



Engineer's Obligation to Consider Feasible Options

Case No. 15-12

Facts:

Engineer A is a professional engineer with JKL Engineering. JKL Engineering has a contract with the state to specify the route for a road connecting two towns. Engineer A determines that the shortest workable route would save approximately 30 minutes from what would otherwise be a two-hour trip. However, in order to build the shortest route, the state would be required to address the impact to a historic family farmhouse that has existed for over 100 years on the land required for the route. Engineer A visits the farmhouse's owner, who indicates that the family has no interest in selling the farmhouse to the state or to anyone else. Engineer A is aware that the option exists for the state to exercise eminent domain and condemn the farmhouse and allow the state to proceed with the design and construction of the new route between the two towns.

Question:

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

NSPE Code of Ethics References:

- Section II.1. - Engineers shall hold paramount the safety, health, and welfare of the public.*
- Section II.3. - Engineers shall issue public statements only in an objective and truthful manner.*
- Section II.4. - Engineers shall act for each employer or client as faithful agents or trustees.*
- Section III.2. - Engineers shall at all times strive to serve the public interest.*
- Section III.2.a. - 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.*

BER Case References: 79-2; 05-4

Discussion:

It is not uncommon for professional engineers to be thrust into situations that involve the potential for public controversy and concern, either on an individual basis or more broadly, affecting the larger community. When confronted with such situations, professional engineers have an obligation to be honest and objective in their professional statements and activities.

One longstanding example is BER Case 79-2. In that case, Engineer A, the town engineer, and Engineer B, a consulting engineer retained by the town council, collaborated on an assignment to make studies and determine final contours for an existing sanitary landfill, taking into account final land use, environmental concerns, surrounding land use, and topography. Engineers A and B jointly determined that the existing landfill space would be exhausted at the present rate of use in three years, or soon thereafter. The town council had sought an alternate disposal location, but had not been able to locate one. It then requested Engineers A and B to submit new designs for the existing site at higher final contours, in accordance with state environmental laws. After several redesigns were not accepted, the town council requested Engineers A and B to prepare a new design, which resulted in an accepted solution, incorporating minimum setbacks and maximum allowable slopes. This design would provide for a hill more than 100 feet higher than originally proposed. Engineer C, a resident of the town, publicly contended that the higher level design concept would be environmentally unsound because methane gas from the landfill would move into adjacent private property and pollute the nearby ground water. The issue stirred up considerable local publicity and controversy. Engineer C publicly questioned whether Engineers A and B should have agreed to the higher intensity use of the site. In deciding that all professional engineers involved acted ethically, the Board noted that “there is no finite answer to the balance or ‘trade-off’ which is involved in the overall concerns about Case No. 79-2 environmental dangers for particular projects. At the federal, state, and local levels there is a growing body of law and regulation designed to establish governing criteria. But despite these efforts professional judgment will be the final arbiter of the best balance between society's needs for certain facilities and the level of environmental degradation which may be unavoidable in filling those basic needs.”

More recently, in BER case 05-4, Engineer A was retained by Developer F for a major waterfront development project in City X. As part of the process for approving Developer F's project, Engineer A was required to attend a public hearing and present the proposed design for the City X waterfront to the City Planning Board. Engineer A made a presentation and responded to questions by members of the City Planning Board. Engineer A highlighted the improved environmental effect of converting the waterfront from an industrial facility to a parkland. This anticipated commercial development could increase traffic, as well as air and noise pollution. Engineer A was aware of these factors, but was not specifically questioned on these factors and did not volunteer this fact. Had Engineer A been questioned by the City Planning Board, Engineer A would have provided testimony concerning these issues. Later, other witnesses attending the public hearing (including other engineers) testified about the increased traffic, noise, and air pollution issues. In deciding that it was not unethical for Engineer A to not volunteer the potential for increased traffic and air and noise pollution, as the previous cases demonstrated, engineers can reach different conclusions when looking at the same set of facts. The Board of Ethical Review concluded that Engineer A's ethical obligation does not require him to disclose such information if, in his professional judgment, it is not “relevant and pertinent.”

Turning to the facts in the present case, it is the Board of Ethical Review's position that Engineer A has an ethical obligation to balance the interests of all interested and relevant parties, including the state, the two towns in question, and the owners of the historic family farmhouse. While in general the Board is of the view that the rule in favor of the greatest good for the greatest number should prevail under the circumstances as those presented in this case—which would suggest potential condemnation proceedings—there may be alternative creative solutions that might exist to address the issue. Among these might include an offer to physically move the historic farmhouse to another appropriate site owned by the family or another party. Engineer A has an obligation to advise the state on feasible and reasonable solutions in an attempt to reach an amicable resolution of this matter, consistent with the interests of the public.

Conclusion:

Engineer A has an obligation to advise the state on all feasible and reasonable solutions in an attempt to reach an amicable resolution of this matter, consistent with the interests of the public, including physically moving the historic farmhouse to another appropriate site owned by the family or another party.

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