

## **Public Health, Safety, and Welfare—Water Testing Equipment**

Case No. 16-1

### **Facts:**

Engineer A, a professional engineer, is employed by H2O Corp., a mid-sized industrial company involved in the design and manufacturing of equipment used in water quality testing. Six months earlier, Engineer A observed that certain new water quality testing equipment that was being designed and manufactured by the company met water quality testing equipment standards based on in-house testing but failed outside testing performed by an independent laboratory. Engineer A raised his professional and technical concerns about the equipment with his non-engineer supervisor, Smith. Smith replied that he would look into the matter, but after several months, the equipment continued to fail to meet state water quality testing equipment standards based on outside testing performed by the independent laboratory.

Smith asks that Engineer A accompany Smith to a meeting with a government regulator involved in the approval process for water quality testing equipment providers on public water projects. Prior to the meeting, Smith requests that Engineer A report to the regulators that H2O Corp.'s new testing equipment is currently on track to meet the water testing equipment standards.

### **Question:**

What are Engineer A's ethical obligations under the circumstances?

### **NSPE Code of Ethics References:**

- Section I.1. - *Engineers, in the fulfillment of their professional duties, shall hold paramount the safety, health, and welfare of the public.*
- Section I.3. - *Engineers, in the fulfillment of their professional duties, shall issue public statements only in an objective and truthful manner.*
- Section I.4. - *Engineers, in the fulfillment of their professional duties, shall act for each employer or client as faithful agents or trustees.*
- Section I.5. - *Engineers, in the fulfillment of their professional duties, shall avoid deceptive acts.*
- Section II.1.b. - *Engineers shall approve only those engineering documents that are in conformity with applicable standards.*
- Section II.1.c. - *Engineers shall not reveal facts, data, or information without the prior consent of the client or employer except as authorized or required by law or this Code.*
- Section II.1.d. - *Engineers shall not permit the use of their name or associate in business ventures with any person or firm that they believe is engaged in fraudulent or dishonest enterprise.*
- Section II.1.e. - *Engineers shall not aid or abet the unlawful practice of engineering by a person or firm.*

- Section II.1.f. - Engineers having knowledge of any alleged violation of this Code shall report thereon to appropriate professional bodies and, when relevant, also to public authorities, and cooperate with the proper authorities in furnishing such information or assistance as may be required.*
- Section II.3.a. - 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.1. - Engineers shall be guided in all their relations by the highest standards of honesty and integrity.*
- Section III.1.b. - Engineers shall advise their clients or employers when they believe a project will not be successful.*
- Section III.3.a. - Engineers shall avoid the use of statements containing a material misrepresentation of fact or omitting a material fact.*
- Section III.4. - Engineers shall not disclose, without consent, confidential information concerning the business affairs or technical processes of any present or former client or employer, or public body on which they serve.*

### **NSPE BER Case References: 84-5; 89-7**

#### **Discussion:**

Among the professional engineer's most fundamental professional obligations is the responsibility to hold paramount the public health, safety, and welfare. Key to performing this obligation is to be honest and truthful in professional testimony and reports. These obligations are at the core of the ethical duties and responsibilities of all professional engineers. Honesty and truthfulness relate to public or private statements, oral or written communications, reports, articles, promotional materials, studies, analysis, recommendations, and other similar professional deliverables. At the same time, professional engineers have an obligation to act as faithful agents and trustees for their clients in the professional work. How to address and balance these concerns is fundamental to engineering ethics.

Over the years, the NSPE Board of Ethical Review has reviewed many cases relating to this obligation, such as BER Case 89-7. In that case, Engineer A was retained to investigate the structural integrity of a 60-year-old occupied apartment building, which his client was planning to sell. Under the terms of the agreement with the client, the structural report written by Engineer A was to remain confidential. In addition, the client made it clear to Engineer A that the building was being sold "as is" and the client was not planning to take any remedial action to repair or renovate any system within the building prior to its sale. Engineer A performed several structural tests on the building and determined that it was structurally sound. However, during the course of providing services, the client confided in Engineer A and informed him that the building contained deficiencies in the electrical and mechanical systems, which violated applicable codes and standards. While Engineer A was not an electrical nor mechanical engineer, he did realize those deficiencies could cause injury to the occupants of the building and so informed the client. In his report, Engineer A made a brief mention of his conversation with the client concerning the deficiencies; however, in view of the terms of the agreement, Engineer A did not report the safety violations to any third party.

In determining that it was unethical for Engineer A not to report the safety violations to the appropriate public authorities, the Board of Ethical Review first noted that the facts presented raised a conflict between two basic ethical obligations of an engineer: to be faithful to the client and not disclose confidential information concerning the client's business without consent, and to hold paramount the public health and safety. In its review, the Board noted that Code Section III.4 can be clearly understood to mean that an engineer has an ethical obligation not to disclose confidential information concerning the business affairs of any present client without the consent of that client. That provision makes no specific exception to the language. For example, the drafters of the Code could have provided exceptional circumstances in which such confidential information could be disclosed by the engineer; however, no such provisions have been included.

However, after noting the significance of III.4, the Board stated: "We believe, under the facts, Section II.1.c. should be read in conjunction with Section II.1.a. The latter section refers to the primary obligation of the engineer to protect the safety, health, property, and welfare of the public. The obligation of the engineer to refrain from revealing confidential information, data, facts concerning the business affairs of the client without consent of the client is a significant ethical obligation. We further believe that matters of public health and safety must take precedence. The NSPE Code of Ethics is clear on this point. Section I.1. employs the word 'paramount' to describe the obligation of the engineer with respect to the public health and safety."

The Board noted in BER Case 89-7 that Engineer A could have taken other steps to address the situation, not the least of which was his paramount professional obligation to notify the appropriate authority if his professional judgment is overruled under circumstances where the safety of the public is endangered. Instead, Engineer A, like the Engineer in the following BER Case 84-5 'went along' and proceeded with the work on behalf of the client. In case 84-5, the engineer recommended to a client that a full-time, on-site project representative be hired for the project because of the potentially dangerous nature of implementing the design during the construction phase. When the client indicated to the engineer that the project would be too costly if such a representative were hired, the engineer acceded to the client's wishes and proceeded with the work. This was not ethical under the NSPE Code.

Turning to the facts in the present case, it is this Board's view that the analysis and reasoning in BER Cases 84-5 and 89-7 were sound. In the present case, Engineer A possessed the education, experience, qualifications, and competence to determine whether the company's water quality testing equipment met the regulatory standards in question. Engineer A's immediate supervisor was not an engineer nor a professional engineer and had an entirely different role and responsibility within the company. The fact that there was a conflict between the in-house testing and the testing by an outside independent laboratory was significant. For that reason, it was incumbent upon Engineer A—in both his obligation to protect the public health, safety, and welfare as well as his obligation to act as faithful agent and trustee—to take

all necessary steps to be certain that the water testing equipment met the regulatory standards, and, if they did not, to recommend a plan to achieve compliance. Engineer A is not obligated in any way to mislead or deceive regulatory authorities into believing that H2O Corp. was on track to meet the prescribed water testing equipment standards. Therefore, Engineer A has an obligation to discuss with Smith his concerns regarding the current failure of the water testing equipment to meet the regulatory standards and to develop a plan and agreement with Smith, prior to their meeting with the regulatory authority, on how and when they would achieve regulatory compliance. It is the Board's view that, by pursuing this approach, Engineer A would be taking appropriate steps to protect the public health and safety in an honest and forthright manner, while preserving the company's confidentiality and acting as a faithful agent and trustee to it.

**Conclusion:**

Engineer A has an obligation to discuss with Smith his concerns regarding the current failure of the water testing equipment to meet the regulatory standards and to develop a plan and agreement with Smith, prior to their meeting with the regulatory authority, on how and when they would achieve compliance. It is the Board's view that, by pursuing this approach, Engineer A would be taking steps to protect the public health and safety in an honest and forthright manner, while preserving the company's confidentiality and acting as a faithful agent and trustee to it. If Smith ignores Engineer A's recommendation, then Engineer A should report the concerns to Smith's supervisor. Additionally, Engineer A should report and recommend investigation of in-house testing issues to determine the reason for the discrepancy.

**Board of Ethical Review:**

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