

FORUM

ENVIRONMENTAL ETHICS: THE WHOLE TRUTH

Do engineers working on issues concerning the impacts of chemical constituents on public health or the environment have a professional obligation to tell the whole truth? The obvious answer is yes. Unfortunately, this is often not being done today.

The field of environmental quality management has become immersed in the adversarial (legal) system for "resolving disputes" among parties with different interests—a system significantly different from the traditional engineer/scientist (E/S) approach to addressing complex environmental issues. In the adversarial system, one side presents the strongest possible technical discussion on behalf of the client; it is left to the other side to bring out the weaknesses in the technical position. While such an approach is considered appropriate in the courtroom, the problem is that it is routinely followed by E/Ss in proceedings such as appearances before regulatory boards supporting or opposing proposed projects. Engineering and other technical reports commonly do not present a disinterested discussion of technical issues and information pertinent to the protection of public health and the environment.

When the responsible, competent E/S—who is charged to tell the truth complete with caveats, qualifiers, uncertainties and unanswered questions—presents the "whole" story to the client/employer, he or she is then frequently faced with a situation in which the client or employer wants only positive project-supportive information revealed and detracting information omitted. To be useful to the client/employer, the "expert" E/S must testify or otherwise make authoritative presentation of those selected facts and information in technical reports at hearings or other review-board proceedings.

Some professionals justify doing this on the grounds that they have to "play the game." The realities of maintaining a client, securing future work, and holding and advancing one's position in a firm, along with inadequate funding to conduct quality and necessary work compel some E/Ss to exaggerate, diminish or otherwise manipulate the whole truth—despite the fact that the codes of ethics of both ASCE and the National Society of Professional Engineers emphasize the importance of full disclosure on matters of public health and safety.

One way to help neutralize the effects of the adversarial system may be to incorporate a requirement with project applications for funding independent, disinterested technical review to be presented to the regulatory agency, decision makers and public. This approach is being followed in the siting of three large landfills to serve the Greater Toronto area.

It would provide considerable impetus for project consultants and advocates to be more forthcoming with reliable information on potentially adverse project impacts if they were faced

with exposure of the technical unreliability (failure to tell the whole truth) of their positions in a full peer-review public arena. Such a review could also help address "not-in-my-backyard" concerns if individuals, communities and interest groups had a mechanism for independent review and reporting of technical information they felt they could trust. To fund this peer-review process, a percentage of the cost of any proposed project with potentially significant public-health or environmental-quality implications could be made available.

While environmental impact statements (or, in California, environmental impact reports) should by law provide the vehicle for full technical disclosure of potential problems associated with the project, such documents rarely provide reliable in-depth review of complex technical issues, especially as they relate to chemical constituents in the environment. Every project applicant should be required to conduct plausible worst-case-scenario evaluations for projects involving management of chemical constituents in the environment.

Such evaluations must include consideration of the nature, transport, fate and effects of chemical constituents under plausible worst-case conditions; the ability of the project's monitoring system to detect impending public-health and environmental-quality impairment under plausible worst-case conditions; the actions that would be taken in response to such detection; the magnitude of harm to public health and environmental quality that could result from inadequate response actions to plausible worst-case conditions; the magnitude and source of funding available for corrective action required under plausible worst-case conditions for as long as the wastes and/or chemicals represent a threat; and the adequacy of the public-health and environmental-protection regulatory standards or other requirements applicable to the project, as well as potential future changes in those standards. The plausible worst-case-scenario evaluation would be provided for peer review of the project.

Adoption of this approach would provide the public, the regulatory community and officers of the courts with a much better understanding of the potential consequences of undertaking a particular project or activity. It would also be a major step in reversing the tide of unethical practices that have become common among engineers and scientists in the environmental-quality-management field today.

[This Forum is condensed from a more comprehensive review of the topic, available from the authors at tel. 916/753-9630; fax 916/753-9956.]

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