
ETHICS IN PRACTICE

A Practical Guide for
Professional Engineers



ETHICS IN PRACTICE

**A Practical Guide for
Professional Engineers**

*First published in 2000
Updated in 2011*

Contents

<i>Message from the Hong Kong Institution of Engineers</i>	4
CHAPTER 1 WHY ETHICS CONCERN ENGINEERS	5
Why are professional ethics important to engineers?	8
The HKIE's guidance to good professional practice	9
CHAPTER 2 WHAT YOU SHOULD WATCH OUT FOR	11
Offering and acceptance of illegal advantages	14
Fraud	23
Preservation of confidential information	26
Conflicts of interest	30
Professional proficiency	36
CHAPTER 3 WHERE TO DRAW THE LINE	39
The ETHICS PLUS decision making model	42
How to apply the ETHICS PLUS Model	43
CHAPTER 4 WHAT ARE THE CONTROL MEASURES	49
How to avoid unreasonable exercise of discretion	52
How to prevent slippage in supervision	53
How to handle privileged information	54
How to avoid conflicts of interest	55
How to avoid unfair tendering	56
CHAPTER 5 WHERE TO SEEK HELP	59
How the ICAC can help	62
Support from the HKIE	65
<i>Appendices</i>	
Appendix I <i>Rules of Conduct of the Hong Kong Institution of Engineers</i>	68
Appendix II <i>Extracts from the Prevention of Bribery Ordinance</i>	72
<i>Bibliography</i>	80

Where there is a grey area

There requires a sharp line of vision

Message from the Hong Kong Institution of Engineers

With the joint efforts of the Hong Kong Institution of Engineers (HKIE) and the Hong Kong Ethics Development Centre (HKEDC) of the Independent Commission Against Corruption (ICAC), *Ethics in Practice – A Practical Guide for Professional Engineers* was first published in Year 2000. This year, we are pleased to release the second edition of the Guide which was edited and updated by the two organisations.

The contemporary world is posing greater demand to professional engineers in terms of higher level of expectation in ethics and professionalism. With the development in the recent decades, an updated guide on ethics is a timely move.

The Rules of Conduct of the HKIE clearly stipulated four areas of responsibilities of a professional engineer, namely (1) Responsibility to the Profession, (2) Responsibility to Colleagues, (3) Responsibility to Employers or Clients, and (4) Responsibility to the Public. This Guide will provide engineers on how their ethical dilemmas could be dealt with while discharging professional responsibilities and duties.

Members are invited to make reference to this Guide and put professional ethics into practice. The Institution strongly believes that maintaining a high level of ethics and professionalism by all members is of paramount importance to the engineering profession.

The Hong Kong Institution of Engineers



CHAPTER 1

Why ethics concern
engineers

“A profession is no better than its individual members; if they do not have the professional attitude and live by the ethical rules of the profession, they will have no profession.”

Robinson & Muspratt, 1986

Introduction

Playing an important role in designing and building the key infrastructure of modern society, engineers are required to work a lot more than routine application of engineering science and knowledge. In the exercise of special expertise, professional judgement, and supervisory responsibility over the technical and administrative work of others, an engineer should live by a high standard of behaviours and social responsibility laden with moral obligations. Professional ethics are of paramount importance to the engineering of a successful professional life.

Why are professional ethics important to engineers?

A hallmark of professionalism

Professionalism implies ethical responsibilities because society relies very much on engineers' responsible exercise of their expertise to receive important services. The special knowledge that confers considerable power and privileges to engineers may as well create the conditions for abuse and client vulnerability if the power is used unethically or incompetently. Thus, an engineer should abide by a high ethical standard so as to maintain public confidence in his profession.

Basic qualifying requirement

Most professional associations and technical societies, for self-regulation purpose, require their members to commit themselves in ethical practice in accordance with the guidelines set out in a written code of ethics. If an engineer fails to comply with the code, his registration with relevant professional body may be revoked or suspended and without such a qualification, he may be restricted from working for certain engineering projects, particularly those in the public sector.

An edge in competition

Clients often look for professionals with integrity and whom they can trust. Implementing ethics in professional practice is just the ticket to win clients' loyalty and long-term business relationships with clients. Ethics and revenues are in fact inextricably bound.

Guidance to good practice

Professional ethics are a set of standards above the legal minimal requirement. Underpinning the basic values and related regulations in professional practice, they can help engineers to arrive at the best chosen course of action, especially when they are facing ethical dilemmas where values can easily become variables in the decision-making process. Without putting ethics in practice, an engineer is vulnerable to legal sanctions and expulsion or suspension of his membership in professional bodies due to violation of relevant laws and regulations.

Ultimate benefit of the profession

The engineering profession is under increased public scrutiny nowadays. The exposure of any unethical acts by members of the profession may devastatingly discredit engineers' professional status. The prospect of the profession hinges on an environment regulated by ethics and professional discipline. When professional ethics is adequately enforced in engineering practice, it ultimately benefits the entire profession by promoting its reputation, credibility and respectability.

The HKIE's guidance to good professional practice

To ensure the best quality of performance and maintain public confidence in the engineering profession, the Hong Kong Institution of Engineers (HKIE) has laid down the Rules of Conduct as the cornerstone of conduct requirements of professional engineers. Appended are the four fundamental ethical responsibilities of engineers stipulated in the Rules of Conduct:

The Hong Kong Institution of Engineers Rules of Conduct

Rule 1 Responsibility to the profession

A member of the Institution shall order his conduct so as to uphold the dignity, standing and reputation of the profession.

Rule 2 Responsibility to colleagues

A member of the Institution shall not maliciously or recklessly injure nor attempt to injure whether directly or indirectly the professional reputation of another engineer, and shall foster the mutual advancement of the profession.

Rule 3 Responsibility to employers or clients

A member of the Institution shall discharge his duties to his employer or client with integrity and in accordance with the highest standards of business ethics.

Rule 4 Responsibility to the public

A member of the Institution in discharging his responsibilities to his employer and the profession shall at all times be governed by the overriding interest of the general public, in particular their environment, welfare, health and safety.

Although the Rules are not intended as exhaustive specifications of what one should or should not do, they provide clues on what is necessary and important for professional engineers to fulfil. From them, an engineer can also seek guidance on how to deal with legal and ethical issues commonly encountered at work. Detailed guidelines are at Appendix I on P.68.

CHAPTER 2

What you should
watch out for

“Ethical standards of practice have never been more besieged than they are today. Those with strong moral fibre, a dedication to professional integrity, and the ability to reason soundly must find the power to resist the attack.”

Lewis, 1995

Introduction

In this chapter, we will focus our discussion on the legal and ethical issues that may be found in the engineering profession, namely offering and acceptance of illegal advantages, fraud, preservation of confidential information, conflicts of interest and professional proficiency.

1. Offering and acceptance of illegal advantages

The offering and acceptance of bribes can unfairly affect judgement and decisions, and seriously impair the interests of clients and other stakeholders.

To prevent non-compliance, engineers are obliged to thoroughly understand the standards set in the HKIE’s Rules of Conduct and requirements of related provisions stipulated in the Prevention of Bribery Ordinance (PBO).

The Prevention of Bribery Ordinance

The PBO, governing both the private and the public sectors, is the law against corruption. It sets out the standards of behaviour for agents when they are conducting their principals’ business. Major points of the Ordinance pertaining to the engineering profession are summarized below: (Please refer to Appendix II on P.72 for details of the Ordinance)

Provisions governing the private sector

Provision	Summary of law
<p>Section 9 Maintain fair play in the private sector and uphold market integrity</p>	<ul style="list-style-type: none"> ■ It is an offence for an agent (normally an employee) to solicit or accept an advantage without his principal’s permission (normally the employer) as an inducement to, or reward for, his doing an act in relation to his principal’s affairs. ■ The person who offers the advantage is also guilty. ■ It is also an offence for an agent to use any false document, receipt or account to deceive his principal.

Provisions governing the public sector

The ever-growing demands and rising expectation of the community call for higher ethical standard and greater accountability from public servants, including government officials and public bodies’ employees. Engineers working in the

public sector must therefore understand the anti-bribery law and observe the relevant provisions when discharging their duties.

On the other hand, in supervising engineering projects, engineers working for private organisations often come into contact with public servants, such as government officials, employees of gas or power companies. Thus, it is also important for them to get a clear understanding of the following provisions:

Provision	Summary of law
<p>Section 3 Prevent prescribed officers from falling into corruption traps</p>	<ul style="list-style-type: none"> ■ It is an offence for a prescribed officer to solicit or accept any advantage without the permission of the Chief Executive of the HKSAR.
<p>Section 4 Prevent public servants from abusing authority for personal gain and safeguard community's interests</p>	<ul style="list-style-type: none"> ■ It is an offence for any person to offer any advantage to a public servant as an inducement or reward in connection with the performance of the public servant's official duty. ■ A public servant who solicits or accepts such an advantage also commits an offence.
<p>Section 5 Maintain fairness in the procurement of contracts with public bodies</p>	<ul style="list-style-type: none"> ■ It is an offence for any person to offer an advantage to a public servant for providing him assistance in securing contracts from the public body. ■ A public servant who solicits or accepts such an advantage also commits an offence.
<p>Sections 6 & 7 Maintain fair play in tendering of public projects</p>	<ul style="list-style-type: none"> ■ Any person who offers an advantage to another person for not making a tender or bidding at an auction in relation to a public body's project is guilty of an offence. ■ Any person who solicits or accepts such an advantage also commits an offence.
<p>Section 8 Prevent dishonest dealings with public officials</p>	<ul style="list-style-type: none"> ■ It is an offence for a person to offer an advantage to a public servant while having dealings with the public servant's department/ public body.

Points to note

<p>1. Principal</p>	<p>A principal generally refers to an employer. In a private organisation, “employer” means the proprietor or the board of directors. For an engineer, your principal is not confined to your employer, but may include your clients when you are doing an act in relation to your clients’ business.</p>
<p>2. Agent</p>	<p>An agent is a person acting for or employed by the principal. At the same time, you are also the agent of your clients if you are doing an act in relation to your clients’ business.</p>
<p>3. Prescribed officer</p>	<p>Prescribed officer includes any person holding an office of emolument, whether permanent or temporary, under the Government of the HKSAR.</p>
<p>4. Public servant</p>	<p>Public servant includes any prescribed officer or any employee of a public body.</p>
<p>5. Public body</p>	<p>Public body includes the Government of the HKSAR and any board, commission, committee or other body specified in Schedule 1 of the PBO.</p>
<p>6. Advantage</p>	<p>Advantage refers to anything which is of value such as money, gift, employment, service, or favour etc., but does not include entertainment.</p>
<p>7. Entertainment</p>	<p>Entertainment means the provision of food or drink, for consumption on the occasion when it is provided, and of any other entertainment connected with, or provided at the same time as, such provisions.</p>
<p>8. Principal’s permission</p>	<p>It is lawful for an agent to accept an advantage in relation to his official duties with his principal’s permission. Such permission has to be sought before the advantage is solicited or accepted. If the advantage is accepted without prior permission, the agent must apply for his principal’s retrospective approval as soon as possible. For an engineer, when you are acting on behalf of your client in handling his business, you must also obtain the consent of your client to the acceptance of an advantage in addition to your principal’s permission.</p>

9. Custom constitutes no defence	It shall not be a defence to claim that any advantage accepted or offered is customary in any profession, trade or calling. The court shall make the judgement based on whether permission has been given by the recipient's principal.
10. Verbal agreement counts	Both the offerer and recipient of a bribe are liable to prosecution so long as a verbal agreement of corruption is reached, and both parties will be guilty notwithstanding that the purpose of the bribery is not carried out. Under Section 11 of the PBO, if it could be proved that an advantage was given to the recipient as a reward for favours done to the offerer, the following should not be considered a defence: (a) he did not actually have the power to do so; (b) he accepted the advantage without intending to do so; or (c) he did not in fact do so.
11. Penalties	A person who violates the PBO can be subject to a maximum penalty of ten years' imprisonment and a fine of \$1,000,000. He may also be prohibited from taking up a management post of any corporation or public body, or practising any profession for a period not exceeding seven years.

Scenario 1.1 Taking bribes for awarding projects

A duty engineer of a property management company accepted bribes from an engineering company for awarding air-conditioning maintenance contracts of two apartment buildings to the latter. To conceal the crime, he offered bribes to another duty engineer to keep him silent.

The duty engineer was approached by the proprietor of an air-conditioning engineering company who intended to submit quotation for the maintenance works of two apartment buildings. The proprietor offered the duty engineer a commission equivalent to 10% of the value of works to be awarded by the property management company. The duty engineer agreed and subsequently accepted about \$93,000 on four occasions from the proprietor. As a result, the property management company placed 35 orders worth \$1.8 million with the proprietor's company. Meanwhile, the duty engineer had offered \$15,000 to another duty engineer who agreed to stay silent about his corrupt deals. The duty engineer continued to make a similar deal with another contractor afterwards.

The duty engineer was charged and convicted.

Analysis

Without the permission of his principal i.e. the property management company, the duty engineer had violated Section 9 of the PBO in accepting illegal commission in relation to his duty. The proprietor of the air-conditioning engineering company, who offered bribe to the duty engineer, was also guilty of the offence.

The acceptance of bribe which was equivalent to 10% of the value of works by the engineer would inflate costs or worse still lead to substandard works that could jeopardise the safety of the users. Moreover, the corruption deal would defeat the purpose of open tender and fair competition and lower value for money. The act of trying to keep his colleague silent through bribery would perpetuate the scam and lead to bigger problem.

The breach of trust of the duty engineer to his company was also evident. He had not only violated the law but was also in conflict with the Rules of Conduct¹ of the HKIE with his corrupt dealing. As stipulated in the Rules of Conduct, an engineer should discharge his duties to his employer or client with integrity.

¹ Referring to the Rules of Conduct of the Hong Kong Institution of Engineers.

Scenario 1.2 Accepting substandard works

Three young company engineers and other construction staff conspired to construct, and subsequently to cover up, substandard bored piles at a construction site of a railway station.

The scam was instigated because the sub-contractors believed that they could only make a profit from the contract if they could save labour costs by not constructing the piles to specification. If the contract was not completed on time, the payment of penalty costs would cause a heavy loss to the sub-contractors. It was agreed that piles shorter than the required length would be constructed and that shortened tape measures and false bored pile reports would be used to deceive the supervisory staff from the Resident Engineers. In order to cover up the scam and continue substandard construction works, fraudulent concrete delivery docket, false bored pile core samples and false sonic test results were also produced.

The conspiracy ran for at least five months before being discovered by an Inspector of Works. A total of \$200,000 was subsequently offered to the Inspector to buy his silence but he refused and informed his supervisor. Investigations revealed that 83 out of the 87 piles had not been constructed to specification, leaving the foundations seriously defective and resulting in remedial work costing many millions of dollars.

Those persons were charged and convicted.

Analysis

Turning a blind eye to substandard works would result in building defects, causing the company extra costs to rectify the problem. Worse still, such hidden faults in construction works would be hazardous to public safety.

The engineers were overly conscious of the economic implications of the delayed work, but overlooked the even larger implications of substandard works to public safety. As stipulated in the Rules of Conduct, an engineer's responsibilities to his employer and the profession should at all times be governed by the overriding interest of the general public.

In covering up the substandard works through fraud and bribery, the engineers and other defendants finally could not excuse themselves from legal sanctions.

In passing the sentence, the judge commented that the defendants "place in jeopardy not only the structure and those using it but also the reputation of Hong Kong. The potential consequences of their actions may quite fairly be described as disastrous. The conduct of these Accused casts a shadow over the entire construction industry ... each of the Accused was either experienced in the field or possessed an appropriate qualification - none has any valid claim to ignorance."

Corruption could bring devastating damage to one's career and reputation. Young and front-line engineering professionals need to live by a high standard of integrity so as to resist the corruption temptations facing them in the workplace.

Scenario 1.3 Accepting bribes in granting project approval

An engineer working in a public body took advantage of his office to solicit \$400,000 from a project manager of a land development company as a reward for his assistance in obtaining green light for the company's car park development project.

Subsequent to the first application of the project being turned down by the relevant public body, the engineer asked for the advantages from the company. Frustrated at being asked to pay bribes to secure the project, the project manager reported the case to the ICAC. The engineer was charged and convicted.

Analysis

Public servants, including government officers and public bodies employees, are prohibited from soliciting and accepting illegal advantages in their official capacity. In soliciting illegal advantages from the land development company, the engineer had violated Section 4 of the PBO.

The engineer's plot failed before he could do anything to secure the project, but he could not escape from legal sanctions. Under Section 11 of the PBO, if it could be proved that an advantage was given to the acceptor as a reward for favours done to the offerer, the following should not be considered a defence: (a) "he did not actually have the power so to do", (b) "he accepted the advantage without intending so to do" or (c) "he did not in fact so do."

Tips to handle issues of offering and acceptance of advantages

- (a) **Seek guidance from the employer:** clarify with your company if there is no written policy on whether employees can accept advantages from clients or business associates in the course of business dealings.
- (b) **Avoid the “sweetener”:** avoid a situation whereby the acceptance of advantages will place you in a position of obligation to reciprocate the offerer. From past experience, corruption does not always start with a direct bribe. In fact, it often begins with a “sweetening up” process laden with lavish entertainment and offering of small gifts which do not seem to be connected with your official duties at the time of offering. Hence, you will then be trapped in an embarrassing or compromising situation when you are asked to return a favour later on.
- (c) **Ensure the recipient has his company’s permission before offering advantages:** obtain the confirmation from the recipient’s company that he is permitted to accept advantages from clients or business associates.
- (d) **Adhere to government regulations and guidelines:** the soliciting or acceptance of advantages by government officers is governed by Section 3 and 4 of the PBO and the Acceptance of Advantages (Chief Executive’s Permission) Notice. Government officers are not permitted to accept advantages in connection with their work. If you are a government officer, you should refer to the relevant government circulars and departmental guidelines for proper handling of advantages offered to you in your public or private capacity.

2. Fraud

Fraud often comes hand in hand with corruption and they feed on each other. Fraud in the engineering practice will undermine the trust placed on engineers by employers, clients, and the public in general.

Scenario 2.1 Defrauding by giving false information

In arranging the repair of an air-conditioning system of the hotel, a hotel's chief engineer conspired with a spare parts supplier to deceive the hotel by claiming to have ordered a batch of extra and unnecessary spare parts for the project.

Asking the supplier to submit false invoices in respect of the false purchases, the chief engineer in return could pocket 90% of the payment. The false purchase caused the hotel to pay out over \$60,000 for goods it never received.

The chief engineer was charged and convicted.

Analysis

The chief engineer abused the trust of his company and misused his authority to defraud in the process of procuring goods for his company, failing to fulfil his duty of loyalty to his company. Using false documents to deceive and mislead his company for personal gain, he finally could not escape from legal sanctions.

Management deficiencies would breed opportunities for corruption and malpractices. If proper systems of control were not in place, dishonest staff would exploit possible loopholes for personal gain, causing the company to suffer from financial loss and tarnished reputation.

Scenario 2.2 Inflating the number of jobs done by contractors

Using seven false invoices, a company's lift maintenance engineer conspired with two maintenance supervisors and a sub-contractor to defraud his company by claiming that certain jobs were carried out by the sub-contractor whereas the jobs were actually done by the maintenance engineer's subordinates. The offences came to light when one of the workers suspected irregularities and reported to the ICAC.

The maintenance engineer and the sub-contractor were both charged and convicted.

Analysis

The maintenance engineer breached the Rules of Conduct which required an engineer to treat his colleagues and co-workers fairly and to avoid abusing his authority. Misusing his supervisory position for private gain, the maintenance engineer breached the law and undermined the financial interest of his company.

Implementing proper controls on contracting procedures, carrying out frequent random supervisory checks and conducting regular communication with contractors and staff could help detect early symptoms of irregularities and prevent such malpractices from happening. Encouraging staff to report malpractices to senior management or the compliance officer through proper channels of complaints would also be effective in stopping unscrupulous staff from committing a crime or malpractice.

Scenario 2.3 Deceiving the company by setting up shell companies

A chief engineer and a senior engineer were working at an engineering company which provided maintenance services to buildings. Apart from serving in the engineering company, the two engineers were in control of four shell companies.

The engineers had conspired to use false job orders and purchase requisition forms of the engineering company for the purported supply of materials or labour as well as bogus invoices issued by the shell companies with intent to deceive the engineering company.

As a result of the fraudulent means, the engineering company was deceived into paying a total of \$51 million, over a span of seven years, to the four shell companies which were under the control of the two engineers.

The engineers were charged and convicted.

Analysis

The engineers committed an offence under Section 9(3) of the PBO for using falsified job orders and purchase requisition forms to deceive the engineering company of payments.

Having control of other companies with business dealings with their serving company, the engineers violated the Rules of Conduct which required an engineer to offer complete loyalty to his employer and avoid engaging in business, investment or activities which conflict with the interests of his employer.

Apart from breaching the Rules of Conduct, the engineers might fail to comply with their company's code of conduct for not declaring the conflicts of interest to their company.

3. Preservation of confidential information

Engineers have a duty of loyalty to clients and employers that requires them to preserve confidentiality of information. This is a well-established principle as most information about how a business is run and its products or services directly affects the company's ability to compete in the marketplace. Besides, some information may, on the surface, appear to have little value or interest to the public in general but is of value to culprits.

Scenario 3.1 Leaking confidential information on potential projects

An engineer working in a public body who has obtained the information of a development project through participating in its planning work, attempts to make money by selling the restricted information.

The engineer seeks his brother's help to carry out the plot. Before the formal invitation for tender is made public, the engineer's brother approaches a middleman and asks him to look for a contractor who will be interested in the project. He says he has restricted information to offer which can assist the tenderer to obtain the contract. In return, he asks for 3% of the contract price as a reward and promises to share part of the profits with the middleman.

Analysis

The engineer may breach the Rules of Conduct which require an engineer to safeguard confidential information in relation to his employer and to refrain from receiving any advantage for disclosing such information or making use of it for personal gain.

Being a public servant, he may also breach Section 4 of the PBO if he receives an advantage to leak confidential information.

Although the advantage is solicited by the engineer's brother, the engineer himself can still be liable to the charge of a corruption offence as the advantage is to be received on his behalf.

Scenario 3.2 Leaking tender information

An engineering graduate has joined a construction company as an assistant engineer and is responsible for collecting tenders for specialist services. He comes to know a sub-contractor who is particularly on good terms with him as they are both photography lovers.

When time comes for a tender to be made for a fire-proofing job of an electric plant, the sub-contractor invites the assistant engineer out to a sumptuous dinner over which he suggests a deal. The assistant engineer is to go through the tenders secretly and let him know the lowest bid by sending a SMS message. The sub-contractor will then beat that price and get his bid in just before the closing time. In return, the sub-contractor promises to give him a big “laisee” in the “God Worshipping” ceremony held at the beginning of the project. To win the young fellow over, the sub-contractor says that someone will get the project any way and he is as good as anyone else.

Analysis

Corruption will inflate project costs and impair fair competition. The quality of work is also of question as the sub-contractor is not chosen by an objective assessment of its competence and capability to duly complete the job.

If the assistant engineer leaks the tender information to the sub-contractor, he will breach the Rules of Conduct which prohibit engineers from disclosing confidential information and require them to act in the best interest of the employers.

He may also commit a corruption offence under Section 9 of the PBO if he accepts an advantage as a reward for leaking the confidential tender information to the sub-contractor.

According to Section 19 of the PBO, excuse such as “an established custom in the trade” or “industry practice” constitutes no defence to the acceptance or offering of advantages. The assistant engineer therefore cannot excuse himself by saying that the acceptance of “laisee” is a customary practice in his profession. The court shall make the judgement based on whether permission has been given by the recipient’s principal.

Scenario 3.3 Misuse of proprietary information

A medium-sized company's production engineer is one of the primary contributors to the design of an innovative electronic thermometer that later becomes the "lifeblood" of the company. He leaves the company when it is taken over by another company.

Shortly after the production engineer joins another medical equipment company which is a major competitor of his former company, he discovers that his new employer intends to develop a new electronic thermometer. He notices that a slight modification of the former electronic thermometer will work well for his job. In order to impress his new employer, the production engineer decides to develop a new thermometer based on the product of his old company, disregarding that he has signed a confidential agreement with his former employer for not leaking the design of the product.

Analysis

The production engineer may contravene the Rules of Conduct which prohibit an engineer from making use of proprietary confidential information for personal gain. When working with new clients or changing employment, an engineer has a moral obligation to honour confidential and proprietary information gained from his previous employment, particularly the specific business or technical information from clients or employers.

The Rules of Conduct also require an engineer to properly credit the contributions of others in engineering practice.

The production engineer may risk facing lawsuits from his former employer by infringing intellectual property rights and breaching the confidential agreement signed in his previous employment.

Tips to identify proprietary information or information of value

Useful questions to evaluate whether the information is of value to a third party:

1. Has the information been made public yet?
2. Will the release of information affect the interest of stakeholders, including companies, clients, or members of the public e.g. violating the privacy of individuals, causing financial loss to the company, etc.?
3. Will a third party treat the information as relevant in determining what action to take for securing a benefit e.g. winning a tender.?

If in doubt, you should consult your company or a designated person in the company e.g. the compliance officer.

4. Conflicts of interest

A conflict of interest arises when personal interest of an engineer competes with the interests of his employer or clients. Conflicts of interest can distort and cast doubt on the reliability of professional judgement, sow seeds of distrust and in its most serious form can result in corruption.

Scenario 4.1 Favouritism to contractor

An engineer of a public body is responsible for monitoring the business transactions between the public body and its approved contractors. Besides, he also supervises the contractors' performance of works.

In a family gathering, the engineer learns that his brother-in-law has recently become a director of an engineering firm which is a contractor of the public body's project under his supervision.

To reduce the cost of the project, without the consent of the public body, the firm adopts building materials inferior to the ones in the project specifications. Persuaded by his brother-in-law, the engineer turns a blind eye to the use of substandard materials in the project. Hoping to expand the firm, the engineer's brother-in-law further requests him to render assistance in the tendering exercise of the public body's upcoming major project and agrees to offer a commission of 5% of the contract price to the engineer in return.

Analysis

The engineer is in an actual conflict of interest situation for showing favour to his brother-in-law under his supervision at work. His abuse of authority by allowing the contractor to use substandard materials in the project has placed public safety at stake and he will violate the Rules of Conduct which require members to be governed by the public interest when they discharged their duties.

As a public servant, including government officer or employee of a public body, the engineer's failure to avoid or declare a conflict of interest may in breach of internal guidelines and may render himself liable to disciplinary proceedings. In certain circumstances, it may be criminally actionable and be prosecuted under the common law offence of misconduct in public office.

Furthermore, his brother-in-law may breach Section 4 of the PBO for offering advantages to the engineer in relation to his official duties. If the engineer accepts the advantages for assisting his brother-in-law in the tendering exercise, he will also be caught by the same offence.

Scenario 4.2 Unauthorised loan from contractors

A project engineer is employed by a chemical product manufacturer to supervise the engineering works performed by its contractors. Due to his job nature, he develops a close companionship with a contractor who has recently undertaken a gas tank repair project of the company.

Learning that the project engineer suffers from substantial loss in a recent stock investment, the contractor immediately offers to lend the project engineer \$200,000 to help him overcome the financial difficulty.

When time comes for an inspection to be conducted for the gas tank repairing works, the contractor requests the project engineer to turn a blind eye to certain defects found in the finished works, saying that the defects can have little chance to pose a safety hazard. He also reminds the project engineer of his generosity to him in the past. The project engineer finds it difficult to request the contractor to rectify all the defects found in the works.

Analysis

Besides breaching the Rules of Conduct, the project engineer may put his company's interest and public safety at stake if he compromises his objectivity in professional judgement and turns a blind eye to substandard works.

The project engineer should not accept a loan from persons who have business dealings with the company, placing him into a position of obligation that may lead to a conflict of interest.

The project engineer and the contractor may be liable to the charge of a corruption offence under the PBO for offering and accepting a loan, an advantage under the PBO, in relation to the duties of the recipient's company without his company's permission.

Scenario 4.3 Unauthorised outside work

A senior engineer of a telephone company is approached by his friend, the proprietor of an engineering company, for assistance in his business in trading communications equipment.

Since the senior engineer is responsible for overseeing telecommunication network design and procurement of communications equipment, the company owner requests him to make recommendations to the telephone company for purchasing the products of his newly established company. In return, he promises to employ the senior engineer as a consultant of his company.

Agreeing to the proposal, the senior engineer then helps in making the engineering company an authorised vendor of the telephone company and lines up transactions for the company owner.

Analysis

By helping the company owner, the senior engineer's personal interest is in conflict with his company's interest. If the conflict cannot be avoided, he should inform his company in writing of the potential conflict and declare his interest in this outside employment.

An outside employment is an advantage under the PBO. Without the telephone company's approval, the senior engineer and the company proprietor may face the charge of bribery due to the advantage offered and accepted, namely a consultant post of the engineering company.

Although the senior engineer may have offered help to his friend out of good intent, his acts in fact contravene the principle of fair competition.

Different dimensions of conflict of interest

Actual conflict of interest

In actual conflict of interest situations, actions and decisions taken by the employee in official business matters have in reality been affected by his personal interests. This type of conflict of interest situation usually includes abuse of official authority and misconduct in office.

Perceived conflict of interest

In perceived conflict of interest situations, the employees may not have considered his own personal interests in his actions and decisions but may still be suspected by others of practising favouritism.

Problems arising from conflict of interest

It is important to note that an actual conflict of interest often involves abuse of authority and in some cases even corruption if an advantage is offered.

A perceived conflict of interest, though may not involve abuse of authority, can be as damaging as an actual one because it undermines public confidence in the professionals.

In the case of a public official, failure to avoid or declare a conflict of interest may render him liable to disciplinary proceedings, and in certain circumstances, criminal proceedings including prosecution under the common law offence of misconduct in public office.

Misconduct in Public Office

The common law offence of misconduct in public office extends the reach of criminal law beyond bribery to corrupt conduct that does not involve the acceptance of an advantage offered by another person.

In a judgement handed down in 2005, the Court of Final Appeal described the following as the elements constituting the offence of misconduct in public office:

- (a) a public official;
- (b) in the course of or in relation to the public office;

- (c) wilfully misconducts himself; by act or omission, for example, by wilfully neglecting or failing to perform his duty;
- (d) without reasonable excuse or justification; and
- (e) where such misconduct is serious, not trivial, having regard to the responsibilities of the office and the officeholder, the importance of the public objects which they serve and the nature and extent of the departure from those responsibilities.

Tips to maintain objectivity at work

If you suspect there is a conflict of interest when dealing with your company's affairs, you should declare to your company/ employer:

1. Any private interest which may affect your judgement in performing your duties;
2. Any investment held by yourself and your close relatives or friends which may lead to a conflict of interest;
3. Any decision made which may ultimately prejudice the interests of other clients; or
4. If you are asked to work in an area where you have already had a private interest.

5. Professional proficiency

Good engineering practice is a matter of both ethics and competence. In exercising professional judgement and discretion in a trustworthy and responsible way, ethical and technical considerations are very often inextricably bound. To be competent, an engineer should have a good mastery of technical knowledge and skills as well as the capability to apply them with due care and diligence.

Scenario 5.1 Unreasonable exercise of discretion

A senior engineer of a developer is tasked to supervise the construction work of a building project conducted by a contractor. Owing to frequent contact, he gets on famously with the contractor who is around his age and shares his interest in golfing. The contractor always treats him to dinner and entertainment after work hours and they occasionally go to golf trips together.

On one occasion, the contractor treats the senior engineer to a lavish meal in the Country Club and then reveals his hidden agenda. He says that the funds for the project are quite short and he wishes to have more allowances for contingencies. As the senior engineer can approve claims for additional costs, the sub-contractor tries persuading him to exercise his discretion and add \$5,000,000 to the project. As a token of thanks, the contractor promises to treat the engineer to an overseas golf trip.

Analysis

The exercise of discretion in approving claims should be based on objective assessment of the project's financial requirements. To comply with the Rules of Conduct, the senior engineer should avoid his professional judgement being clouded by the offer of advantages or close association with work contacts.

Though entertainment is not an advantage under the definition of the PBO, to avoid being implicated in a sweetening process affecting professional proficiency, the engineer should be prudent in declining lavish and excessive entertainment provided by the contractor.

Furthermore, the engineer may breach Section 9 of the PBO if he accepts the offer of the overseas golf trip as an inducement to abuse his authority. The contractor, attempting to bribe the engineer, may also violate the law. The engineer should reject the offer of free trip and report to the ICAC for attempted bribe.

Scenario 5.2 Misuse of authority

A senior engineer of a public body is assigned to supervise the construction work of the organisation's new headquarters. In the process of calling tenders for curtain walling works, a contractor and a close associate of the senior engineer indicates immense interest in the project.

Just before an official invitation for tendering is issued, the contractor offers to secure a highly sought-after golf club membership for the senior engineer to exchange for his assistance in winning the tender. He requests the senior engineer to manipulate tender requirements to suit his company so that he can obtain the contract for the job. In fact, the contractor charges a much higher rate than the other construction companies and the technical processes for constructing the curtain walling are not cost-efficient.

Analysis

The senior engineer may violate the Rules of Conduct if he abuses his official authority to manipulate tender requirements in exchange for an advantage in the form of a golf club membership. He fails to fulfil his obligation to protect the interests of his employer and clients as the contractor may not provide the best service to his organisation, not to mention the excessive construction fee charged.

If the senior engineer does not obtain prior permission from his company to accept the advantage, he may contravene Section 5 of the PBO which prohibits a public servant from accepting illegal advantages for giving assistance in securing contracts from the public body. And the contractor, the offerer of advantages, can also be liable to prosecution.

Scenario 5.3 Lax site supervision

The duty of a Resident Engineer of a consultant firm was to supervise the foundation works, contracted to construction companies, of the building of a railway station.

Accepting free trips to the Mainland, expenses for meals and nightclub entertainment, hostess escort services, payment for IDD calls and roaming charges, and payment for monthly parking fees from the contractors, the Resident Engineer conducted lax supervision and showed favour to the contractors in supervising their works.

The Resident Engineer also concealed the facts that problems had occurred in the construction of a bored pile, causing the structure of the pile to deviate in a material way from the approved plan, and that remedial work had been done to the pile.

The Resident Engineer was charged and convicted.

Analysis

According to the PBO, free trips, payment for different expenses and services fell into the definition of advantage. Without the permission from the consultant firm for accepting advantages in performing his monitoring work, the Resident Engineer was caught by Section 9 of the PBO.

The Resident Engineer violated the Rules of Conduct for failing to perform his supervisory role with due diligence and care, resulting in a defective pile. Defective foundation posed structural harms to the railway station which threatened the safety of commuters. Thus, the Resident Engineer not only failed to discharge his responsibilities to the profession and employees, but also his responsibility to the public.



CHAPTER 3

Where to draw
the line

“Fulfilling professional responsibilities requires more than rule following. Fulfilling a responsibility requires some maturity of judgment. The expressions ‘the age of responsibility’ or ‘the age of discretion’ acknowledge the maturity of judgment required to take on responsibilities.”

Whitebeck, 1998

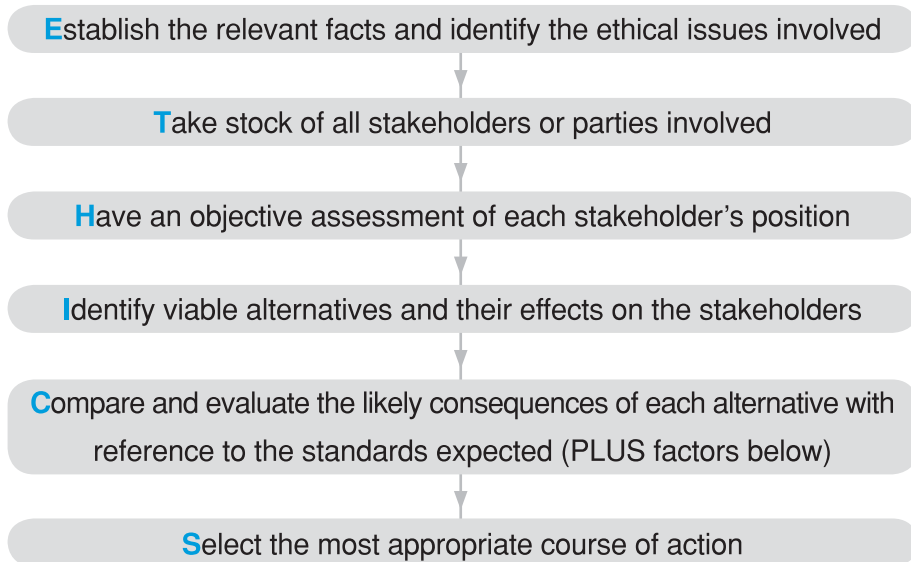
Introduction

The laws and codes of conduct, though can act as a guidance, may not provide solutions to every ethical concern in engineering practice. As shown in the scenarios discussed in previous chapters, engineering professionals are required to prudently exercise their personal judgement and discretion in resolving ethical dilemmas at work. To make an ethical decision, one has to develop skills conducive to sound judgement.

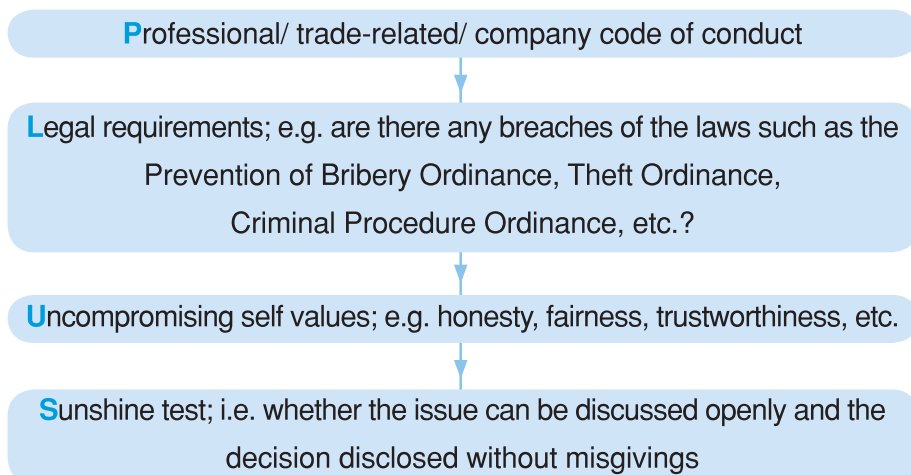
The ETHICS PLUS decision making model developed by the ICAC is a helpful tool for resolving ethical issues. It delineates the thinking process and standards that can be used by engineering professionals in arriving at a chosen course of action in a structured and systematic way. The essence of the model is as follows:

The ETHICS PLUS decision making model

1. The ETHICS process – Six major steps to follow



2. The PLUS standards – Four key factors to consider



How to apply the ETHICS PLUS Model

Case Study: Winston - the whistle-blower

Winston, an electrical engineer of Interests Engineering Company, is responsible for overseeing the work of sub-contractors and handling claims from them. In view of his outstanding performance, he is recommended by his immediate boss Ryan for speedy promotion to fill a vacancy left by a senior engineer in another department.

Meanwhile, Winston is assigned to supervise the wiring works for an audio system of a giant commercial complex. When Ryan is on leave one day, Winston receives from the Accounting Department an invoice for \$140,000 from a sub-contractor called First-line Cable Works claiming the labour cost for laying cables in the commercial complex.

Realising First-line is not involved in the project, Winston discusses the matter with Ryan the next day. But Ryan tells him to process the claim as if it were a normal claim. Ryan explains that the money is for paying an engineering staff of the client company who has helped them obtain the contract of audio system installation and promises to ensure smooth running of the project. Winston understands that the offer can mean illegal bribes and urges Ryan not to offer the money. Ryan in fact conceals from Winston that he has pocketed money from the project by inflating its tender price through the assistance of the client's engineering staff. The money is paid as a reward to that engineering staff for facilitating him to carry out the scam. To hide the malpractice, Ryan asks Winston to keep his mouth shut and to process the claim by using a false work order. In return, he will help Winston secure his promotion.

Winston hesitates but does not know what to do. Should he keep silent? Will he betray Ryan if he blows the whistle?

Guidance to sound judgement

Should Winston blow the whistle and disclose Ryan’s misconduct? If you were Winston, what would you do?

The following guidelines developed under the ETHICS PLUS Model provides a structured analysis on how to resolve the ethical dilemma:

If I were Winston, I would...

<p>Step 1</p> <p>Establish the facts and identify the ethical issue in question</p> <p>Ethical issue:</p>	<ul style="list-style-type: none">■ I discover that Ryan offers bribes to secure business and conspires with others in defrauding the company.■ I have urged Ryan to stop the malpractices but he refuses.■ Ryan asks me to help cover up the secret deal and in return, he offers to secure my promotion as a senior engineer.■ No one will discover the secret if I process the claim by using false work order endorsed by myself and countersigned by Ryan.■ Ryan has treated me well all along and I owe him a favour as he has recommended me to a speedy promotion.■ If I collaborate, I can secure my promotion. <p>Should I blow the whistle and report Ryan’s misconduct?</p>
<p>Step 2</p> <p>Take stock of all the stakeholders involved</p>	<ul style="list-style-type: none">■ Myself■ My company■ My clients■ Ryan■ Engineering profession

Step 3

Have an objective assessment of each stakeholder's position

Myself :

- Failing to fulfil my professional ethical responsibilities if I do not report.
- Tarnishing my career if I am found to have collaborated with Ryan.
- Facing lawsuits and disciplinary actions by the company, professional body and law enforcement authorities.
- Ruining my relationship with Ryan if I refuse to collaborate.
- Betraying Ryan if I blow the whistle.
- Tarnishing my promotion prospect if Ryan manages to cover up his malpractices after I have made the report.
- Reflecting badly on me once the irregularities are detected and I am found remaining silent despite knowing it.

My company :

- Suffering from direct financial loss because of the fraud.
- Causing corporate culture to deteriorate and affecting the company's development if staff only care about their self-interest.
- Being unfair to other staff if Ryan's misconduct is tolerated.

My clients:

- Suffering from financial loss if illegal practices are used to secure business.
- Losing confidence in the engineering profession if unethical and illegal practices are tolerated.

Ryan:

- Failing to fulfil his professional responsibilities in protecting the interests of the company/ clients and maintaining integrity in engineering practice.
- Facing lawsuits and disciplinary actions by the company, professional body and law enforcement authorities.
- Ruining his engineering career if he is found involving in illegal practices.
- Continuing the malpractices if no one stops him.

Engineering profession:

- Tainting its reputation and impairing its credibility if members are found to have committed illegal and unethical practices.
- Undermining public confidence in the profession and its members.

Step 4

Identify alternatives and assess effects on each stakeholder

- Colluding with Ryan.
- Refusing Ryan’s offer but keeping the secret.
- Urging Ryan to stop the malpractices.
- Reporting to the senior management/ professional body/ law enforcement authorities.
- Washing hands of the collaboration and resigning from the company.

Step 5

Compare and evaluate each alternative with reference to the four PLUS standards

Professional codes of conduct and company rules:

The HKIE's Rules of Conduct

- Prohibiting any engineer from receiving or offering illegal advantages.
- Requiring an engineer to offer complete loyalty to his employer and clients.
- Requiring an engineer to bring to the notice of the HKIE any evidence of unethical, illegal or unfair professional practice.

Company rules

- Are there any company guidelines on offering and acceptance of advantages?

Legal requirements:

Section 9 of the PBO

- Prohibiting an engineer from offering or accepting illegal advantages that can impair the objectivity in exercising professional duties or jeopardise the interests of the company and clients.
- Prohibiting an engineer from using any false document, receipt or account to deceive his principal including the employer and clients.
- Prohibiting an engineer from conspiring with others in a corruption offence.

Criminal Procedure Ordinance

- Prohibiting an engineering professional from accepting a reward for covering up an arrestable offence.

Theft Ordinance

- Prohibiting an engineer from defrauding by using false documents.

Uncompromising self values:

- Are there any particular alternatives that are commensurate with my personal values such as honesty, fairness and trustworthiness in performing my duties?

Sunshine test:

- Can I disclose my decision to any parties including my company, colleagues, friends and family members, without misgivings?

Step 6

Select the appropriate course of action

- Evaluating each alternative against the PLUS standards and selecting an appropriate course of action that can maximise the important values and interests of all stakeholders.
- Making a commitment to the choice and implementing it.

CHAPTER 4

What are the
control measures

Ctrl

“Ethics as much an organizational as a personal issue. Managers who fail to provide proper leadership and to institute systems that facilitate ethical conduct share responsibility with those who conceive, execute, and knowingly benefit from corporate misdeeds.”

Lynn Sharp Paine²

² Quoting from “Ethics in Engineering” by Mike W. Martin & Roland Schinzinger

Introduction

As project managers, engineers have an obligation to ensure every project is guarded against unethical and illegal practices that can jeopardise the interests of the employers, clients and the public at large. Although on many occasions engineers may delegate work and authority to subordinates or site staff, they cannot excuse themselves from imposing proper supervisory controls and have to shoulder the ultimate responsibility of any slippage occurred in the work under their supervision. Staff code of conduct should be issued to technical and professional staff for compliance covering issues such as prohibition on acceptance of advantage and excessive entertainment, keeping confidentiality of project information and declaration of conflict of interest.

This chapter will provide you with some preventive measures to tackle common ethical issues in engineering practice such as unreasonable exercise of discretion, slippage in supervision, misuse of proprietary information, conflicts of interests and unfair tendering. These guidelines are particularly important to engineers who undertake a managerial role in their organisations.

How to avoid unreasonable exercise of discretion

Strengthen internal supervisory checks

- Clearly define roles, responsibilities, accountabilities and levels of authority of staff and incorporate supervisory checks on their work.
- Visit the site regularly and conduct random spot checks frequently to ensure work quality and to detect irregularities.
- Implement intensive checks if suspicious signs of irregularities are detected during random checks.
- Require subordinates to hand in regular reports on work progress, project management, work quality control and matters that are safety critical or cost significant.
- Alert all staff that their work and decisions are subject to monitoring and spot checks at any time.

Adopt independent technical audit

- Appoint an independent technical audit team to monitor and evaluate technical judgements and decisions of professional staff for compliance purpose. Such teams may be employed from outside or composed of other engineers in the company deployed to perform such a function on an ad hoc basis.
- Ensure the independence of such a professional audit team by making it report directly to the Chief Executive of the company or the audit committee of the project.

Conduct peer review

- Develop mechanism which allows professional staff to counter-check and review their peers' work so as to collect a second opinion on the validity of a technical assumption or professional judgement and the properness of exercising a discretion, etc.

How to prevent slippage in supervision

Strengthen site staff administration

- Implement a quality site supervision plan to ensure proper supervision of the contractor's works on site.
- Define personnel management policies and operational procedures and clearly communicate them to staff.
- Ensure an optimum number of subletting tiers to facilitate site and project control.
- Segregate staff duties properly with appropriate checks and balances.
- Implement job rotation, where possible, to prevent staff from developing unnecessarily close relation with contractors/suppliers, etc. that may impair their objectivity and impartiality in performing duties.
- Require site staff to inform professional staff immediately when slippage occurs or when the work progress is likely to be adversely affected.
- Keep accurate site records regarding staff attendance, overtime claims, and other work records. All approved material samples and test samples should be properly secured against tampering.
- Conduct frequent site visits and random spot checks. For those works which are not capable of checks or measurement after job completion, prior checks should be secured to ensure quality. All results should be properly recorded for verification by senior staff.
- Ensure that only staff with the required qualifications and adequate experience are employed to perform specialist duties.
- Provide appropriate training to staff, including quality concepts, record-keeping, occupational safety, and anti-corruption legislation.
- Ensure the reliability of site measurement by using calibrated measurement tools and avoid using measurement tapes borrowed from the contractors.
- Establish internal communication channels for staff to air their problems and report malpractices.

Ensure proper delegation of supervisory duties

- Make sure you have delegated the authority to a person who is sufficiently competent to carry out the associated responsibility.
- Conduct periodic review on delegation of authority.
- Don't reduce the frequency of site visits and random spot checks by yourself after the delegation of supervisory duties to your subordinates.

How to handle privileged information

Implement proper access control

- Classify information into different security groups based on their risk exposure and degree of sensitivity. Classification should be reviewed regularly.
- Approve access rights on the basis of a practical application of the need-to-know, need-to-do, and need-to-use principles i.e. only those staff who have genuine need to use the information during the course of duty can have access to the classified information.
- Restrict access to computer information by using passwords and the passwords should be changed regularly.
- Set up an audit trail system for computer systems for identifying persons who have gained access to information in order to facilitate future investigations and access control monitoring.

Monitor release of information

- Provide clear guidelines on how to safe keep and handle release of classified information and on how to ensure computer security.
- Monitor release of information according to the need-to-know, need-to-do, and need-to-use principles.
- Obtain the employer's and clients' authorisation before disclosing confidential information relating to them.

Ensure proper management controls

- Clearly communicate company's policy on preservation of confidentiality to all levels of staff. Such policy should be reviewed regularly to assess its effectiveness in risk minimisation.
- Alert staff of the serious consequences of leaking/ abusing proprietary information.
- Require staff to sign agreements not to leak or misuse proprietary information during their employment and for a specific period after they have left the company, if necessary.

How to avoid conflicts of interests

Avoid favouritism

- Treat all clients and counter-parties fairly. No preference should be given to particular clients, including your relatives and friends.
- Don't provide advice or assistance to others based on confidential information communicated to you by your employers or clients. If there is such a request, you should refuse it and explain that it is against the codes of conduct imposed by your company and professional bodies.
- Don't testify as an expert witness if the case involves a conflict of your personal interest.

Call for collective decision

- Involve more than one officer to handle and make collective decisions for jobs vulnerable to malpractice, such as procurement of materials/ services, shortlisting of tenderers, tendering, and supervision of contractors' work performance.
- Set up an ad hoc task group, if necessary, to make collective decisions on important aspects of a major project. e.g. design approval, vetting of specification and tender assessment and selection.

Avoid conflicting roles

- Declare to your employer and/ or your clients any financial or personal interest in any project, supplier, contractor or business, that are related to your official duties.
- Avoid accepting lavish and frequent entertainment or engaging in games of chance such as gambling with clients/ suppliers/ contractors, that may place you in a position of obligation to return a favour or lead to compromise of impartiality or embarrassment in official dealings.
- Avoid acquiring any investment or financial interest which may lead to a conflict of interest with your official duties.
- Avoid borrowing money from suppliers, contractors or companies with which you have official dealings.
- Don't take up paid or unpaid outside employment which may give rise to any actual or potential conflicts of interests with your official duties. If such conflicts cannot be avoided, you should first obtain the consent from your employer.

How to avoid unfair tendering**Call for competitive tender**

- Adopt competitive tendering for better comparison of prices and service quality.
- Evaluate tenders based on both price and non-price factors to ensure that the procurement can result in the best quality of project or services for the price paid, or the lowest price for the specified acceptable quality.

**Set up
transparent
system for
appointing
contractors**

- Formulate systematic and consistent procedures, with well-defined financial and decision-making authorities. Administrative guidelines and contract document should include appropriate warnings prohibiting bribery and collusive tendering and the requirement of declaring any potential conflict of interest.
- Develop a list of approved contractors/ suppliers for different works or supply of materials according to prescribed criteria and review it regularly. The listing criteria should be made known to all potential bidders in the call for registration.
- Invite only the pre-qualified contractors/ suppliers on the approved list. Any addition or deletion should be carefully scrutinised.
- Make procurement requirements, rules and decision-making criteria readily accessible to all potential suppliers/ contractors. Any additional information must be made available to all bidders concurrently.
- Ensure that equal information is issued to all tenderers by ways of tender documents and tender addenda.
- Set up a joint pre-tender meeting for bidders to enquire and discuss any project issues if necessary.
- Ensure that the opening of bids is witnessed and conducted independently and all decisions are properly recorded.
- Set up an independent panel e.g. tender board for selecting and approving tenders.
- Select contractors/ suppliers on the basis of their qualifications, the merit of their offers and the pre-defined criteria in tender document.
- Keep tender documents and tenderers' information confidential before awarding contracts.
- Make sure arrangements for negotiated tenders are made known to all tenderers prior to the negotiation of bidding.

Set up counter-checking mechanism and conduct random spot checks

- Set up counter-checking mechanisms, e.g. involving more than one officer in contract negotiation process, procurement of materials, authorising acceptance of goods on delivery, etc.
- Conduct frequent spot checks, including random inspections of product quality, quotations, receipts, procurement records, etc.
- Keep proper work records, e.g. quotations, contracts, etc. for random verification by senior staff.

Check contractors' performance record

- Monitor and evaluate contractors' performance regularly and immediately after the end of the contracts and ensure that the evaluation is properly recorded for reference in future tender invitations.
- Maintain periodical contacts with suppliers or contractors in order to provide a direct channel for them to express views or grievances. Such contacts would better be initiated by senior staff.
- Inform suppliers and contractors of the company's policy to prohibit staff from engaging in corruption or other malpractices.



CHAPTER 5

Where to seek help

“Truly professional engineers infuse ethics into their decision making.”

Vesilind & Gunn, 1998

Introduction

The Independent Commission Against Corruption (ICAC) and the Hong Kong Institution of Engineers (HKIE) provide a wide range of services to professional engineers for enhancing and maintaining a high standard of professional ethics.

How the ICAC can help

Developing corporate ethics programmes

The Hong Kong Ethics Development Centre (HKEDC) has been set up under the auspices of the ICAC's Community Relations Department to help organisations develop corporate ethics programmes that cater to the specific needs. Its services include:

- Formulating or improving a corporate code of conduct and offering advice on how to implement the code effectively;
- Strengthening a system of controls and work procedures to prevent bribery, fraud and other malpractices;
- Developing training programmes for employees at different levels;
- Organising tailor-made seminars and workshops on corruption and fraud prevention; and
- Managing the HKEDC website (<http://www.icac.org.hk/hkedc>) that provides the latest information on business and professional ethics.

If you are interested in any of these services, please contact the HKEDC at 2587 9812 or any ICAC Regional Offices. (Addresses and telephone numbers of ICAC Regional Offices are on P.64.)

Providing consultancy services on corruption prevention

The Advisory Services Group of the ICAC's Corruption Prevention Department offers private organisations expert advice on how to tighten up internal controls to minimise opportunities for corruption and malpractice. For details of its services, please call 2526 6363, fax 2522 0505 or e-mail asg@cpd.icac.org.hk.

Providing corruption reporting and enquiry services

As the investigative arm of the ICAC, the Operations Department is responsible for handling corruption complaints and enquiries, which it does in the strictest confidence. Corruption complaints can be lodged through the following channels:

- By phone** : 25 266 366 (24-hour hotline)
- By mail** : GPO Box 1000, Hong Kong
- In person** : [ICAC Report Centre](#) (24-hour service)
G/ F, 303 Java Road, North Point, Hong Kong; or
[ICAC Regional Offices](#) (Mon - Fri: 9:00am – 7:00pm)

Addresses and telephone numbers of ICAC Regional Offices

Name of Office	Address	Telephone number
ICAC Regional Office (Hong Kong West/ Islands)	G/ F, Harbour Commercial Building, 124 Connaught Road Central, Hong Kong	2543 0000
ICAC Regional Office (Hong Kong East)	G/ F, Tung Wah Mansion, 201 Hennessy Road, Wanchai, Hong Kong	2519 6555
ICAC Regional Office (Kowloon West)	G/ F, Nathan Commercial Building, 434-436 Nathan Road, Kowloon	2780 8080
ICAC Regional Office (Kowloon East/ Sai Kung)	Shop No. 4, G/ F, Kai Tin Building, 67 Kai Tin Road, Lam Tin, Kowloon	2756 3300
ICAC Regional Office (New Territories South West)	Shop B1, G/ F, Tsuen Kam Centre, 300-350 Castle Peak Road, Tsuen Wan, New Territories	2493 7733
ICAC Regional Office (New Territories North West)	G/ F, Fu Hing Building, 230 Castle Peak Road, Yuen Long, New Territories	2459 0459
ICAC Regional Office (New Territories East)	G06-G13, G/ F, Shatin Government Offices, 1 Sheung Wo Che Road, Shatin, New Territories	2606 1144

For updated information of the ICAC, including ICAC Regional Offices and our services, please refer to the following ICAC websites:

- ICAC Corporate Website (<http://www.icac.org.hk>)
- Hong Kong Ethics Development Centre (<http://www.icac.org.hk/hkedc>)
- Advisory Services Group (http://www.icac.org.hk/icac/cpd/asg_en.html)
- Integrity and Quality Building Management (<http://www.bm.icac.hk>)

Support from the HKIE

The Hong Kong Institution of Engineers (HKIE) is the only statutory qualifying body for engineers in Hong Kong. It brings together engineers of different disciplines and aims to enhance their common good and to ensure that their practice maintains a high professional and ethical standard. The HKIE provides the following services:

- Assessing engineering degree, computer science, and higher diploma programmes in Hong Kong for accreditation purpose;
- Helping members to abide by the HKIE's Rules of Conduct by organising related education programs, including seminars on professional ethics arranged in co-operation with the ICAC;
- Handling complaints about the improper conduct of its members in accordance with the HKIE Regulations for the Discharge of Complaints;
- Organising Continuing Professional Development (CPD) courses for members on a regular basis. Including technical courses for different engineering disciplines and general courses on management, environmental concerns, legal matters, communications skills, etc.;
- Organising meetings, conferences and visits for exchange of technical information and ideas;
- Publishing its official monthly journal *Hong Kong Engineer*, the teaching journal *Transactions and Proceedings*, to keep members up-to-date with the latest developments in engineering sector; and
- Liaising with engineering institutions worldwide to ensure reciprocal recognition of members' qualifications.

Ways to contact the HKIE:

- By phone** : (852) 2895 4446
- By fax** : (852) 2577 7791
- By mail** : The Hong Kong Institution of Engineers
9/F Island Beverly
No. 1 Great George Street
Causeway Bay, Hong Kong
- By e-mail** : hkie-sec@hkie.org.hk

For updated details of training courses, please refer to the HKIE's website at <http://www.hkie.org.hk>

Appendices

Rules of Conduct of the Hong Kong Institution of Engineers

GUIDELINES

Contained within the Ordinance, Constitution, Regulations and Rules of the Institution are Rules of Conduct which are binding on the members of the Institution. These Guidelines are to assist members with the interpretation and implementation of the Rules.

Rule 1 Responsibility to the Profession

A member of the Institution shall order his conduct so as to uphold the dignity, standing and reputation of the Profession.

In pursuance of this rule a member shall, inter alia:

- 1.1 discharge his professional responsibilities with integrity, dignity, fairness and courtesy;
- 1.2 not allow himself to be advertised in self-laudatory language nor in any manner derogatory to the dignity of his profession, nor improperly solicit professional work for himself or others;
- 1.3 give opinions in his professional capacity that are, to the best of his ability, objective, reliable and honest;
- 1.4 take reasonable steps to avoid damage to the environment and the waste of natural resources or the products of human skill and industry;
- 1.5 ensure adequate development of his professional competence;
- 1.6 accept responsibility for his actions and ensure that persons to whom he delegates authority are sufficiently competent to carry out the associated responsibility;
- 1.7 not undertake responsibility which he himself is not qualified and competent to discharge;
- 1.8 treat colleagues and co-workers fairly and not misuse the advantage of position;
- 1.9 when working in a country other than Hong Kong order his conduct according to the existing recognised standards of conduct in that country, except that he should abide by these rules as applicable in the absence of local standards;
- 1.10 when working within the field of another profession pay due attention to the ethics of that profession.

Rule 2 Responsibility to Colleagues

A member of the Institution shall not maliciously or recklessly injure nor attempt to injure whether directly or indirectly the professional reputation of another engineer, and shall foster the mutual advancement of the profession.

In pursuance of this rule a member shall, inter alia:

- 2.1 where appropriate seek, accept and offer honest criticism of work and properly credit the contributions of others;
- 2.2 seek to further the interchange of information and experience with other engineers;
- 2.3 assist and support colleagues and engineering trainees in their professional development;
- 2.4 not abuse his connection with the Institution to further his business interests;
- 2.5 not maliciously or falsely injure the professional reputation, prospects or practice of another member provided however that he shall bring to the notice of the Institution any evidence of unethical, illegal or unfair professional practice;
- 2.6 support the aims and activities of the Institution.

Rule 3 Responsibility to Employers or Clients

A member of the Institution shall discharge his duties to his employer or client with integrity and in accordance with the highest standards of business ethics.

In pursuance of this rule a member shall, inter alia:

- 3.1 offer complete loyalty to his employer or client, past and present, in all matters concerning remuneration and in all business affairs and at the same time act with fairness between his employer or client and any other party concerned;
- 3.2 avoid engaging in business, investments or activities which conflict with the interests of his employer or client, and inform his employer or client in writing of any possible conflict between his own financial interests, or those of his immediate family, and the interests of his client or employer;

- 3.3 not accept any financial or contractual obligation on behalf of his employer or client without their authority;
- 3.4 where possible advise those concerned of the consequences to be expected if his engineering judgement, in areas of his responsibility, is overruled by a non-technical authority;
- 3.5 advise his employer or client in anticipating the possible consequences of relevant developments that come to his knowledge;
- 3.6 neither give nor accept any gift, entertainment, payment or service of more than nominal value, to or from those having a business relationship with his employer or client without the consent of the latter;
- 3.7 where necessary co-operate with or arrange for the services of other experts wherever an employer's or client's interest might best be served thereby;
- 3.8 safeguard confidential information in relation to his employer or client and not disclose such information to third parties without his employer's or client's written consent. A member shall not receive any gift, entertainment, payment or service from third parties for disclosing such information nor make use of it for personal gain.

Rule 4 Responsibility to the Public

A member of the Institution in discharging his responsibilities to his employer and the profession shall at all times be governed by the overriding interest of the general public, in particular their environment, welfare, health and safety.

In pursuance of this rule a member shall, inter alia:

- 4.1 seek to protect the safety, health and welfare of the public;
- 4.2 when making a public statement professionally, try to ensure that both his qualification to make the statement and his association with any benefiting party are made known to the recipients of the statement;
- 4.3 seek to extend public understanding of the engineering profession;
- 4.4 seek to assess the environmental consequences of work for which he is responsible and to influence events so as to prevent or minimise damage to, and if practicable to improve, the environment.

In particular in the exercise of the requirement to safeguard the public in matters of welfare, health and safety, engineers should:

- a) strive to create through their projects a healthy and agreeable outdoor and indoor environment;
- b) aim to minimise the use of non-renewable resources, to conserve energy and to minimise the generation of waste;
- c) consider and take into account the consequences of any proposal upon public health and local custom;
- d) assess the impacts of their proposals upon the environment, and select options that will ensure sustainable development;
- e) consider and explain in their proposals the measures required to protect and improve the environment;
- f) promote the concepts of interdependence of ecosystems, maintenance of the diversity of species, resource replacement and recovery, and sustainable development;
- g) seek to balance costs with the best benefit to the environment and to human society, to achieve the most suitable practical environmental option, by utilising the best available technology and techniques without entailing excessive costs;
- h) encourage management to follow positive environmental policies by recognising that a statement of intent is not sufficient to achieve legislative compliance.

Extracts from the Prevention of Bribery Ordinance (Chapter 201, Laws of Hong Kong)

Full text of the Ordinance is available at the Bilingual Laws Information System (BLIS) (<http://www.legislation.gov.hk>) of the Department of Justice.

I. Provisions governing the private sector

Section 9

(1) Any agent who, without lawful authority or reasonable excuse, solicits or accepts any advantage as an inducement to or reward for or otherwise on account of his –

(a) doing or forbearing to do, or having done or forborne to do, any act in relation to his principal's affairs or business; or

(b) showing or forbearing to show, or having shown or forborne to show, favour or disfavour to any person in relation to his principal's affairs or business,

shall be guilty of an offence.

(2) Any person who, without lawful authority or reasonable excuse, offers any advantage to any agent as an inducement to or reward for or otherwise on account of the agent's –

(a) doing or forbearing to do, or having done or forborne to do, any act in relation to his principal's affairs or business; or

(b) showing or forbearing to show, or having shown or forborne to show, favour or disfavour to any person in relation to his principal's affairs or business,

shall be guilty of an offence.

(3) Any agent who, with intent to deceive his principal, uses any receipt, account or other document –

(a) in respect of which the principal is interested; and

(b) which contains any statement which is false or erroneous or defective in any material particular; and

(c) which to his knowledge is intended to mislead the principal,

shall be guilty of an offence.

- (4) If an agent solicits or accepts an advantage with the permission of his principal, being permission which complies with subsection (5), neither he nor the person who offered the advantage shall be guilty of an offence under subsection (1) or (2).
- (5) For the purposes of subsection (4) permission shall -
- (a) be given before the advantage is offered, solicited or accepted; or
 - (b) in any case where an advantage has been offered or accepted without prior permission, be applied for and given as soon as reasonably possible after such offer or acceptance,

and for such permission to be effective for the purposes of subsection (4), the principal shall, before giving such permission, have regard to the circumstances in which it is sought.

II. Provisions governing the public sector

1. Soliciting and accepting advantages by prescribed officer

Section 3

Any prescribed officer who, without the general or special permission of the Chief Executive, solicits or accepts any advantage shall be guilty of an offence.

2. Bribery of public servants

Section 4

- (1) Any person who, whether in Hong Kong or elsewhere, without lawful authority or reasonable excuse, offers any advantage to a public servant as an inducement to or reward for or otherwise on account of that public servant's -
- (a) performing or abstaining from performing, or having performed or abstained from performing, any act in his capacity as a public servant;
 - (b) expediting, delaying, hindering or preventing, or having expedited, delayed, hindered or prevented, the performance of an act, whether by that public servant or by any other public servant in his or that other public servant's capacity as a public servant; or

- (c) assisting, favouring, hindering or delaying, or having assisted, favoured, hindered or delayed, any person in the transaction of any business with a public body,

shall be guilty of an offence.

- (2) Any public servant who, whether in Hong Kong or elsewhere, without lawful authority or reasonable excuse, solicits or accepts any advantage as an inducement to or reward for or otherwise on account of his -

- (a) performing or abstaining from performing, or having performed or abstained from performing, any act in his capacity as a public servant;
- (b) expediting, delaying, hindering or preventing, or having expedited, delayed, hindered or prevented, the performance of an act, whether by himself or by any other public servant in his or that other public servant's capacity as a public servant; or
- (c) assisting, favouring, hindering or delaying, or having assisted, favoured, hindered or delayed, any person in the transaction of any business with a public body,

shall be guilty of an offence.

- (2A) Any person who, whether in Hong Kong or elsewhere, without lawful authority or reasonable excuse, offers any advantage to the Chief Executive as an inducement to or reward for or otherwise on account of the Chief Executive's-

- (a) performing or abstaining from performing, or having performed or abstained from performing, any act in his capacity as the Chief Executive;
- (b) expediting, delaying, hindering or preventing, or having expedited, delayed, hindered or prevented, the performance of an act, whether by the Chief Executive in his capacity as the Chief Executive or by any public servant in his capacity as a public servant; or
- (c) assisting, favouring, hindering or delaying, or having assisted, favoured, hindered or delayed, any person in the transaction of any business with a public body,

shall be guilty of an offence.

- (2B) If the Chief Executive, whether in Hong Kong or elsewhere, without lawful

authority or reasonable excuse, solicits or accepts any advantage as an inducement to or reward for or otherwise on account of his-

- (a) performing or abstaining from performing, or having performed or abstained from performing, any act in his capacity as the Chief Executive;
- (b) expediting, delaying, hindering or preventing, or having expedited, delayed, hindered or prevented, the performance of an act, whether by the Chief Executive in his capacity as the Chief Executive or by any public servant in his capacity as a public servant; or
- (c) assisting, favouring, hindering or delaying, or having assisted, favoured, hindered or delayed, any person in the transaction of any business with a public body,

he shall be guilty of an offence.

(3) If a public servant other than a prescribed officer solicits or accepts an advantage with the permission of the public body of which he is an employee being permission which compiles with subsection (4), neither he nor the person who offered the advantage shall be guilty of an offence under this section.

(4) For the purposes of subsection (3) permission shall be in writing and –

- (a) be given before the advantage is offered, solicited or accepted; or
- (b) in any case where an advantage has been offered or accepted without prior permission, be applied for and given as soon as reasonably possible after such offer or acceptance,

and for such permission to be effective for the purposes of subsection (3), the public body shall, before giving such permission, have regard to the circumstances in which it is sought.

3. Bribery for giving assistance, etc. in regard to contracts

Section 5

(1) Any person who, without lawful authority or reasonable excuse, offers an advantage to a public servant as an inducement to or reward for or otherwise on account of such public servant's giving assistance or using influence in, or having given assistance or used influence in -

- (a) the promotion, execution, or procuring of -

- (i) any contract with a public body for the performance of any work, the providing of any service, the doing of any thing or the supplying of any article, material or substance; or
- (ii) any subcontract to perform any work, provide any service, do any thing or supply any article, material or substance required to be performed, provided, done or supplied under any contract with a public body; or
- (b) the payment of the price, consideration or other moneys stipulated or otherwise provided for in any such contract or subcontract as aforesaid,

shall be guilty of an offence.

(2) Any public servant who, without lawful authority or reasonable excuse, solicits or accepts any advantage as an inducement to or reward for or otherwise on account of his giving assistance or using influence in, or having given assistance or used influence in -

- (a) the promotion, execution or procuring of; or
- (b) the payment of the price, consideration or other moneys stipulated or otherwise provided for in,

any such contract or subcontract as is referred to in subsection (1) shall be guilty of an offence.

(3) Any person who, without lawful authority or reasonable excuse, offers any advantage to the Chief Executive as an inducement to or reward for or otherwise on account of the Chief Executive's giving assistance or using influence in, or having given assistance or used influence in-

- (a) the promotion, execution or procuring of-
 - (i) any contract with a public body for the performance of any work, the providing of any service, the doing of any thing or the supplying of any article, material or substance; or
 - (ii) any subcontract to perform any work, provide any service, do any thing or supply any article, material or substance required to be performed, provided, done or supplied under any contract with a public body; or
- (b) the payment of the price, consideration or other moneys stipulated or otherwise provided for in any such contract or subcontract as is referred to in paragraph (a),

shall be guilty of an offence.

(4) If the Chief Executive, without lawful authority or reasonable excuse, solicits or accepts any advantage as an inducement to or reward for or otherwise on account of his giving assistance or using influence in, or having given assistance or used influence in-

- (a) the promotion, execution or procuring of; or
- (b) the payment of the price, consideration or other moneys stipulated or otherwise provided for in,

any such contract or subcontract as is referred to in subsection (3)(a), he shall be guilty of an offence.

4. Bribery for procuring withdrawal of tenders

Section 6

(1) Any person who, without lawful authority or reasonable excuse, offers any advantage to any other person as an inducement to or a reward for or otherwise on account of the withdrawal of a tender, or the refraining from the making of a tender, for any contract with a public body for the performance of any work, the providing of any service, the doing of any thing or the supplying of any article, material or substance, shall be guilty of an offence.

(2) Any person who, without lawful authority or reasonable excuse, solicits or accepts any advantage as an inducement to or a reward for or otherwise on account of the withdrawal of a tender, or the refraining from the making of a tender, for such a contract as is referred to in subsection (1), shall be guilty of an offence.

5. Bribery in relation to auctions

Section 7

(1) Any person who, without lawful authority or reasonable excuse, offers any advantage to any other person as an inducement to or reward for or otherwise on account of that other person's refraining or having refrained from bidding at any auction conducted by or on behalf of any public body, shall be guilty of an offence.

(2) Any person who, without lawful authority or reasonable excuse, solicits or accepts any advantage as an inducement to or reward for or otherwise on account of his refraining or having refrained from bidding at any auction conducted by or on behalf of any public body, shall be guilty of an offence.

6. Bribery of public servants by persons having dealings with public bodies

Section 8

- (1) Any person who, without lawful authority or reasonable excuse, while having dealings of any kind with the Government through any department, office or establishment of the Government, offers any advantage to any prescribed officer employed in that department, office or establishment of the Government, shall be guilty of an offence.
- (2) Any person who, without lawful authority or reasonable excuse, while having dealings of any kind with any other public body, offers any advantage to any public servant employed by that public body, shall be guilty of an offence.

7. Giver and acceptor of bribe to be guilty notwithstanding that purpose not carried out, etc.

Section 11

- (1) If, in any proceedings for an offence under any section in this Part, it is proved that the accused accepted any advantage, believing or suspecting or having grounds to believe or suspect that the advantage was given as an inducement to or reward for or otherwise on account of his doing or forbearing to do, or having done or forborne to do, any act referred to in that section, it shall be no defence that-
 - (a) he did not actually have the power, right or opportunity so to do or forbear;
 - (b) he accepted the advantage without intending so to do or forbear; or
 - (c) he did not in fact so do or forbear.
- (2) If, in any proceedings for an offence under any section in this Part, it is proved that the accused offered any advantage to any other person as an inducement to or reward for or otherwise on account of that other person's doing or forbearing to do, or having done or forborne to do, any act referred to in that section, believing or suspecting or having reason to believe or suspect that such other person had the power, right or opportunity so to do or forbear, it shall be no defence that such other person had no such power, right or opportunity.

III. Interpretation

Section 2

“**Advantage**” means -

- (a) any gift, loan, fee, reward or commission consisting of money or of any valuable security or of other property or interest in property of any description;
- (b) any office, employment or contract;
- (c) any payment, release, discharge or liquidation of any loan, obligation or other liability, whether in whole or in part;
- (d) any other service, or favour (other than entertainment), including protection from any penalty or disability incurred or apprehended or from any action or proceedings of a disciplinary, civil or criminal nature, whether or not already instituted;
- (e) the exercise or forbearance from the exercise of any right or any power or duty; and
- (f) any offer, undertaking or promise, whether conditional or unconditional, of any advantage within the meaning of any of the preceding paragraphs (a), (b), (c), (d) and (e),

but does not include an election donation within the meaning of the Elections (Corrupt and Illegal Conduct) Ordinance (Cap. 554), particulars of which are included in an election return in accordance with that Ordinance;

“**Entertainment**” means the provision of food or drink, for consumption on the occasion when it is provided, and of any other entertainment connected with, or provided at the same time as, such provisions.

Bibliography

1. P. Aarne Vesilind and Alastair Gunn, *Engineering, Ethics, and the Environment*, Cambridge: Cambridge University Press, 1998
2. Mike W. Martin and Roland Schinzinger, *Ethics in Engineering*, New York: The McGraw-Hill Companies, Inc., 1996
3. Arvid R. Eide, Roland D. Jension, Lane H. Mashaw and Larry L. Northup, *Engineering Fundamentals and Problem Solving*, New York: McGraw-Hill, 1997
4. *Engineering Design, Literature On Social Responsibility Versus Legal Liability.*
5. *Waste Disposal - Commentaries by Kenneth L. Carper.*
6. L. G. Lewis, *The Cultivation of Professional Ethics*, 1995
7. "Model Code of Ethics", speech by Donald G. Laplant, WFEO Vice President, 22.10.1993
8. J. Campbell Martin, *The Successful Engineer : Personal and Professional Skills - a Sourcebook*, US: McGraw-Hill, Inc., 1993
9. Sharon Beder, *The New Engineer: Management and Professional Responsibility in a Changing World*, South Yarra: Macmillan, 1998
10. Charles E. Harris, Michael S. Pritchard and Michael J. Rabins, *IEEE Engineers Guide to Business*, New York: The Institute of Electrical and Electronics Engineers, Inc., 1997
11. Richard M. Robinson and Murray A. Muspratt (editors), *Professional Development Handbook*, The Institution of Engineers, Australia, 1986
12. E. G. Semler (editor), *The Engineer and Society*, London: The Institution of Mechanical Engineers, 1973
13. Lawrence J. Kamm, *Real-World Engineering - A Guide to Achieving Career Success*, IEEE Press, 1991

14. Charles B. Fleddermann, *Engineering Ethics*, New Jersey: Prentice Hall, Inc., 1999
15. James H. Schaub and Karl Parlovic (editors), *Engineering Professionalism and Ethics*, US: John Wiley & Sons, Inc., 1983
16. Caroline Whitebeck, *Ethics in Engineering Practice and Research*, Cambridge University Press, 1998
17. Carson Morrison and Philip Hughes, *Professional Engineering Practice - Ethical Aspect*, Canada: McGraw Hill Ryerson Ltd., 1988
18. *Rules of Conduct*, The Hong Kong Institution of Engineers

This publication aims to provide general guidance only and does not purport to deal with all possible issues that may arise in any given situation. No responsibility for loss occasioned to any person acting or refraining from action as a result of any material in this publication can therefore be accepted by the Hong Kong Ethics Development Centre (HKEDC) and the Hong Kong Institution of Engineers (HKIE).

The scenarios provided in this publication are adapted from past prosecutions but the names of the persons and organisations involved are all fictitious. Hypothetical cases are also used to illustrate how unethical situations are developed and how engineers can apply ethics in their workplace. They are for illustration only and any similarity is entirely coincident.

Throughout this publication, the male pronoun is used to cover references to both male and female for the sake of brevity and convenience. No gender preference is intended.

The copyright of this publication is co-owned by the HKEDC and the HKIE. Interested parties are welcome to reproduce any part of this publication for non-commercial use. Acknowledgement of this publication is required.