

## **Protection of the Public Health and Safety – Obligations of Engineer Relating to Environmental Concerns**

### **Case No. 04-5**

#### **Facts:**

A company which has recently been cited for state environmental law violations is seeking a variance from a state environmental regulation because the cost to comply would be very high. The company plant is in need of modernization.

Engineer A works for the state environmental department and has been assigned to review the variance request. Engineer A is very experienced, having worked on the original regulation as a technical expert, and he is also familiar with industry practices and operations. Following a review, Engineer A makes a preliminary recommendation that the state environmental department decline to issue the variance, and he informs the agency head, who is not an engineer, of this matter. Following a meeting between the agency head, and the company, the agency head directs Engineer A to issue the variance. Part of Engineer A's responsibility will be to testify at the state pollution control board hearing describing the technical grounds for approving the request.

#### **Question:**

What are Engineer A's obligations under these circumstances?

#### **References:**

- Section I.1. - NSPE Code of Ethics: *Engineers shall hold paramount the safety, health, and welfare of the public.*
- Section II.1.a. - NSPE 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.3.a. - NSPE Code of Ethics: *Engineers shall be objective and truthful in professional reports, statements, or testimony. They shall include all relevant and pertinent information in such reports, statements, or testimony, which should bear the date indicating when it was current.*
- Section III.2.b. - NSPE Code of Ethics: *Engineers shall not complete, sign, or seal plans and/or specifications that are not in conformity with applicable engineering standards. If the client or employer insists on such unprofessional conduct, they shall notify the proper authorities and withdraw from further service on the project.*
- Section III.8.a. - NSPE Code of Ethics: *Engineers shall conform with state registration laws in the practice of engineering.*

**Discussion:**

Engineering practitioners, especially those working as employees in industry and government, occasionally face situations and circumstances involving engineering or technical matters that place the engineers in conflict with managers in positions of authority who are not engineers. Engineers possess critical engineering skills and technical knowledge that affect the public safety and welfare. While industrial and governmental managers who are not technically trained often rely upon the expertise and judgment of engineers, at times these managers face institutional and political pressures which may influence them to limit their reliance or to simply ignore critical engineering and technical considerations. Experience is replete with examples where such engineering and technical considerations were ignored by managers which resulted in unfortunate and even catastrophic events. Managers and key decision-makers who ignore these considerations do so at great peril to themselves, to their organizations, but most importantly to the public.

The NSPE Board of Ethical Review has examined this issue on many occasions. For example, BER Case No. 76-4 involved the XYZ Corporation which had been advised by a State Pollution Control Authority that it had 60 days to apply for a permit to discharge manufacturing wastes into a receiving body of water. XYZ Corporation was also advised of the minimum standard that must be met. In an effort to convince the authority that the receiving body of water would still meet established environmental standards after receiving the manufacturing wastes, the corporation employed Engineer Doe to perform consulting engineering services and submit a detailed report. After completion of his studies but before completion of any written report, Doe concluded that the discharge from the plant would lower the quality of the receiving body of water below established standards. He further concluded that corrective action would be very costly. Doe verbally advised the XYZ Corporation of his findings. Subsequently, the corporation terminated the contract with Doe with full payment for services performed, and instructed Doe not to render a written report to the corporation. Thereafter, Doe learned that the authority had called a public hearing and that the XYZ Corporation had presented data to support its view that the present discharge would meet minimum standards. In finding that Doe had an ethical obligation to report his findings to the authority upon learning of the hearing, the NSPE Board of Ethical Review noted that upon learning of the hearing, Doe was squarely confronted with his obligations to the public concerning its safety, health, and welfare. The NSPE Code of Ethics required that his duty to the public be paramount. In this case, it was presumed that a failure to meet the minimum standards established by law was detrimental to the public health and safety.

BER Case 98-5 provides another illustration of this dilemma. Here, Engineer Charlie served as director of a building department in a major city where, as a result of a series of budget cutbacks and more rigid code enforcement requirements, he became concerned

that his staff would be unable to perform adequate and timely building inspections. Engineer Charlie met with the chairman of the local city council to discuss his concerns. The chairman indicated that he was quite sympathetic to Engineer Charlie's concerns and would be willing to issue an order to permit the hiring of additional code officials for the building department. However, at the same time, the chairman noted that the city was seeking to encourage more businesses to relocate into the city in order to provide more jobs and a strengthened tax base. In this connection, the chairman sought Engineer Charlie's concurrence on a city ordinance that would permit certain specified buildings under construction to be "grandfathered" under the older existing enforcement requirements and not the newer, more rigid requirements now in effect. Engineer Charlie agreed to concur with the chairman's proposal, and the chairman issued the order to permit the hiring of additional code officials for the building department, which Engineer Charlie believed the city desperately needed.

The Board acknowledged that Engineer Charlie might interpret the situation as one involving "trade-offs" in which one must weigh one "public good" (a better building inspection process) against a competing or concurrent "public good" (a consistent code enforcement process). In such a situation, the engineer could arguably rationalize a decision to compromise, and this is frequently done in the political arena. However, the Board rejected the logic of compromise and concluded that it was not ethical for Engineer Charlie to agree to concur with the chairman's proposal. Noting that past BER opinions present a constant theme that the engineer must hold the public health and safety paramount, the Board concluded that Engineer Charlie had a responsibility to make it plain and clear to the chairman that "righting a wrong with another wrong," does grave damage to the public health and safety. If the integrity of the building code enforcement process were undermined for short-term gain, the city, its citizens, and its businesses would be harmed in the long term. Rather than help, compromise would damage the public.

Likewise in the present case, Engineer A has an obligation to provide a recommendation to superiors based upon the available technical data and Engineer A's best professional judgment. It would be ethically improper for Engineer A to sign a report or testify for the agency about conclusions, that are, in Engineer A's professional opinion, incorrect. As a licensed engineer, such actions could expose Engineer A to disciplinary action by the state engineering licensure board. Moreover, the agency should also be made aware that pressuring Engineer A to testify against Engineer A's professional judgment is without question placing Engineer A (and the agency) at considerable risk. Furthermore, the agency should be aware that the appearance of "adjusting standards" for the benefit of a non-complying company could expose the agency and its employees to intense media scrutiny/investigation, governmental inquiry and ultimately, legal liability, separate and apart from the ethical considerations involved.

As a practical matter, it might prove helpful for Engineer A to suggest to the agency that Engineer A's recommendations be reviewed by an independent third party expert. Ultimately, the objective should be to promote the public safety, health, and welfare, without compromise.

**Conclusion:**

Engineer A has an obligation to provide a recommendation to superiors based upon the available technical data and Engineer A's best professional judgment. If the superiors reject the recommendation, it would be unethical for Engineer A to testify in favor of the variance.

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