

Ethical Problems in Engineering

Tau Beta Pi – Ethics Discussion : Problem 1

A paper manufacturing corporation is dominated by its president, who is a member of American Society of Mechanical Engineers (ASME). This company obtains its power from a generating station of which the president is principle owner, and it pays considerably more for the power than would be charged by a competing utility. Stockholders in the paper company grumble considerably, but they are not influential enough to make any difference. Is this sort of thing altogether permissible? Would it be permissible if the president owned 51 percent of each company?

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After receiving a firm's expression of interest in furnishing engineering services, a representative of an eastern state asked one of the partners to meet with him at a local hotel. At this meeting, the representative informed the partner that to obtain work from that state's highway department a contribution would be required, and he stated the amount of the contribution for a particular job.

Subsequently it became known to the partner, through talking to other interested engineers, that this procedure is more or less common knowledge. One engineer, a resident of the state, said that the highway department occasionally retains him on small projects but he never obtains work of consequence because he has consistently refused to contribute. A state senator in the same state has said that it is also common practice for local lawyers to represent engineers in soliciting work. The lawyers are paid substantial fees by the engineers, who do not ask for an accounting or disposition of the fees.

(From a letter to the Case Book Committee, ASEE)

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Tau Beta Pi – Ethics Discussion : Problem 3

An engineer, by means of a circular letter addressed to all landowners in a certain area, offers to survey property at a reduced but stated fee if the offer is accepted before a certain date. The letter explains that this is possible by making a number of adjoining property surveys at one time. Is it not ethical to pass along savings to the persons served?

(From a letter to the Ethics Committee, ASEE)

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Tau Beta Pi – Ethics Discussion : Problem 4

An engineer employed by a corporation is instructed by his immediate supervisor, because of the pressures of management to obtain business, to be lenient on factors of safety in order to reduce manufacturing costs. The engineer believes that this procedure will jeopardize the health and safety of the workmen. What should he do? Is it sufficient for him simply to state his convictions to his superior? If there is no concession on the part of the superior, and, if the engineer desires to preserve his ethical standards, is it incumbent upon him to resign? If an engineer is known to be one who criticizes the ethics of his previous employers, is he generally looked upon as a desirable employee? If he quits, what reasons would he give to his future prospective employer? His family's security may be destroyed if he does not find the right answers.

(From a letter submitted to the Ethics Committee, ASEE)

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Tau Beta Pi – Ethics Discussion : Problem 5

A young engineer in Department X is assigned a problem by supervisor Doe. The problem originated in Department Y, and Doe has a “feel” of the answer expected by Department Y. The recommendations made by the engineer are not fully agreed to by Doe, who asks the engineer to change them in a formal written report. What should he do?

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Tau Beta Pi – Ethics Discussion : Problem 6

An engineer is employed on a part-time basis by a small city which cannot afford a full-time engineer. The city commissioners know the engineer also works for clients who are land developers. The engineer, in his private consultant's role, prepares plans for a client. The client then presents these plans to the city officials, who turn them over for approval to their engineer, who has now changed to his city engineer's hat. Is there a conflict of interest here? Is the engineer acting unethically? Should city taxes be raised to hire a full-time engineer to prevent this type of thing?

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Tau Beta Pi – Ethics Discussion : Problem 7

A faculty member is employed part-time as a technical consultant for an outside company. Because of his enthusiasm – or perhaps as a means of demonstrating to the official of the company hiring him that he has that company's interests uppermost in his mind – he permits himself to become also an active recruiter of technical personnel for that company on his campus.

Is it ethical to make all companies feel that you are anxious to place graduates with them?

(From a letter to the Ethics Committee, ASEE)

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Tau Beta Pi – Ethics Discussion : Problem 8

A corporate executive needs to hire some young graduates. He knows that the success of his department will depend upon his ability to hire men who are honest, dependable, able, and not afraid of hard work. To him, the practice of cheating in school indicates that the student who cheats is likely either to be dishonest, lazy, incompetent, or lacking in confidence – and perhaps all of these things.

Would the executive be justified in eliminating all students from his consideration who had been caught cheating in college, regardless of how small the cheating may have been?

If the student's professor knew the attitude of the executive, would he be justified in withholding such information if he himself had confidence in the student?