

# ETHICS FOR ENGINEERS

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## INTRODUCTION

In recent times, there have occurred numerous ethical lapses in the areas of politics, business, and personal activities. Some observers believe that these problems represent a virtual epidemic. However, these concerns are not unique to modern society. As early as 300 to 400 B.C., the Greek philosophers Plato and Aristotle developed written theories about ethics. Major religions incorporate the equivalent of ethical behavior in their precepts. So, in fact, ethical problems are not unique to modern times.

## BACKGROUND

In answer to problems created by ethical lapses, many entities have taken action. For some years, the National Society of Professional Engineers has published writings on the Codes of Ethics or Standards of Ethical Behavior to guide their members. Now, many state Boards of Registration for Engineers require a certain number of hours of ethical training to maintain registration or certification. There may be significant differences between states and it is imperative that professional engineers are familiar with the code of ethics in every state in which they are licensed and/or practice. (In many cases, the degree of reciprocity among the states is also important.) Further, schools are now offering course in ethical considerations. In an effort to address corporate malfeasance, the U.S. Congress passed the Sarbanes-Oxley Act.

An important part of being a professional in any discipline (certainly including engineering) and adhering to a code of ethics involves practicing only in one's area of competence. In order to stay abreast of rapid technological developments, continuing evaluation (in its broadest form) is essential. Studies of ethics are an integral part of continuing education.

A real danger for professionals is succumbing to ethical lapses which may appear minor at the time but which lead to the following: (1) after the first small step, the world doesn't end; (2) after the next step there is still no repercussion; (3) more steps follow until the final reckoning, at which time it's too late to retreat; (4) the bottom of a slippery slope has been reached and climbing out is difficult, if not impossible. The end result is a ruined reputation. The obvious solution? – don't cut the first corner.

A tremendous volume of material has been written on the philosophical and theoretical aspects of ethics. However, sometimes a single pithy statement can drive home the point more effectively than many words. Such a comment was made by the former U.S. Senator from Wyoming, Alan Simpson. He said "If you have integrity, nothing else matters. If you don't have integrity, nothing else matters."

## DISCUSSION

Experience has shown that group discussion of ethical matters can be more effective than a lecture format. Appendix A is a set of questions to be presented to and discussed by attendees. In some cases, there might not be a consensus position reached by the audience. If so, this may be healthy inasmuch as a variety of opinions can open new areas of thought.

Appendix B presents several case histories (based on actual situations). The attendees are encouraged to share their personal perspectives.

Appendix C is a summary of major concepts contained in a unique book Cowboy Ethics- The Code of the West.

## APPENDIX A

### Questions for Discussion

1. The first duty of any professional engineer is to place the safety, health and welfare of the public above all else. What does this have to do with petroleum engineers?
2. It's been said that our modern society is experiencing an epidemic of ethical lapses. Do you agree? If your answer is "yes", what are the causes?
3. Not all professional engineering societies or associations require professional registration or certification as a condition of membership. In such cases, should ethics training be required of their members?
4. One School of thought is that a professional petroleum engineer should not, under any circumstances, accept compensation which is contingent on successful sale or financing of a property, reduction of taxes or serving as a finder or broker. Another view is that such compensation is ethical providing full disclosure of the compensation is made to all parties involved. What is your opinion?
5. Ethics courses are now being required at some colleges and universities. Do you think ethics can be "taught"?- or are we really talking about presenting ethics "awareness"?
6. The Sarbanes-Oxley Act was put into place as a result of numerous unethical actions by corporations (or corporate management). Do you think, on balance, this legislation was necessary and effective?
7. Under Sarbanes-Oxley, professional evaluator employees may exhibit totally ethical performance but be overridden by actions of management. Should there be a move to provide additional protection to professionals who become "whistle-blowers"?
8. Many professional petroleum-oriented organizations address ethical behavior and specific procedures for handling complaints and providing censures involving their members. Do you know of instances where such complaints were lodged and disciplinary action taken?
9. Have you served as an expert witness? If so, what insights and experiences can you share with the group?
10. If not for the ethics credit required of professionals, would you have attended this meeting?

## APPENDIX B

### Case Histories

#### Case I

##### Situation

Vermont Petroleum Company, operator of a waterflood unit, decided to initiate CO<sub>2</sub> injection. The company has operating personnel but is not staffed with engineers experienced in design of surface and subsurface equipment for such a project. Management decided to utilize services of an independent professional consulting engineer, Walter Winston, in designing and supervising installation of all equipment for the project.

Winston is highly experienced in dealing with downhole completions, tubular goods and equipment, and in fact his widely regarded as an expert in that area. However, he has not had direct experience in design, selection and installation of facilities for handling fluids in such a project. Winston is ambitious and wants to undertake all elements of the assignment in order to expand his experience and to further enhance his reputation. He believes he can do sufficient self study to handle the project correctly. Further, he plans to rely on advice and expertise of representatives of vendors of necessary equipment.

##### Question

Is Winston within ethical standards of engineering practice? Why or why not?

#### Case II

##### Situation

Ima Opportunist has her own consulting firm. She entered into a six month retainer relationship with The Trustworthy Company. She worked closely with a Trustworthy engineering employee, Terrence Trueblue, who had just recently graduated from college.

Ima was very impressed with the job performed by Terrence. Three months into her engagement with Trustworthy, she offered Terrence a job with her consulting firm.

### Question

Was it unethical for Ima to attempt hiring an employee of the company, which had retained her consulting services while the contract was still in force? Would it have been ethical to make him an offer after the contract period had expired?

### CASE III

#### Situation

Seymour Hy Billings and Dub L. Charges are principals in the consulting geological and engineering firm of Billings and Charges. Frequently, they perform comprehensive geological, engineering and economic studies of fields or improved recovery units. They then bill the client on a conventional basis for their per diem professional fees and all third party costs.

In the subject case, they evaluated the Golconda Field Unit and sent their client (client A) a bill for \$25,000. Most, but not all, of the data utilized were derived from public sources. Most of the information provided by Client A consisted of core data, mud logs, and DST reports not normally available from public sources. A year later, another client (client B) retained Billings and charges to do a similar study. Billings and Charges spent a relatively small amount of time and money to update the prior study. Their earlier arrangement with Client A did not provide for maintaining confidential the limited data provided by the client nor did it address constraint of future use of that data.

Upon completion of the updated study, Billings and Charges sent Client B an invoice for \$25,000, although the incremental time and expenses to do the updating were only a small fraction of the cost of the study made a year earlier. Their rationale was that the study was “worth” \$25,000 to whatever client received the report and that the report was equivalent to an inventory item on the shelf which could be sold and resold several times. The fact that Billings and Charges realized a much greater profit margin on the updated report was considered to be immaterial, in their thinking.

### Question

Was the billing to Client B fair, reasonable and ethical, or should only the incremental fees and costs have been billed?

### CASE IV

#### Situation

This situation deals with a matter commonly encountered in the oil industry- the area of mutual interest (AMI).

A geologist, Mark D. Mapper, developed a prospect involving a 9000-foot objective. He turned the deal to an independent, Les B. Honest, who sold the deal to three individual investors. The offering brochure and the Operating Agreement contained an AMI covering 1280 acres (Block A). The objective feature was interpreted as an essentially symmetrical, domal structure; boundaries of the AMI were approximately one-half mile, in all directions, from the lease block. Terms of the deal included carrying Les for a 25% WI to casing point on the initial well. Costs of subsequent wells were to be on a heads-up basis. Mark received a cash bonus and a 2 ½% ORRI.

The primary objective was dry. However, electric and mud logs indicated the Upper Windfall sand, at 6000 feet, might be productive. The initial well was plugged back and completed as a good Upper Windfall producer. A development program followed, which resulted in six more Upper Windfall producers and no dry holes. Mark had been retained, on a per diem basis, to sit the wells and keep maps updated. After the sixth successful confirmation well, Mark interpreted the Upper Windfall feature as a narrow, elongated stratigraphic trap, trending essentially east-west. Meanwhile, Les B. Honest did not obtain leases on lands located immediately east of Block A, and within the AMI. Another operator, however, did lease these lands and drilled two productive Upper Windfall producers immediately east of Block A. Mark came to Les and suggested the producing trend might continue even further to the east but definitely outside the original AMI.

Les then assembled a 960-acre block (Block B) via lease and farmout. He called a meeting of his three original investors and offered them participation in Block B on the same terms as had applied to Block A (a 25% carry to casing point for Les on the initial well on Block B). One of the investors, I.M. Sharp, took the position that he and the other original investor should be allowed to participate in Block B on a heads-up basis on the theory that it had

been set up by drilling Block A. Therefore it was only fair that the investors not be “re-promoted.” Les defended his position, claiming that “a deal is a deal,” i.e., the AMI for Block A had been clearly defined and agreed to by the investors, all of whom were experienced and acknowledgeable oil men. Further, the fact that the Upper Windfall play might extend beyond the AMI of Block A (while unforeseen) actually was a fortunate event which amply rewarded the investors.

### Questions

Although Les’s attitude about Block B was certainly legal, was it fair and ethical? Was he being unduly strict with his investors who put up the risk money to drill the initial well on Block A? Did Les violate a fiduciary responsibility by letting another party lease lands offsetting Block A?

### APPENDIX C

#### COWBOY ETHICS – THE CODE OF THE WEST

By: James P. Owen

#### THE CODE OF THE WEST

1. Live each day with courage
2. Take pride in your work
3. Always finish what you start
4. Do what has to be done
5. Be tough, but fair
6. When you make a promise, keep it
7. Ride for the brand
8. Talk less and say more
9. Remember that some things aren’t for sale
10. Know where to draw the line