

USE OF ALLEGED HAZARDOUS MATERIAL IN A PROCESSING FACILITY

Case No. 99-11

Facts:

Engineer A is a graduate engineer in a company's manufacturing facility that uses toxic chemicals in its processing operations. Engineer A's job has nothing to do with the use and control of these materials.

A chemical called "MegaX" is used at the site. Recent stories in the news have reported alleged immediate and long-term human genetic hazards from inhalation of or other contact with MegaX. The news items are based on findings from laboratory experiments, which were done on mice, by a graduate student at a well-respected university's physiology department. Other scientists have neither confirmed nor refuted the experimental findings. Federal and local governments have not made official pronouncements on the subject.

Several colleagues outside of the company have approached Engineer A on the subject and ask Engineer A to "do something" to eliminate the use of MegaX at the processing facility. Engineer A mentions this concern to her manager who tells Engineer A, "Don't worry, we have an Industrial Safety Specialist who handles that."

Two months elapse and MegaX is still used in the factory. The controversy in the press continues, but since there is no further scientific evidence pro or con in the matter, the issues remain unresolved. The use of the chemical in the processing facility has increased and now more workers are exposed daily to the substance than was the case two months ago.

Question:

Does Engineer A have an obligation to take further action under the facts and circumstances?

References:

Section II.1. - Code of Ethics: *Engineers shall hold paramount the safety, health and welfare of the public.*

- Section II.1.a. - Code of Ethics: *If engineers' judgment is overruled under circumstances that endanger life or property, they shall notify their employer or client and such other authority as may be appropriate.*
- Section II.2. - Code of Ethics: *Engineers shall perform services only in the areas of their competence.*

Discussion:

The present case presents one of the most fundamental ethical issues that engineers sometimes face in their professional careers – how far is an engineer ethically required to go in order to comply with NSPE Code? This question involves a variety of competing concerns and interests relating to the engineers responsibilities to the public health and safety and the engineers obligations to his or her employer or clients.

The Board has had at least one opportunity to consider the responsibilities of an engineer in connection with hazardous material in the past. In Case 92-6, Technician A was a field technician employed by a consulting environmental engineering firm. At the direction of his supervisor Engineer B, Technician A sampled the contents of drums located on the property of a client. Based on Technician A's past experience, it was his opinion that analysis of the sample would most likely determine that the drum contents would be classified as hazardous waste. If the material is hazardous waste, Technician A knew that certain steps would legally have to be taken to transport and properly dispose of the drum, including notifying the proper federal and state authorities. Technician A asked his supervisor Engineer B what to do with the samples. Engineer B told Technician A only to document the existence of the samples. Technician A was then told by Engineer B that since the client does other business with the firm, Engineer B will tell the client where the drums are located but do nothing else. Thereafter, Engineer B informed the client of the presence of drums containing "questionable material" and suggests that they be removed. The client contacts another firm and has the material removed. In deciding that Engineer B's actions were unethical, the Board noted that Engineer B's responsibility under the facts was to bring the matter of the drums possibly containing hazardous material to the attention of the client with a recommendation that the material be analyzed. To do less would be unethical. If analysis demonstrates that the material is indeed hazardous, the client would have the obligation of disposing of the material in accordance with applicable federal, state and local laws.

Under the fact in this case, the Board believes Engineer A did all that could be required of an engineer to comply with the requirements of the NSPE Code. Unlike Case 92-6, there is nothing to suggest any illegal or improper actions or conduct by Engineer A's employer. While Engineer A may have had an obligation to raise the issue with the employer, which Engineer A did when she mentioned the issue to her manager, to take further unspecified action, in light of the facts, would have been

premature and also unreasonable under the circumstances. Engineer A was not directly involved in the use or control of the substance in question and therefore presumably had no actual experience with the substance. In addition, the concerns about the substance were raised to Engineer A by individuals outside of the company who may have had a bias. It is unclear whether such individuals' comments were based upon scientific or engineering data or whether they were expressions of purely personal viewpoints. In addition, while there may have been news stories discussing the alleged dangers involved with the substance, scientific evidence was still in dispute and no governmental action had been taken to eliminate the use of the substance. On this basis, it is clear that any further actions taken by Engineer A would have been premature and could have easily jeopardized the interests of Engineer A's employer.

Furthermore, it is entirely unclear what actions Engineer A could have taken under the circumstances. News and information about the substance were well publicized and the company indicated that it was taking appropriate steps to safeguard company employees. A vague and unsubstantiated concern about safety based upon conjecture and speculation is hardly a basis upon which to take action. However, should Engineer A become aware of facts which would change these conclusions, she should pursue the matter further.

Conclusion:

Engineer A has no obligation to take further action under the facts and circumstances.

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