Public Health and Safety – Sealing of Bridge Investigation

Case No. 07-8

Facts:

Following construction, a bridge collapses as a result of a structural failure. Several individuals are killed or injured and there is significant physical damage to the area surrounding the bridge. An investigation is conducted, but before the results of the investigation are reported, a settlement is reached concerning the bridge collapse and the record is sealed in perpetuity by a court of law. Several engineering educators involved in structural engineering research, including Engineer A, prepare a petition and present it to public officials, requesting that the decision be reversed, calling the decision to seal the record "a brazen violation of engineering ethics and a hindrance to progress in engineering" since information that could be the subject of important research will be unavailable for study and research.

Questions:

1. Was it ethical for Engineer A to prepare a petition and present it to public officials, requesting that the decision be reversed?

2. Was it ethical for Engineer A to call the decision to seal the record "a brazen violation of engineering ethics and a hindrance to progress in engineering"?

References:

Section II.1.	-	*NSPE Code of Ethics:*	*Engineers shall hold paramount the safety, health, and welfare of the public.*
Section II.1.f.	-	*NSPE Code of Ethics:*	*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.	-	*NSPE Code of Ethics:*	*Engineers shall issue public statements only in an objective and truthful manner.*
Section III.2.a.	-	*NSPE Code of Ethics:*	*Engineers are encouraged to participate in civic affairs; career guidance for youths; and work for the advancement of the safety, health, and well-being of their community.*

Discussion:

The right of engineers to speak out on matters of public policy is implicit in the language of the NSPE Code of Ethics. While this right is certainly not absolute and must be exercised in a responsible and professional manner, there is nothing in the NSPE Code that places any direct limitation on this basic right, other than duties flowing from various NSPE Code provisions relating to honesty, objectivity, confidentiality, maintaining the honor and dignity of the engineering profession, conflicts of interest, and other similar provisions.

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As an example of the right to speak out, in BER Case No. 65-9, a state highway department prepared engineering data on alternate routes for a bypass of part of the interstate highway system in the state, including cost estimates for three possible routes. The highway department indicated it favored route "B." An official of a city located close to the proposed route publicly criticized the proposed route "B" because he felt it would endanger the city's water supply and be a detriment to the development of a lake as a proposed recreation area. A principal of a consulting engineering firm, which had performed the engineering work on a portion of the interstate highway to which the bypass would connect, issued a public letter, "To Whom Concerned," which was published in the local press, discussing the alternative routes. His letter stated disagreement with the cost estimates of the highway department and pointed out alleged disadvantages of the proposed route. The letter then suggested a fourth route ("D") which, it was claimed, would be superior to those previously suggested. The newspaper story containing the full text of the letter from the consulting engineer also quoted the city official as favoring route "D" proposed by the consulting engineer. In finding that it was ethical for the principal of a consulting firm to publicly express criticism of proposed highway routes prepared by engineers of the state highway department and to propose an alternative route, the Board noted that there was no indication that the consulting engineer was representing any client or that he was using his criticism as a means to advance his own personal interests. Inasmuch as the consulting engineer's firm had participated in the design of a related portion of the highway system, it was reasonable to assume that he did have adequate professional knowledge of the facts, nor was there any ground to indicate or imply that the criticism was malicious or unfair in any respect. Quoting BER Case No. 63-6, the Board indicated that "some aspects of an engineering problem will admit of only one conclusion, such as a mathematical equation, but it is a fallacy to carry this statement to the ultimate conclusion that all engineering problems admit of only one correct answer...There may also be honest differences of opinion among equally qualified engineers on the interpretation of the known physical facts. Assuming complete factual agreement...engineers can and do arrive at different conclusions based on their best understanding of the application of those facts."

A later BER opinion, Case No. 84-6, involved Engineer A, a candidate for the state legislature from a district in which there was a substantial percentage of unskilled workers who were represented by a union. In a particular plant where many of these employees worked, the third worker in a year was killed in an industrial accident. After many discussions between workers and management, the workers set up a picket line to protest what they claimed were unsafe working conditions and alleged management indifference to employee safety. During the political campaign, Engineer A visited the picket site and participated without having visited the plant to investigate the specific conditions of the previous accident. With television cameras focused on him, Engineer A held up a placard that accused the company of callous disregard for the workers and then joined the protesting employees in the picket line. In finding that it was unethical for

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Engineer A to accuse the company of callous disregard for the workers at the plant, the Board indicated that participation by the engineer in the sphere of public policy must be tempered by a sense of reason and rationality. Said the Board, "While it is certainly arguable that Engineer A was legitimately concerned with the issues of unsafe working conditions at the plant and what he saw to be management indifference, another issue of concern is the manner in which Engineer A addressed the issues of unsafe working conditions and management indifference. Rather than examining the allegation and attempting to mediate the differences between the parties, Engineer A appears to have furthered the conflict by making rhetorical pronouncements. By holding a placard that accused the company of "callous indifference" to the workers, Engineer A injected himself into the controversy and lost any and all appearances of impartiality. Engineer A attempted to exploit an extremely unpleasant situation for political gain."

The unique facts in the present case relate to a situation involving a legal process interfering with a potential engineering analysis process.

As background, when a legal matter is settled, often the record is sealed so that the process for identifying fault will cease and the parties involved can move forward. The legal settlement process tends to focus on providing relief to the parties, reaching a final decision, and bringing the matter to a close, rather than parsing the details to understand the physical causes of the event that was the subject of the litigation. In settlement, often the issues of causation, fault, etc., are avoided in an effort to address the personal and financial impact of the event (here a bridge collapse) and bring immediate relief to the parties. Clearly, this approach can sometimes come into conflict with, as here, a structural engineering analysis process.

Regarding the obligations and rights of Engineer A under the facts, there is nothing specific in the NSPE Code of Ethics that compels an engineer or imposes any "duty to protest" situations or circumstances of this type. At the same time, there is nothing in the NSPE Code to prohibit or discourage such protest, subject to certain exceptions noted earlier.

It should also be noted that there is an ethical obligation on the part of engineers to "speak out" that is addressed in NSPE Code Section II.1.f. which states that "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." However, that obligation is distinguishable from the present case. The obligation stated in NSPE Code Section II.1.f. relates to knowledge of an alleged violation of the NSPE Code, which from the facts presented in this case does not appear to apply. Instead, it appears that the concern being expressed here is more in the nature of a public policy matter. Therefore, the act of protest, including an exploration of all legal options, in this case would seem to be a matter of personal conscience and not professional duty.

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The engineer's obligation to "hold paramount the public health and safety" (NSPE Code Section II.1.) would also not apply in this instance, because the relevant circumstances in this case relate to an event that happened far in the past with no direct or current public impact. In addition, the concerns expressed by Engineer A and Engineer A's colleagues relate more to scientific research than directly to public health and safety.

Regarding those engineers who wish to participate in the protest, engineers who may have been involved in any prior investigations relating to the subject bridge collapse should be careful that any information gained during that investigation is not revealed in violation of any confidentiality agreement or other similar agreement. Also, any conflict of interest arising in connection with this matter should be fully disclosed. Finally, should any interest exist, engineers should reveal the existence of such an interest, either personal or in connection with another relating to any statements, criticisms, etc., that they make on technical matters.

Finally, the Board is somewhat concerned by the language used in Engineer A's statement that the decision to seal the record was "a brazen violation of engineering ethics." As noted earlier, the Board believes this matter was not a question of ethics but was a question of policy. Therefore, by making unsubstantiated statements about whether something is ethical or not ethical, Engineer A is acting inappropriately and his comments serve no useful purpose. A more thoughtful and substantive statement about the inability of researchers to analyze and to gain the benefit of the results of that analysis for the protection of the public health and safety would have been a far more useful way of addressing this predicament. Instead, Engineer A and his colleagues appear, however unintentionally, to have both misrepresented the issues involved and may have inflamed the situation unnecessarily.

Conclusions:

1. It was ethical for Engineer A to prepare a petition and present it to public officials, requesting that the decision be reversed.

2. It was not ethical for Engineer A to call the decision to seal the record "a brazen violation of engineering ethics and a hindrance to progress in engineering."

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