

## **Homework #3 (Engineering Ethics)**

### **Reading Assignment:**

- 1) Read Chapter 5 Engineering Fundamentals – An Introduction to Engineering, 3<sup>rd</sup> Edition by Moaveni.
- 2) NSPE Code of Ethics (included in Chapter 5 above and in course notes)
- 3) Read the notes provided in the weekly presentation

### **Problem Assignment:**

For each of the following ethics problems:

- A) Write 1 - 2 paragraphs discussing your answer and the reasoning behind your answer.
- B) Be sure to **quote and give the reference** for the section(s) of the NSPE Code of Ethics that has (have) been violated in each case (for example, Section 2a under the Rules of Practice states that "Engineers shall undertake assignments only when qualified by education or experience in the specific fields involved." so John Doe should .....).
- C) Consider how compromises or agreements might be reached.
- D) Proper use of grammar and clarity in your answers will be a factor in the grading.

Reference: Burghardt, Introduction to the Engineering Profession, 1995.

1. You are an engineer working for an oil company. The company locates a gas field near a historic trail used by settlers in the westward migration. Local citizens are upset by the prospect of drilling and transporting the gas, as the trail is of historic significance and its ecology will be destroyed. Discuss the issues involved and factors that you would use in trying to resolve the conflict.
2. An engineering firm has signed a contract for the design of a small flood-control dam. The firm does not have someone on staff with this specific design experience, nor does it have the budget to hire an expert. It assigns the task to someone whose experience is nearest to that needed to design the dam. Discuss the decision in light of the NSPE Code of Ethics.
3. You are working for a large company and your supervisor tells you to charge your time to a project other than the one you are working one because its budget has been expended. Does this violate a section of the NSPE Code of Ethics? What are your possible courses of action?

(over)

4. You have an opportunity to work for a defense contractor at an attractive salary with many of the benefits you want in a professional workplace. A problem with the position is that you will have to work on weapons systems. What ethical questions should you resolve, if any? Would accepting the job violate a section of the NSPE Code of Ethics?
5. You and a colleague are working on a technical paper to be presented at a national conference. Before the paper is presented, your colleague is fired from the company, and your superior wants you to give no recognition of your colleague's contribution to the paper. Several alternatives are open to you:
  - give the paper as the sole author
  - give the paper acknowledging your ex-colleague (risking your position with the company)
  - do not present the paper
  - take some other action

Discuss what you would do and what section(s) of the NSPE might influence your decision.

6. Nearing graduation, a college senior decides to interview at a company in another state for a job that he has no intention of taking. He accepts the expense-paid trip. What elements of the NSPE Code of Ethics are involved?
7. Discuss whether the NSPE Code of Ethics implies that engineering firms should provide engineers employed by the company with time off and tuition compensation for advanced degrees.
8. Read the ethics case study "*Services – Same Services for Different Clients: Case No. 00-3*" in the textbook and discuss the question at the end of the case study.
9. Read the ethics case study "*Use of Alleged Hazardous Materials in a Processing Facility: Case No. 99-11*" in the textbook and discuss the question at the end of the case study.