

## Ethical Conflicts & Resolution

Conflicts of interests with respect to the engineer's professional ethics are conflicts arising out of any interest/obligation & loyalty of the engineer likely to influence the engineer's professional judgment. These range from self-interest, interests of and obligations to others such as friends, family members, employers and clients and competing interest of present & past clients. Conflicts may arise out of self-interest based on negative qualities such as ego, selfishness, fear etc., or from positive deeprooted personal virtues and standards of morality based on one's religion, upbringing or community. Obligations to and expectations from the engineer's clients, employer, friends and relatives also give rise to conflicts. Such conflicts can act as hindrance to responsible professional conduct and unbiased professional judgements. Engineers must take note of such conflicts of interests, record and analyze and act wisely without violating the professional code of ethics. Engineers are expected to disclose all known conflicts of interest to superiors, clients and employers and of any direct or indirect business association they have with others which could be potential sources of conflict. Some illustrative examples are given below.

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### 1.1 Conflict between personal and professional ethics

- i) An engineer employed by a firm manufacturing military equipment is assigned to work with a team involved in the design and development of a missile. Having chosen a career in defense equipment production, his professional code of ethics warrants him to do his job dutifully. But he can have a conflict with his personal moral code if he believes that it is immoral to build weapons of death and destruction. In this case, he should either act in accordance with his professional code of ethics or resign from the job and seek employment else where.
- ii) Take a slightly different case where the same engineer in example (a) is assigned to work along with others in a team to design & develop a nuclear missile. He is aware that his country is signatory to the nuclear non-proliferation treaty, and hence his firm and his country's present political leadership are clandestinely developing the nuclear weapon. Here, he has a conflict of interest between personal ethics and professional ethics, and also

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with the interest of his employer and loyalty to the employer and country's present leadership. Resigning from the firm and seeking employment elsewhere will not solve the conflict of interest fully. It is like the "ostrich putting its head inside the sand" and pretending that it does not see anything and no one sees it too. The engineer is aware of a grave misconduct by his employer against humanity which may bring his nation to disrepute. So he could choose to go public and become a "whistle blower" and present the misdeed to the public.

- iii) Joseph is an executive engineer, employed by a Civil Engineering construction firm for many years. His firm has won a major contract to construct a dam for irrigation cum hydroelectric project. Joseph is assigned as the executive engineer for the project. Joseph being a staunch environmentalist and aware of the disturbance the project will cause to the forest and its flora & fauna, has a conflict of interest between professional ethics & personal ethics. Under the circumstance, Joseph needs to collect more facts and analyze the same with respect to the conflicting moral issues. Is there an alternate site, which will cause less harm to the environment? How much of forest and its flora and fauna will be really destroyed? What is the long term impact of it on nature and also society? In contrast to this what is the utility to the society's well-being by the proposed project which will generate electricity for rural electrification, provide energy to industries, create employment and wealth, and the dry land which will be provided

with water by the irrigation project facilitating food production and leading to reduction in poverty and hunger. Is it feasible to relocate the local community, forest animals, and birds to new and safer habitats?

## 1.2 Conflict with employer's interest

- i) Ram Mohan is an engineer in a soft drink manufacturing company. His company has acquired several sites in a number of villages in a rural district for drilling for water and manufacturing soft drinks. The project is very lucrative to the company as the sites are cheap and water is almost free except for the initial capital investments. The engineer has a conflict of interest, a conflict with that of the employer's motive to make large profit and exploit the cheaply available water. The engineer and his company are aware of the consequences of such large scale exploitation of ground water through borewells. The village ponds and wells will soon dry up causing misery to the rural life denying them water for drinking, sanitation and for irrigation. It will also cause harm to environment through eventual drying up of trees & plants due to lowering of ground water level. The project is fundamentally against sustainable development.

Ram Mohan's personal ethics and professional ethics demand that he not only refuse to work on the project, but he should also go public and do all he can to stop the project. It is in direct conflict with the interest of his 'greedy' employer, and may be even in conflict with Ram Mohan's and his family's personal interest as his

proposed action against the project is going to find him dismissed from his job and result in financial hardship to him & his family.

An engineer's responsibility is to protect society and environment. Is it possible for him to follow a middle path. Collect facts, and arrive at a production rate of soft drinks, which will result in sustainability. Can his firm take up rainwater harvesting and such other projects to help the rural community and environment with adequate water? Can he persuade his firm to relocate to some other area with plenty of water and frequent flooding during the rainy season and make tanks/ artificial lakes to contain the floods and use the water for the project? Or can the firm invest in desalination plants and take water from the sea? These are options one should consider, before the earlier option of becoming a 'Whistle blower' and going public.

- ii) Some more examples of conflict of interests, arising from employer's demands are given below:

*“An engineer is asked to play down some design defects in a product which will affect its' performance and safety to users”.*

*“An engineer is asked by his employer to cook up data or manipulate test results to show that the exposure of workmen to a hazardous chemical at the workplace is within permissible limit”.*

*“An engineer is asked to exaggerate the quality and performance of a product and mislead the prospective customers to get higher price or bigger market”.*

*“The employer's legal adviser asks the engineer to delete some facts from the engineer's testimony to be submitted to the court in the interest of the employer, as these facts may damage their case”.*

In such cases of personal and or professional ethics coming into conflict with the interest of the employer, the engineers should not yield to the unethical demands of the employer. This decision may become even more difficult, if the employer induces the engineer with rewards of money, holiday package, promotion etc when the self interest (based on greed) and the employer's interest, together make a powerful conflict with engineer's responsible action in accordance with moral professional conduct.

### **1.3 Conflict with self interest**

- i) When self interest goes to an extreme with greed, the engineer may accept bribes and/or even become an extorter. This is clearly against the general morality and professional ethics. Giving a bribe or extortion is in self interest or the employer's interest as such an action is resorted to gain favours unfairly or unjustifiably for self, or for the employer. Here is a conflict of interest (of self/of employer) with engineer's code of ethics and general morality and is against the professional's responsible conduct.
- ii) With respect to accepting and giving 'Gifts' there can be some doubt about such conflict of interest. Giving and receiving gifts, socializing, hosting dinners, conferences, cultural shows, donations to some charitable activities of the client or

customer are well accepted management practices to build relationships and 'networking'. An engineer may engage in such activities with a clear conscience, provided these are done with a clear objective of building long term mutually beneficial relations, for fair business and not for unfair practices and gains such as selling inferior products, getting unfairly high prices, compete unfairly with others etc.

#### **1.4 Conflict with the interests of friends/relatives**

- i) Kishore is an executive trainee engineer in an automobile design & manufacturing company. He is assigned to carry out tests on the wheels and brake systems. During the test he discovers a flaw in the new batch of production, and he reported this informally to Ravikant, a senior engineer responsible for production of these units. Kishore felt obliged to inform Ravikant, as the latter had helped him to get the job in this company and Ravikant has been a long time friend of his father and family.

Ravikant tells him that it is a minor flaw and causing an accident is only one in a million chance, and so let the batch be passed by the Quality Department and for this Kishore should modify the test data and report. On the other hand if Kishore does not comply with his request, the batch will be either rejected or sent for rework, and in both the cases, Ravikant will get a bad report from the management. Kishore faces a conflict of interest. Action as per professional code of ethics is in conflict with his loyalty to his benefactor and family friend

- ii) Savitri is an engineer in charge of design of new utility equipment. She specifies a special valve patented by her friend in the design of the equipment as she knows that it will give best value for her employer and customers, ensuring long term reliable service. Valves of other makes could have been used, if she made a general specification. Others, may interpret her action as a favour to her friend, and result of a conflict of interest and yielding to her loyalty to the friend. She could be deemed as an 'interested party'. What should Savitri do under the circumstances.

She could delete the 'Special Valve' in the design specification of equipment and play to be impartial. But this is not responsible professional action, as it will not be in the interest of the customers and the employer, and make an inferior product. So she may specify the 'Special Valve' in her design and disclose her relationship with the inventor/manufacturer of the special valve and the reasons for her professional decision, and make it known to her superiors/employer and take such an informed decision/action.

- iii) Ram, an engineer, in charge of the purchase department, has a conflict of interest as he is about to decide buying a large quantity of an item required by his firm from a friend's company. Selection has been done following tender and accepted commercial procedures. Ram had no prior consultations with his friend or with the friend's marketing personnel. Here Ram is deemed to be 'an interested party' and must disclose his interest while he may go ahead with his proposed

purchase action, and in this way he is acting responsibly. There are some 'Rams' who may avoid tendering to his friend's firm or disqualify saying that it is his friend's firm and project an image of 'false integrity'. This is not a responsible conduct.

- iv) Now take, another scenario. The product Ram is proposing to buy from his friend's company is inferior to what other vendors can supply. He has had prior consultations with his friend and has provided him with sensitive commercial information, which helped his friend's firm to quote the specification and price suitably to win the purchase contract. Here Ram's loyalty to his friend has tipped the balance towards unethical practice.

### **1.5 Conflict with client's interest**

- i) Yacoob is an engineer employed by a 'Design Audit' company. He is assigned to audit the design of a domestic water heater. He finds that the design is defective and causes short circuit and also gives electric shock on touch at times due to defect in the insulation. The product is made very cheap to attract a large market but at the cost of quality and safety. He has submitted his report with all his findings and a clear recommendation to correct the defects, before manufacture and release to the market.

His client argues that the product is purposely made cheap by sacrificing some quality and that Yacoob should suppress some facts and make the report more positive to allow production and marketing. Here Yacoob has a conflict between responsible professional conduct

and the interest of his client. But let us say, he does not yield to the client's interest and he sticks to his original report.

His client firm ignores Yacoob's report and goes ahead and manufactures and markets their 'affordable low cost home water heater'. As per the engineer's professional code of ethics he has a paramount responsibility to protect the society. So should he go public and inform the public about his report and the inherent unsafe design of this domestic water heater? But that action will be in violation of the 'client professional confidentiality agreement'. An engineer must keep confidential all information given by a client, or generated during the performance of the consultancy.

Alternatively, Mr. Yacoob should pursue his client to include in leaflet and cautioned the buyer for safety on potential electric shock and how to safeguard. This way the buyer will make an informed decision.

### **1.6 Conflict of interest between past & present clients/employers**

Engineers may confront conflicts of interest between old and present clients, old and present employer. For example a new client may request the engineer-consultant to reveal some sensitive information about one or more of his earlier clients. A new employer may demand an engineer to reveal some information he knows about some process technology or product design which are either trade secret or patented by an earlier employer. Some times these could

have been developed by the 'subject engineer while he was employed in his previous company, and for which he has signed an IPR agreement with his previous employer by which these inventions are the intellectual property of the previous employer. The new client and new employer may give inducements in the form of rewards to the engineer, and thus add self interest as another conflict of interest strengthening the new client's/new employer's interest. Under such conflicts of interest, the engineer must act responsibly by adhering to the client-professional confidentiality agreement in accordance with professional code of ethics, and should not yield to the demands/inducements of the new client.

### **1.7 Conflict of telling lie vs truth**

Telling a lie is considered wrong, unethical and is against general morality and also against the engineer's professional code of ethics. But telling a lie is sometimes necessary and can be justified. For example, if telling a lie to an assailant about the whereabouts of an innocent person is the only way of saving him from murder, it is justified by general morality. Like wise telling a lie is in the interest of truth, i.e success of righteous people over evil people, or for the general, well-being of all, then again it is justified.

Let us take an example. Jain is an engineer in charge of inspection of packaging before shipment of a life saving drug. A vast quantity of this drug is to be exported

to a country on priority, to save millions of people from an epidemic. Jain finds during inspection that the packaging is defective and he may report and stop the export and return the drugs to the factory for re-package re-inspection and clearance for export. This may delay the export by weeks and millions may die during this period due to non-availability of the drug. Should Jain lie about the defective packaging and allow the drug to be exported?

Jain should check on facts and analyze the effect of defective packaging on the quality of the drug. If the poor packaging will deteriorate the quality and thus effectiveness of the drug during the period (time taken for export and distribution), then it is of no use to the people who receive it. But if the defective packaging does not adversely affect the life (quality & effectiveness) of the drug during the time taken for export and distribution, it is in the larger interest of humanity that he allows the drug to be cleared for export in the present condition of packaging. In this case he may clear the consignment for shipping and not report on the defective packaging. Or he can keep the customer, informed of the defective packaging and his reasons for discounting the same in the interest of saving millions of life. In the latter case he is making a 'customer-informed' decision and is even better. But if the option is going to take time, the lie is the ethical choice.