

## Report on a Case by the Board of Ethical Review

### Case No. 79-2

#### Public Criticism - Environmental Concerns

##### Facts:

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 determine that the existing landfill space will be exhausted at 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 contends that the higher level design concept would be environmentally unsound because methane gas from the landfill would move into adjacent private property and that it would pollute the nearby ground water. The issue stirred up considerable local publicity and controversy. Engineer C has publicly questioned whether Engineers A and B should have agreed to the higher intensity use of the site.

##### Questions:

1. Did Engineers A and B act ethically by participating in the design approach requested by the town council?
2. Did Engineer C act ethically in publicly challenging the design approach adopted by Engineers A and B?

##### References:

Code of Ethics - Section 2 - "The Engineer will have proper regard for the safety, health, and welfare of the public in the performance of his professional duties. If his engineering judgment is overruled by non-technical authority, he will clearly point out the consequences. He will notify the proper authority of any observed conditions which endanger public safety and health."

Section 2(a) - "He will regard his duty to the public welfare as paramount."

Section 2(c) - "He will not complete, sign, or seal plans and/or specifications that are not of a design safe to the public health and welfare and in conformity with accepted engineering standards. If the client or employer insists on such unprofessional conduct, he shall notify the proper authorities and withdraw from further service on the project."

Section 12 - "The Engineer will not attempt to injure, maliciously or falsely, directly or indirectly, the professional reputation, prospects, practice, or employment of another engineer, nor will he indiscriminately criticize another engineer's work. If he believes that another engineer is guilty of unethical or illegal practice, he shall present such information to the proper authority for action."

**Discussion:**

It is axiomatic that an engineer's primary ethical responsibility is to follow the mandate of 2(a) to place the public welfare over all other considerations. In this case there would be no doubt of the result if we accept as fact that the higher density use of the site would actually be detrimental to the environmental concerns of the citizenry. In that event it would clearly be the duty of Engineers A and B to decline to follow the town council's decision to proceed with the project.

But, of course, the case is not that simple. If we assume, as we must, that Engineers A and B are of the sincere opinion that the approach desired by the town council will not jeopardize the public health of the community, we are led into a recognition that this is the kind of situation the engineering profession must face increasingly as public awareness of environmental concerns increases.

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. For example, the federal Environmental Protection Agency has recently published proposed guidelines entitled, "Landfill Disposal of Solid Waste." (Federal Register, March 26, 1979.) Those guidelines are designed "... to define the level of health and environmental protection which a land disposal facility must achieve to avoid designation as an 'open dump'." And they further stipulate that the test for compliance with the criteria is whether ". . .there will be no reasonable probability of adverse effects on health or the environment associated with disposal of solid waste at a facility. This is a case-by-case decision which requires cognizance of the particular circumstances found at each site."

We cited the above statements not to indicate that the technical data are either correct or controlling for a particular project, but rather to confirm that there cannot be a clear-cut resolution in advance to resolve differences of opinion in such matters. Certainly Engineers A and B should consider the technical data in the guidelines, whether they be those cited here or others published by various public authorities or technical experts in the relevant field of knowledge. But, as quoted above, each project requires a case-by-case analysis and judgment. It should be added that these decisions in the public arena are subject to open public debate and resolution by appropriate public authority. Engineer C was acting within the intent of the code in raising his concern. However, in such a

matter of important public policy, if, after due consideration of his views and those of others, the decision should be to proceed with the proposed design of the expanded landfill, all involved should accept that each engineer had acted in conformance with the code. That there are conflicting public views between engineers in this case should be of no concern. As we observed as long ago as Case 63-6, "There may...be honest differences of opinion among equally qualified engineers on the interpretation of the known physical facts." And with regard to 12 of the code, we noted in the earlier case that a related ethical principle then obtaining "...does not prohibit ...public criticism; it only requires that the engineer apply due restraint. . .in offering public criticism of the work of another engineer; the engineering witness will avoid personalities and abuse, and will base his criticism on the engineering conclusions or application of engineering data by offering alternative conclusions or analyses." Our conclusion in that case was that "it is not unethical for engineers to offer conflicting opinions on the application of engineering principles, or to criticize the work of another engineer, at hearings on an engineering project, in the interest of the public, provided such criticism is offered on a high level of professional deportment." Along the same line, see Case 65-9.

**Conclusions:\***

1. Engineers A and B acted ethically by participating in the design approach requested by the town council.
2. Engineer C acted ethically in publicly challenging the design approach adopted by Engineers A and B.

\*Note: This opinion is based on data submitted to the Board of Ethical Review and does not necessarily represent all of the pertinent facts when applied to a specific case. This opinion is for educational purposes only and should not be construed as expressing any opinion on the ethics of specific individuals. This opinion may be reprinted without further permission, provided that this statement is included before or after the text of the case.

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