

Reality check: ethics and air bags

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I find that talking about ethics in the abstract is usually difficult and often not very interesting.

At the very least, the parties to the conversation should be familiar with a body of real examples that give meaning to the abstractions.

Therefore, I am going to focus here on a very recent, real case involving an experienced engineer who's an IEEE member. The technology at issue, automobile air bags, has important safety implications affecting large numbers of people. This case poses a major challenge to IEEE members about the role of our organization in the use of the technology we create.

Names and identifying information will be suppressed. The account presented here is based on information supplied by the engineer, who I shall call Bob.

After about six weeks on the job as a quality assurance engineer for a company involved in the development and manufacture of automobile air bags, Bob was asked to sign off on an important component. He learned that there were potentially serious problems with the component (it was part of the sensing system) and declined to sign.

He suggested to his manager that since he was new on the job and not fully knowledgeable about procedures or the details of the technology involved, he should not be required to go on record on the matter. His manager, however, insisted that he sign a form that would permit production of tens of thousands of air bags containing the devices.

Bob spoke with a number of the engineers and managers involved with the components in question. Their statements were not clear, but it was admitted that a number of the sensing devices had been found to be faulty. He came away with the impression that the technical problems were not being adequately addressed.

When Bob expressed his legal and moral concerns to his manager, he was told that the company had a legal department to take care of legal problems, and that the issue of false deployment of the air bags was a problem for the business people. He was accused of arrogance for raising the questions, and it became evident that his job was now at risk.

SEEKING HELP. At this point, Bob sought help from the IEEE. He contacted Walt Elden, a member of the Member Conduct Committee whose article on ethics had just been published in *THE INSTITUTE*. Walt referred Bob to me in the hope that I might

be able to advise him on an individual level and not in any IEEE capacity. (Since the termination of the IEEE Ethics Hotline, there is no mechanism for the IEEE to advise members on ethical issues.)

Having at that time only minimal information about his situation, I referred Bob to the "Guidelines for Engineers Dissenting on Ethical Grounds," an Ethics Committee document posted on the EC Web site (www.ieee.org/committee/ethics). I made it clear that I was acting as an individual and not representing the IEEE in any way.

About a month later, partly as a result of learning that he could not expect much, if any, help from the IEEE, Bob decided that he would not be able to accomplish anything useful on his own and saw no point in getting himself fired over the matter. He quietly resigned.

It seems clear that Bob is a conscientious engineer who tried his best to do his job properly. It is hard to see what else he could have done, particularly since he was new on the job and given the complex, apparently not well-organized nature of the project.

COULD WE CONTRIBUTE? How might the IEEE have made a useful contribution in this situation? It appears that Bob, on his own, was already acting in accordance with the spirit embodied in the aforementioned guidelines.

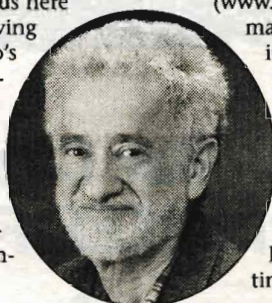
Perhaps if more extensive discussions had been held between him and the EC — my only contact with him was via a few brief e-mail messages — more specific, constructive ideas might have been generated.

It might have been useful if the EC could have quietly informed the manager involved that Bob had certain professional responsibilities that precluded him from endorsing a document that he thought might lead to endangering people and exposing the company to serious losses.

More generally, the IEEE might consider developing mechanisms for helping resolve such ethics-related conflicts between managers and engineers before they go critical. Even a minimal effort along such lines could have substantial beneficial consequences for all concerned.

Doing nothing leaves conscientious IEEE members such as Bob in untenable positions, and increases the likelihood of the public being exposed to defective technology.

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United Engineering Center is sold by UET

NEW YORK CITY—The United Engineering Center was sold by the United Engineering Trustees (UET) to the Trump organization and a partner for US\$53.5 million. The sale will close on 1 Oct. 1998.

The proceeds will be divided among the five founder societies of the UET as a result of a change to the charter by the State of New York. The founder societies are the IEEE, the American Society of Mechanical Engineers, the American Institute of Chemical Engineers, the American Institute of Mining, Metallurgical and Petroleum Engineers, and the American Society of Civil

Engineers.

The building was never owned by the IEEE but by the UET, which was comprised of the five founder societies. The five will equally divide the proceeds, estimated to be between US\$8 million and US\$9 million.

The IEEE Charter requires a presence in the state of New York, and the IEEE is moving to offices at 3 Park Ave., along with the other four societies. Each society negotiated its own lease and decided to co-locate for practical reasons. There is no longer any financial, legal or operational connection among the five.