



NATIONAL SOCIETY OF
PROFESSIONAL ENGINEERS

BOARD *of* ETHICAL REVIEW



CASE REVIEW:

Protecting Public Health, Safety, and Welfare

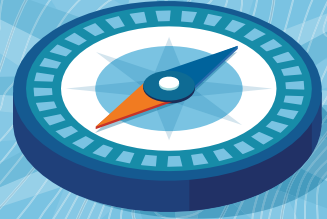
CASE NO. 20-21
APPROVED FEBRUARY 7, 2022

NSPE.ORG



NATIONAL SOCIETY OF
PROFESSIONAL ENGINEERS

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PROTECTING PUBLIC HEALTH, SAFETY, AND WELFARE

CASE NO. 21-10

APPROVED 6/28/22

FACTS:

City passes an ordinance requiring a sprinkler system in residences with less than eight feet between them and makes the ordinance effective as to all construction which has not yet received an occupancy permit. This means that projects under construction must have a sprinkler system added. Engineer A, who happens to have both structural and fire protection credentials, is hired by Homeowner to design a retaining wall system to stabilize a rear yard. Homeowner allowed Engineer A to store equipment in the integral garage. Engineer A observes that the builder routed the piping for the retrofitted sprinkler system through the unheated garage, exposing the pipes to freezing temperatures.

QUESTION:

1. What are Engineer A's obligations?

NSPE CODE OF ETHICS REFERENCES:

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| Preamble | As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity, engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct. |
| Section I.1. | Engineers, in the fulfillment of their professional duties, shall hold paramount the safety, health, and welfare of the public. |
| Section I.4. | Engineers, in the fulfillment of their professional duties, shall act for each employer or client as faithful agents or trustees. |
| 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.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 III.1.b. Engineers shall advise their clients or employers when they believe a project will not be successful.

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:

[76-4](#), [90-5](#), [17-3](#)

DISCUSSION:

The Board of Ethical Review (BER) has addressed question surrounding an engineer's duty to report risk to the public health, safety, and welfare on several occasions. For example, in BER Case [76-4](#), Engineer was hired to confirm discharge's effect on water quality will not be below standards. After analysis but before preparing a written report, Engineer verbally advises client that the discharge will reduce water quality below the standards and that remediation will be expensive. Client instructs Engineers not to file a written report, pays Engineer, and terminates the contract. Engineer learns that Client appeared at a public hearing with data showing compliance. Although this case is 45 years old and the specific words of the Code have

changed in the interim, the concepts are unchanged. Public health, safety, and welfare are the paramount concern of every engineer and preempt any obligation to clients. There is a clear risk to public health, safety, and welfare with a consequent clear duty to report.

In BER Case [90-5](#), Engineer was retained as an expert by Attorney for the landlord-defendant in a lawsuit involving non-structural functionality issues. Engineer discovered serious structural defects which Engineer believes constitute an immediate threat to the safety of the tenants. Engineer immediately informed Attorney. Attorney instructs Engineer to keep the information confidential since it is part of the lawsuit (which it is not – the tenants included no safety-related complaints).

The BER found that Engineer's obligation to protect the public health, safety, and welfare pre-empted Engineer's duty of confidentiality to Attorney and Attorney's client. Consequently, Engineer had an obligation to notify the tenants and the appropriate public authorities of the danger. [The BER did not discuss any consequences of the Attorney's deceptive practices.] There is a clear risk to public health, safety, and welfare with a consequent clear duty to report.

In BER Case [17-3](#), Forensic Engineer was retained to conduct a post-arson evaluation of a beam for possible re-use. Forensic Engineer determined that the beam had suffered little enough damage that it could be re-used. However, Forensic Engineer was concerned that the beam appeared to be too light for the loads it carried, ran the appropriate structural calculations, and determined that the beam was seriously undersized. Forensic Engineer includes the information in the written report, expressing the concern that the deficient design had been repeated in other tract homes in the development of the same design. The

BER held that Forensic Engineer had an obligation to notify individual homeowners, the local homeowners or community civic association, and local building officials of the findings. Again, there is a clear risk to public health, safety, and welfare with a consequent clear duty to report.

In the present case, there is no duty of confidentiality to the builder that would place any obligations of Engineer A in tension. That means that the inquiry is solely focused on whether Engineer A has a duty to intervene by notifying the homeowner.

Were the circumstances only slightly different and Engineer A observed clearly hazardous conditions such as frayed, sparking wires or a displaced collar on a water heater that is almost certain to be releasing carbon monoxide, then public health, safety, and welfare would clearly be at risk. However, in the present case, the direct risks are the inoperability of the sprinkler system and property damage from flooding resulting from frozen pipes.

If Engineer A has a duty to intervene, it would arise either because of an imminent risk to public health, safety, and welfare or from duties associated with Sections I.4 (faithful agent) and III.1.b (project won't be successful).

Frozen pipes could cause the sprinkler system to become inoperable, posing a potential risk to the public's health, safety, and welfare, triggering a duty to report the issue to the Owner/Client in writing.

The BER holds that Engineer A's duties under Sections 1.4 (faithful agent) and III.1.b (project won't be successful) require that Engineer A advise the Owner in writing of the risks associated with frozen pipes. Engineer A does not, however, have a duty to investigate or to recommend mitigation alternatives.

CONCLUSIONS:

If Engineer A reasonably believes that the probability of property damage is high and that the probable amount of property damage is significant, Engineer A has a duty to advise the Owner/Client of the risk.

If Engineer A reasonably believes that frozen pipes would cause the sprinkler system to become inoperable, Engineer A could reasonably conclude that there is an imminent risk to the public's health, safety, and welfare, triggering a duty to report the issue to the Owner/Client.

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