

## What ethics means to engineers

The ethics dilemmas typical engineers face in their careers are probably not the stuff that sells newspapers. While there have been some widely published accounts of bribery, disregard for safety, and deceit, an engineer is more likely to deal with conflicts of interest, or confidentiality concerns. "Engineers can deal with the black and white issues pretty easily," says Arthur Schwartz, Deputy Executive Director and General Counsel of the National Society of Professional Engineers. "But there are gray areas where two ethical principals conflict with each other. For example, the duty to protect the public health and safety sometimes conflicts with the obligation to maintain confidential information for a client," he adds.

Schwartz offers an example he uses to foster discussion when he gives presentations: An electrical engineer is employed by a state agency as a computer systems engineer with some management responsibilities. He's educated and trained to perform engineering services, but he's never been involved in the environmental field. After some agency restructuring, his supervisor recommends he take a position in the department of environmental services. So now he's faced with an ethical situation. He is a licensed professional engineer (PE), which the position

requires. It also involves engineering analysis and design responsibilities and working as part of a team. The engineer refuses the position, claiming the state licensing board requires him to perform his work only in his area of competency, and that he lacks expertise to perform these services. The employer says if he's not willing to take the position he will be out of a job.

"Was it ethical for the individual to decline the position? And was it ethical for the employer to insist that the individual accept the position? Who determines if an individual is competent to practice? Is it the individual, the employer, or the client?" Schwartz asks. "The general rule is the individual makes that determination. You know what you're good at."

But the discussion doesn't end there. Schwartz likes to ask his audience who among them has a degree in one field of engineering but is now practicing in another field. "Typically a large number of the audience raises their hands. Perhaps a degreed mechanical engineer is working for a consulting engineering firm and doing site plans, which constitutes civil engineering. Is that unethical?"

Another point about the example is that the engineer is not being asked to take full responsi-

bility for the work, but is part of a team of engineers. So it's not falling upon this person's shoulders.

"We get into a discussion about the balancing act involved. Typically someone in the audience is a manager or an employer who expresses the need to staff for different types of projects and work. He wants to keep everybody on the team but finds it necessary to bend a little. So there are a lot of considerations," he adds.

Schwartz also notes there is guidance available in the public body of knowledge, including codes of ethics, written opinions, and training programs. NSPE has had a board of ethical review since the 1950s and has an extensive library of case studies published on its Web site, *nspe.org*, under Ethics. "We've examined a lot of issues over the years. The board reviews them and renders opinions," he adds.

Schools are also giving more attention to the study of ethics in undergraduate programs. In these classes they focus on case studies. "It's important to get students talking and thinking about these issues," says Schwartz. "The academic exercise helps them first identify what an ethical situation is, and then find an approach that makes sense. This way they are not at a loss when faced with actual situations." **MD**

## Is your company ethical?

There are a growing number of companies with formal ethics guidelines. Some even have formal procedures for employees to report instances of wrongdoing within the company. Visit [community.machinedesign.com/blogs](http://community.machinedesign.com/blogs) and click on Career Talk to read real examples of codes of ethics and post your own thoughts and experiences.

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