concerns such as land degradation, water quality, waste management and urban air quality to global environmental dilemmas such as GHG emissions and the inter-connected occurrence of global warming.

In practice, this means:
a) being aware that the principles of eco-systemic interdependence, diversity maintenance, resource recovery and inter-relational harmony form the basis of humankind's continued existence and that each of these poses a threshold of sustainability that should not be exceeded.
b) discussing in particular the consequences of proposals and actions, direct or indirect, immediate or long term, upon the health of people, social equity and the local system of values.
c) promoting a clear understanding of the actions required to restore and, if possible, to improve the environment that may be disturbed, and include them in your proposals.

4.2 Be mindful of the economic, societal and environmental consequences of actions or projects

Proper observance of the principles of sustainable development will help considerably to eradicate world poverty. Sustainability is a system or process which can be maintained indefinitely and which revolves around integrating conservation and development on a long-term basis to provide social

and economic benefits, without compromising the needs of future generations. Engineers of all nations should know and respect the environmental ethics.

In practice, this means:

a) making sure that your own perception of environmental issues is as accurate as possible.
b) striving to accomplish the beneficial objectives of your work with the lowest possible consumption of raw materials and energy and the lowest production of wastes and any kind of pollution.
c) studying the environment that will be affected by your work, assessing the impacts that might arise in the structure, dynamics and aesthetics of the ecosystems involved - urbanised or natural - as well as pertinent socioeconomic systems, and selecting the best alternative for development that is both environmentally sound and sustainable.
d) rejecting any kind of commitment that involves unfair damages to human surroundings and nature and aim for the best possible technical, social and political solution.
e) being aware of and making sure that clients and employers are aware of societal and environmental consequences of actions or projects and endeavouring to interpret engineering issues to the public in an objective and truthful manner.

4.3 Promote and protect the health, safety and well being of the community and the environment

The obligation to protect the health, safety and well being of the community is often dependent on engineering judgments, risk assessments, decisions and practices incorporated into structures, machines, product, processes and devices. Engineers ought to control and make sure that what they are involved with conforms to accepted engineering practices, standards and applicable codes, and would be considered safe based on peer adjudication.

Laudable though the aim of acting in the interests of the community above all else might be, there is a danger in making simplistic statements that say categorically that our duties and responsibilities lie in only one direction, implying by such statements that we have a duty to override (and not balance) legal, fiduciary and contractual responsibilities if they conflict with that 'grand' duty.
In practical terms, those legal duties and obligations will arise principally in two specific contexts. First, there will be duties and obligations of engineers to their clients. Second, there will be duties and obligations of those engineers who are employees to their employers. In some cases there may be a conflict/tension between legal duties and ethical obligations.

Engineers who have reason to believe that there is a threat to public health and safety as a result of an engineering activity, or its products, processes etc. not conforming to the above stated conditions ought to bring the matter to the attention of the relevant authority.

In practice, this means:

a) having due regard for the health, safety and wellbeing of the public and fellow employees in all work for which they are responsible.
b) trying with the best of their ability, courage, enthusiasm and dedication to obtain a superior technical achievement which will contribute to and promote a healthy and agreeable surrounding for all people, in open spaces as well as indoors.
c) informing your employer or contractor of the possible consequences if your recommendations on issues of safety, health, welfare or sustainable development are overruled or ignored.