



Engineering Ethics: You Be The Judge

Part I

“The Situation” What Do You Think?



Arthur E. Schwartz, Esq., CAE

Arthur Edward Schwartz, Esq., CAE, is the Deputy Executive Director and General Counsel of the National Society of Professional Engineers. Mr. Schwartz writes both an ethics and a legal column in NSPE's monthly publication *PE Magazine*, and has written extensively for various professional journals on matters involving the practice of engineering. He has participated as a guest lecturer at many colleges and universities, federal and state agencies, and several national professional association meetings.

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*April 18, 2007
National Association of Steel Construction Conference (NASCC)
Ernest N. Morial Convention Center
New Orleans, LA*

**Engineering Ethics: You Be The Judge
Real Life Fact Base Case Studies
Case #1**

The Situation

N. A. Pickle, P.E., is employed by UVW Consultants, a major structural engineering firm, and is a project manager for a bridge. After completing his work on the bridge, Pickle leaves the firm and joins another structural engineering firm, which had no relationship to the bridge project. As an employee of the new firm, Pickle authors an article for an international structural engineering journal on the bridge project. Pickle lists his name and identifies his affiliation with his current firm under the title of the article. The only credit given to UVW Consultants is listed at the end of the article under "Engineer of Record."

What Do You Think?

Was it ethical for Pickle to list his name and the two firm names in the manner indicated?

Engineering Ethics: You Be The Judge Real Life Fact Base Case Studies Case #2

The Situation

G. O. Tehk, P.E., is retained by a municipality to design a dock on a supporting foundation of 90 piles. Following construction, there is a contractor's extra claim, and Tehk and the municipality are both sued by the contractor. The claim is settled by mediation. Tehk and the municipality must share the \$300,000 settlement cost.

During the mediation, the municipality brought in expert witnesses to support its case. One expert testified that the pile-driving records indicated that during the initial driving, many of the piles did not meet sufficient driving resistance to satisfy the load-carrying requirements of the design calculations. In his defense, Tehk testified that the geotechnical firm's report expected that the piles would gain enough strength within 30 days to meet the driving-resistance requirements.

To test this, the municipality retained Kent Tellimuch, P.E., to supervise the driving of several test piles. An independent geotechnical consultant was retained by Tehk to observe the test. The geotechnical consultant testified and showed that dynamic test equipment had failed during the test, and driving conditions were not duplicated. However, the test piles were driven, and after a 30-day setup, the increase in setup strength with time was confirmed.

Tellimuch's concluding report stated that 19 of the original 90 piles did not meet the safety factor required by the design calculations. This opinion was based on the fact that the 19 piles did not reach sufficient depth to develop full strength. Tellimuch did not state anywhere in the report that these 19 piles, according to the pile-driving records, had been driven to essential refusal, indicating a strength several times greater than the calculated load requirements. Further, Tellimuch did not report that the dynamic test equipment had failed.

At no time during the development of Tellimuch's report did Tellimuch talk to any of Tehk's on-site representatives, nor to contractors, workers, or others on the job, about why the 19 piles met driving-refusal levels prior to predicted depth.

What Do You Think?

Was it ethical for Tellimuch to have not included the failed operation of the test equipment in his report; not communicated with any representatives of Tehk or with the contractor's on-site employees; and to issue his report without mentioning that the 19 piles had, according to the driving records, met refusal?

Engineering Ethics: You Be The Judge
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Case #3

The Situation

Hardy N. Strong, P.E., serves as a member of the board of trustees of a college in a medium-sized city. The U.S. Department of Housing and Urban Development (HUD) has awarded money to the city, and the city has agreed to use the money to construct a new library at the college. Strong would like to be considered for providing engineering services on the project.

What Do You Think?

Would it be ethical for Strong to offer his engineering services on the project?

Engineering Ethics: You Be The Judge Real Life Fact Base Case Studies Case #4

The Situation

B.A. Worthy, P.E., receives the following letter from a contractor:

Dear Mr. Worthy:

If you have not already heard of us, please allow me to introduce myself. My name is Y. Worry, owner of X Construction Company. We are a medium-sized general contractor firm with 20 years of experience. One of my company's strengths is our ability to interpret a blueprint or drawing and properly execute the construction of the project as it was conceived.

This year, I would like to associate my company with an engineering firm that we can refer clients to and receive clients from. I understand that there is a necessary ethical distance that must be maintained between an engineer and a contractor. I also know that it is not unethical for an engineer to provide their clients with a list of a few qualified contractors.

As an incentive to include my company on such list or as a referral to your clients, I am prepared to offer you a flat \$500, plus 3% of the total contract price, as a finder's fee/commission for every contract I sign as a result of your referral. Once a client has called for an estimate of proposal, we work directly with them. I will in no way use your good name or any association with your firm as a sales tool.

All I ask for is the opportunity for my firm's proposal to be included in the client's decision-making process. We both work from different ends of the same field. If it is possible for our firms to establish an arm's-length relationship, it could be very beneficial to both of us.

We are fully licensed, insured, and registered with the Better Business Bureau, and can provide a long list of satisfied clients. Please call or write if you would like to discuss this further and take full advantage of the new season.

Sincerely yours, Y. Worry

What Do You Think?

Is it ethical for Worthy to associate with Worry and the X Construction Company under the circumstances being proposed in this letter?

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Real Life Fact Base Case Studies
Case #5**

The Situation

Earnest N. Steadfast, P.E., is a research professor at a major engineering college. He performs important research in connection with certain new technologies in the transportation field. As part of his work, the university has received a number of grants from major corporations and the federal government.

As the principal investigator, Steadfast routinely meets with representatives of government agencies and private funding groups, reports on the status of his research, and publishes the results in professional journals and at technical conferences.

Steadfast meets with the major commercial sponsor about his transportation research and presents the results of his research in a paper, including charts, graphs, and other illustrative material. The commercial sponsor clearly has a significant interest in the research report and its conclusions and, subsequently, makes certain changes in the report bearing Steadfast's name without his knowledge and approval. The changes include altering report text and removing figures.

What Do You Think?

Would Steadfast be ethical in taking action against the sponsor? Did the sponsor act ethically in altering Steadfast's report?

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Case #6

The Situation

A large utility in a large state is looking for a design/build or turnkey approach for its new project. In order for Hazel "Haz" D. Smartz, P.E., to compete on this project, she is required to establish partnerships with manufacturing and construction contracting firms. Each partner is responsible for its own expenses in preparing the proposal.

Smartz is asked to make a proposal to the utility on behalf of the partnership. The agency requires that preliminary engineering be done at the proposal stage. Smartz is required to prepare a series of simple layouts so that the contractor can estimate its part of the project. Each of the partners has a significant investment in time, which each partner covers with the understanding that if the partnership receives the project, each partner will recover its costs.

Smartz is concerned that this type of partnership arrangement may involve contingencies under which her professional judgment may be compromised.

What Do You Think?

Is it ethical for engineers to engage in partnerships of this type?

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Case #7**

The Situation

Will K. Neckted, P.E., is a principal in a consulting engineering firm. He is appointed by the governor of a state to serve as secretary of commerce and subsequently resigns from the engineering firm. While Neckted was a principal in the engineering firm, the firm had performed work for a major developer that is planning to build a major project in the state. As secretary of commerce, Neckted has been asked by the governor to spearhead the state's campaign to bring the major development project to the state. The project has been the subject of controversy on account of its potential environmental impact and the effect it could have on historic areas of the state.

Although Neckted resigned from the engineering firm, he maintained a \$250,000 retirement fund, which is administered by, and includes a very small amount of stock in, the firm. The firm has recently indicated that it might be interested in pursuing additional engineering work for the developer as part of the major development project. Neckted has also indicated to members of the media that upon the conclusion of his services as secretary of commerce, he could very well return to his consulting engineering firm. Neckted has fully disclosed all pertinent information to the state.

What Do You Think?

Was it ethical for Neckted to maintain a retirement fund administered by his former engineering firm while serving as secretary of commerce? Was it ethical for Neckted, as secretary of commerce, to participate in the discussions surrounding the development project?

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Case #8**

The Situation

Skip T. Call, P.E., works with a construction contractor on a design/build project for an industrial facility. During the construction of the project, the construction contractor separately retains the services of A. Knowitall, P.E., to design structural footings as part of the facility. Knowitall's degree and background is in chemical engineering, and Call is unable to establish that Knowitall has any apparent training in foundation design. Call has reservations concerning the competence of Knowitall to design the structural footings and reports his concerns to the contractor.

What Do You Think?

Did Call have an ethical responsibility to question Knowitall's competency and report his concerns to the contractor?

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Real Life Fact Base Case Studies
Case #9**

The Situation

Hy Caliber, P.E., serves as a peer reviewer for an organized peer review program developed to help engineers improve their professional practice. When originally selected as a peer reviewer, Caliber is asked to sign a "confidentiality agreement" whereby Caliber agrees not to disclose confidential information involving peer-reviewed firms.

As part of a peer review visit, Caliber visits the firm of Ondi Edge, P.E. Following a review of technical documentation connected to a series of recent design projects involving Edge's firm, Caliber discovers that Edge's work may be in violation of state and local safety code requirements and could endanger public health, safety, and welfare.

What Do You Think?

What are Caliber's ethical responsibilities under the circumstances?

**Engineering Ethics: You Be The Judge
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Case #10**

The Situation

Avery Global, P.E., is a consulting engineer who works in the U.S. and abroad. Global is contacted by the government of Country A and asked to submit a proposal for a major water project being constructed there. As part of the project, Global is encouraged to associate with and retain Engineer B, a local engineer in Country A, with whom Global has worked on private projects in that country. One of the accepted "customs" in Country A is for consultants, such as engineers, to give substantial gifts to public officials in connection with the awarding of public works contracts. Global recognizes that the giving of such gifts may be a violation of U.S. law-although it may not technically violate the law in Country A. Engineer B proposes to Global that if the project is awarded to Global's firm, Engineer B will handle "business arrangements" in Country A and that Global will be involved in overall project management as well as all technical matters.

What Do You Think?

Would it be ethical for Global to proceed with the project under these circumstances?

NSPE Code of Ethics for Engineers

Preamble

Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness, and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.

I. Fundamental Canons

Engineers, in the fulfillment of their professional duties, shall:

1. Hold paramount the safety, health, and welfare of the public.
2. Perform services only in areas of their competence.
3. Issue public statements only in an objective and truthful manner.
4. Act for each employer or client as faithful agents or trustees.
5. Avoid deceptive acts.
6. Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.

II. Rules of Practice

1. Engineers shall hold paramount the safety, health, and welfare of the public.
 - a. If engineers' judgment is overruled under circumstances that endanger life or property, they shall notify their employer or client and such other authority as may be appropriate.
 - b. Engineers shall approve only those engineering documents that are in conformity with applicable standards.
 - 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.
 - d. Engineers shall not permit the use of their name or associate in business ventures with any person or firm that they believe is engaged in fraudulent or dishonest enterprise.
 - e. Engineers shall not aid or abet the unlawful practice of engineering by a person or firm.
 - 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.
2. Engineers shall perform services only in the areas of their competence.
 - a. Engineers shall undertake assignments only when qualified by education or experience in the specific technical fields involved.
 - b. Engineers shall not affix their signatures to any plans or documents dealing with subject matter in which they lack competence, nor to any plan or document not prepared under their direction and control.
 - c. Engineers may accept assignments and assume responsibility for coordination of an entire project and sign and seal the engineering documents for the entire project, provided that each technical segment is signed and sealed only by the qualified engineers who prepared the segment.
3. Engineers shall issue public statements only in an objective and truthful manner.
 - a. Engineers shall be objective and truthful in professional reports, statements, or testimony. They shall include all relevant and pertinent information in such reports, statements, or testimony, which should bear the date indicating when it was current.



- b. Engineers may express publicly technical opinions that are founded upon knowledge of the facts and competence in the subject matter.
 - c. Engineers shall issue no statements, criticisms, or arguments on technical matters that are inspired or paid for by interested parties, unless they have prefaced their comments by explicitly identifying the interested parties on whose behalf they are speaking, and by revealing the existence of any interest the engineers may have in the matters.
4. Engineers shall act for each employer or client as faithful agents or trustees.
- a. Engineers shall disclose all known or potential conflicts of interest that could influence or appear to influence their judgment or the quality of their services.
 - b. Engineers shall not accept compensation, financial or otherwise, from more than one party for services on the same project, or for services pertaining to the same project, unless the circumstances are fully disclosed and agreed to by all interested parties.
 - c. Engineers shall not solicit or accept financial or other valuable consideration, directly or indirectly, from outside agents in connection with the work for which they are responsible.
 - d. Engineers in public service as members, advisors, or employees of a governmental or quasi-governmental body or department shall not participate in decisions with respect to services solicited or provided by them or their organizations in private or public engineering practice.
 - e. Engineers shall not solicit or accept a contract from a governmental body on which a principal or officer of their organization serves as a member.
5. Engineers shall avoid deceptive acts.
- a. Engineers shall not falsify their qualifications or permit misrepresentation of their or their associates' qualifications. They shall not misrepresent or exaggerate their responsibility in or for the subject matter of prior assignments. Brochures or other presentations incident to the solicitation of employment shall not misrepresent pertinent facts concerning employers, employees, associates, joint venturers, or past accomplishments.
 - b. Engineers shall not offer, give, solicit, or receive, either directly or indirectly, any contribution to influence the award of a contract by public authority, or which may be reasonably construed by the public as having the effect or intent of influencing the awarding of a contract. They shall not offer any gift or other valuable consideration in order to secure work. They shall not pay a commission, percentage, or brokerage fee in order to secure work, except to a bona fide employee or bona fide established commercial or marketing agencies retained by them.

III. Professional Obligations

1. Engineers shall be guided in all their relations by the highest standards of honesty and integrity.
 - a. Engineers shall acknowledge their errors and shall not distort or alter the facts.
 - b. Engineers shall advise their clients or employers when they believe a project will not be successful.
 - c. Engineers shall not accept outside employment to the detriment of their regular work or interest. Before accepting any outside engineering employment, they will notify their employers.
 - d. Engineers shall not attempt to attract an engineer from another employer by false or misleading pretenses.
 - e. Engineers shall not promote their own interest at the expense of the dignity and integrity of the profession.
2. Engineers shall at all times strive to serve the public interest.
 - a. Engineers shall seek opportunities to participate in civic affairs; career guidance for youths; and work for the advancement of the safety, health, and well-being of their community.
 - b. Engineers shall not complete, sign, or seal plans and/or specifications that are not in conformity with applicable engineering standards. If the client or employer insists on such unprofessional conduct, they shall notify the proper authorities and withdraw from further service on the project.
 - c. Engineers shall endeavor to extend public knowledge and appreciation of engineering and its achievements.



- d. Engineers shall strive to adhere to the principles of sustainable development¹ in order to protect the environment for future generations.
3. Engineers shall avoid all conduct or practice that deceives the public.
 - a. Engineers shall avoid the use of statements containing a material misrepresentation of fact or omitting a material fact.
 - b. Consistent with the foregoing, engineers may advertise for recruitment of personnel.
 - c. Consistent with the foregoing, engineers may prepare articles for the lay or technical press, but such articles shall not imply credit to the author for work performed by others.
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.
 - a. Engineers shall not, without the consent of all interested parties, promote or arrange for new employment or practice in connection with a specific project for which the engineer has gained particular and specialized knowledge.
 - b. Engineers shall not, without the consent of all interested parties, participate in or represent an adversary interest in connection with a specific project or proceeding in which the engineer has gained particular specialized knowledge on behalf of a former client or employer.
5. Engineers shall not be influenced in their professional duties by conflicting interests.
 - a. Engineers shall not accept financial or other considerations, including free engineering designs, from material or equipment suppliers for specifying their product.
 - b. Engineers shall not accept commissions or allowances, directly or indirectly, from contractors or other parties dealing with clients or employers of the engineer in connection with work for which the engineer is responsible.
6. Engineers shall not attempt to obtain employment or advancement or professional engagements by untruthfully criticizing other engineers, or by other improper or questionable methods.
 - a. Engineers shall not request, propose, or accept a commission on a contingent basis under circumstances in which their judgment may be compromised.
 - b. Engineers in salaried positions shall accept part-time engineering work only to the extent consistent with policies of the employer and in accordance with ethical considerations.
 - c. Engineers shall not, without consent, use equipment, supplies, laboratory, or office facilities of an employer to carry on outside private practice.
7. Engineers shall not attempt to injure, maliciously or falsely, directly or indirectly, the professional reputation, prospects, practice, or employment of other engineers. Engineers who believe others are guilty of unethical or illegal practice shall present such information to the proper authority for action.
 - a. Engineers in private practice shall not review the work of another engineer for the same client, except with the knowledge of such engineer, or unless the connection of such engineer with the work has been terminated.
 - b. Engineers in governmental, industrial, or educational employ are entitled to review and evaluate the work of other engineers when so required by their employment duties.
 - c. Engineers in sales or industrial employ are entitled to make engineering comparisons of represented products with products of other suppliers.
8. Engineers shall accept personal responsibility for their professional activities, provided, however, that engineers may seek indemnification for services arising out of their practice for other than gross negligence, where the engineer's interests cannot otherwise be protected.
 - a. Engineers shall conform with state registration laws in the practice of engineering.
 - b. Engineers shall not use association with a nonengineer, a corporation, or partnership as a "cloak" for unethical acts.



9. Engineers shall give credit for engineering work to those to whom credit is due, and will recognize the proprietary interests of others.
 - a. Engineers shall, whenever possible, name the person or persons who may be individually responsible for designs, inventions, writings, or other accomplishments.
 - b. Engineers using designs supplied by a client recognize that the designs remain the property of the client and may not be duplicated by the engineer for others without express permission.
 - c. Engineers, before undertaking work for others in connection with which the engineer may make improvements, plans, designs, inventions, or other records that may justify copyrights or patents, should enter into a positive agreement regarding ownership.
 - d. Engineers' designs, data, records, and notes referring exclusively to an employer's work are the employer's property. The employer should indemnify the engineer for use of the information for any purpose other than the original purpose.
 - e. Engineers shall continue their professional development throughout their careers and should keep current in their specialty fields by engaging in professional practice, participating in continuing education courses, reading in the technical literature, and attending professional meetings and seminars.

Footnote 1 "Sustainable development" is the challenge of meeting human needs for natural resources, industrial products, energy, food, transportation, shelter, and effective waste management while conserving and protecting environmental quality and the natural resource base essential for future development.

—As Revised January 2006—

"By order of the United States District Court for the District of Columbia, former Section 11(c) of the NSPE Code of Ethics prohibiting competitive bidding, and all policy statements, opinions, rulings or other guidelines interpreting its scope, have been rescinded as unlawfully interfering with the legal right of engineers, protected under the antitrust laws, to provide price information to prospective clients; accordingly, nothing contained in the NSPE Code of Ethics, policy statements, opinions, rulings or other guidelines prohibits the submission of price quotations or competitive bids for engineering services at any time or in any amount."

Statement by NSPE Executive Committee

In order to correct misunderstandings which have been indicated in some instances since the issuance of the Supreme Court decision and the entry of the Final Judgment, it is noted that in its decision of April 25, 1978, the Supreme Court of the United States declared: "The Sherman Act does not require competitive bidding."

It is further noted that as made clear in the Supreme Court decision:

1. Engineers and firms may individually refuse to bid for engineering services.
2. Clients are not required to seek bids for engineering services.
3. Federal, state, and local laws governing procedures to procure engineering services are not affected, and remain in full force and effect.
4. State societies and local chapters are free to actively and aggressively seek legislation for professional selection and negotiation procedures by public agencies.
5. State registration board rules of professional conduct, including rules prohibiting competitive bidding for engineering services, are not affected and remain in full force and effect. State registration boards with authority to adopt rules of professional conduct may adopt rules governing procedures to obtain engineering services.
6. As noted by the Supreme Court, "nothing in the judgment prevents NSPE and its members from attempting to influence governmental action . . ."

NOTE: In regard to the question of application of the Code to corporations vis-à-vis real persons, business form or type should not negate nor influence conformance of individuals to the Code. The Code deals with professional services, which services must be performed by real persons. Real persons in turn establish and implement policies within business structures. The Code is clearly written to apply to the Engineer, and it is incumbent on members of NSPE to endeavor to live up to its provisions. This applies to all pertinent sections of the Code.



Engineering Ethics: You Be The Judge

Part II

“NSPE Board of Ethical Review (BER) Opinion”



Arthur E. Schwartz, Esq., CAE

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**PANEL: ETHICS IN ENGINEERING
REAL LIFE FACT BASE CASE STUDIES
Case #1**

What the Board Said

Pickle acted unethically in the way he listed the names. He gave prominence to his new firm by its identification at the title, while listing UVW Consultants only as "Engineer of Record" at the end of the article. It may be argued that the stated listings were not dishonest, but this defense is unacceptable for something so potentially misleading and unfair. Consider: Had the author been a journalist or freelance technical writer, surely UVW Consultants, the design firm, would have been recognized as material for the article and clearly identified within the body of the story. Pickle's failure to include that relevant information was apparently deliberate and less than forthright.

Numerous sections of the NSPE Code of Ethics are relevant in this case. The Preamble requires "honesty . . . fairness and equity." The Code also states that engineers "shall be guided . . . by the highest standards of integrity." Pickle did not behave toward his former employer UVW with these provisions in mind.

Also relevant are the requirements that engineers issue public statements only in an objective and truthful manner, and that engineers "shall include all relevant and pertinent information." Neither Pickle's opening identification nor his closing listing of the engineer of record can serve as full compliance here.

In addition, the Code provides that engineers "shall not falsify or permit misrepresentation of . . . their associates' . . . qualifications." The BER believes that opening the identification with Pickle's current employer served to impute the work to the new employer, who had nothing to do with the project.

Another section provides that engineers "shall avoid . . . a material misrepresentation of fact or omitting a material fact necessary to keep statements from being misleading." Once again, Pickle's article fails to pass muster.

Finally, Pickle's article is deficient when measured by the section that requires that engineers give credit for engineering work to those to whom credit is due and recognize the proprietary interests of others.

**PANEL: ETHICS IN ENGINEERING
REAL LIFE FACT BASE CASE STUDIES
Case #2**

What the Board Said

Tellimuch acted unethically in each case. Whatever rationale Tellimuch may use to draw his conclusion, valid or not, the select language of the report precludes any interpretation that any or all 90 piles met safety requirements.

It is not evident that Tellimuch's selective use of technical fact was inspired by the adversarial circumstance, nor does it matter. As evidence, the report appears to serve no purpose except to impugn Tehk and to support the original testimony of the municipality's expert witness. As an engineering document, the report is incomplete, and does a disservice to Tellimuch's client by potentially misdirecting a conclusion. Neither interpretation is tolerated by the NSPE Code of Ethics, which requires that engineers "shall include all relevant and pertinent information in such reports, statements, or testimony."

Further, by excluding the pile-driving records, Tellimuch has denied himself the opportunity to present a rationale for discounting their value, and thereby to serve his client.

Tellimuch's failure to communicate with Tehk's on-site representative, and failure to communicate with the contractor, workers, or others on the job, is a failure of fact-gathering diligence.

Tellimuch's selective use of data in the municipality's defense is an egregious denial of the duties and responsibilities of a professional engineer in any setting-legal, quasi-legal, or nonlegal.

**ENGINEERING ETHICS: YOU BE THE JUDGE
REAL LIFE FACT BASE CASE STUDIES
Case #3**

What the Board Said

The NSPE Board of Ethical Review (BER) has considered similar issues in previous cases, and provided a context for understanding this situation.

In one case, an engineer serving on a community-service corporation was responsible for obtaining money to construct a courthouse and office. The engineer was instrumental in getting the federal government to spend the money on the project, but his service corporation had no influence in determining who would design or build the project. The engineer wanted to be a subconsultant to a larger design firm, and submitted proposals to the responsible federal government agency. The BER found no violation of the ethical code.

In another case, an engineer served on the board of directors of a private health care provider that had contracted with the county hospital board to operate a health care facility where some engineering work was needed. The engineer received a contract from the private provider to perform the work. The decision was made by the private board, of which the engineer was a member, and the engineer participated in the decision. The BER concluded that the engineer could not ethically seek the work or participate in the decision of selecting himself.

In the present case, the city will award the library contract using HUD funds. The college trustees and city fathers must have a very close relationship. Although Strong will not be involved in the decision, he is too close to the city and could influence its decision. According to the BER, it would be unethical for Strong to be considered for providing engineering services on this project.

**PANEL: ETHICS IN ENGINEERING
REAL LIFE FACT BASE CASE STUDIES
Case #4**

What the Board Said

It would be unethical for Worthy to carry out the contractor's proposal. It is essential that engineers maintain a truly arms-length relationship with such entities as contractors and vendors having, or potentially having, contractual arrangements with engineers employers or clients. The case involves two primary issues: First, Worthy would be referring clients to the contractor and for that receiving a commission-a clear conflict of interest. Moreover, the Code specifically prohibits the receiving of commission or other valuables from a contractor. Second, the contractor makes no suggestion that Worthy disclose to his client his conflict of interest as required by the Code. Further, a broad interpretation of the Code's provision on political contributions would indicate that an engineer receiving contributions (commissions) or other valuable considerations would also constitute an ethical violation.

**PANEL: ETHICS IN ENGINEERING
REAL LIFE FACT BASE CASE STUDIES
Case #5**

What the Board Said

Several aspects of this case need to be considered in order to evaluate appropriate courses of action and ethical implications. For example, did the changes improve the report quality? Did the changes modify or change the results inappropriately? Did the changes make the report clearer or more confusing? Was the report published by the sponsor or just used in-house?

One could argue that the "changed" report will be used specifically and only by the sponsor in their internal decision-making process. The sponsor paid for the research and it is theirs to use as they see fit, as long as they do not modify the results to serve a purpose not intended by the research engineer. However, the report remains the responsibility of the author and should not be changed. The sponsor could ethically write another report using Steadfast's information with appropriate references. The Code requires that the engineer's name not be affixed to any document not prepared under their direction and control.

If the "changed" report is to be published by the sponsor or if the "certain changes" made by the sponsor did change the actual conclusions of the engineer's report, one could question the ethics of the sponsor. The sponsor is obligated to notify the engineer of the changes and seek his permission. Under these circumstances, the engineer should, at a minimum, request the removal of his name from the changed report. At a maximum, the engineer should take the sponsor to court. Of course, several actions between these extremes are possible and should be explored.

According to the NSPE Code of Ethics, engineers should be objective and truthful in reports. They should also include all relevant and pertinent information. Furthermore, the Code states that engineers must not permit the use of their names in business ventures with any person that they have reason to believe is engaging in fraudulent or dishonest business or professional practice. A fundamental canon of the Code states that the engineer shall act in professional matters for each employer or client as faithful agents or trustees. Assuming that the sponsor involved in this case was an engineer, he should also be aware of and adhere to the profession's ethics code.

The Board of Ethical Review therefore concluded that the sponsor acted unethically toward Steadfast and that Steadfast would be ethical in taking action against the sponsor.

**PANEL: ETHICS IN ENGINEERING
REAL LIFE FACT BASE CASE STUDIES
Case #6**

What the Board Said

A design/build or turnkey construction process has been used by industry for many years and is becoming more common in governmental work. It is accepted by both the business community and the profession. In fact, as early as 1965, the NSPE Board of Directors adopted a policy that recognizes design/construct or turnkey as an established and acceptable practice, provided that engineering services are performed under the direction of a licensed professional engineer.

Since NSPE has adopted a policy acknowledging the acceptability of this type of construction process, and since this has been confirmed by prior Board of Ethical Review cases, Smartz complies with the Preamble requiring adherence to the principles of ethical conduct on behalf of the public, clients, employers, and the profession. Because the utility has solicited proposals for a design/build process, Smartz has avoided deceptive acts, as required by the Code. The Board assumes that since Smartz participated in the selection of the partners to submit a response to the request for a proposal, all the participants are of good reputation. In addition, all conflicts of interest, if any, have been disclosed to the utility, since it is apparent that Smartz is working closely with a contractor and a manufacturer because of the request for a turnkey proposal.

Smarz will be associated with a manufacturer and a contractor, implying that each will limit their activities to their respective fields of expertise. Finally, Smartz is accepting compensation solely from the utility and none from the contractor or manufacturer. Each of the participants is preparing the proposal at their own expense. This, in the Board's opinion, complies with the intent of the Code.

Thus, engineers may ethically participate in a design/build project as stated in the facts of this case.

**PANEL: ETHICS IN ENGINEERING
REAL LIFE FACT BASE CASE STUDIES
Case #7**

What the Board Said

It was unethical for Neckted to maintain the retirement fund while serving as secretary of commerce, but he acted ethically-with on proviso-in considering issues relating to the major development project. When such consideration specifically and directly related to the professional services provided by his former engineering firm, the NSPE Code of Ethics does not allow his participation.

Neckted's disclosure of the facts and circumstance surrounding his retirement fund and his relationship with his engineering firm constituted a disclosure of the possible conflict of interest. But that did not come within the ethical guidelines of the Code and was not a proper course in dealing with the appearance of conflict. An engineer can only avoid such a conflict either by <169>disposing of his land and holdings prior to undertaking the commission or by declining to perform the services if it is not feasible or desirable for him to dispose of his land at the particular time<170>; in this case, a minimum amount of stock in his former firm. Such an approach would not constitute an unfair and unreasonable financial hardship for Neckted and would not go beyond the requirements of the Code.

Neckted's role as secretary of commerce presumably involves a broad range of commercial, business, and related issues involving the financial well-being of the state, so the development project would be an appropriate topic for his involvement. However, when it comes to issues involving his engineering firm, one may assume that Neckted's judgment and knowledge would be influenced by his ongoing relationship with the firm. As a principal in the consulting firm, Neckted's relationship with the developer should require that, as secretary of commerce, he remove himself from consideration of these development project issues.

Mere disclosure of a potential conflict of interest to a client or employer does not, in and of itself, eliminate the conflict of interest issue (contrast Code of Ethics Section II.4.a. with Section III.5). A greater level of ethical commitment is required of professional engineers.

**PANEL: ETHICS IN ENGINEERING
REAL LIFE FACT BASE CASE STUDIES
Case #8**

What the Board Said

Yes. There is at least a reasonable basis for Call to conclude that Knowitall does not possess the needed education, training, and experience to do the work. If Call actually determines such a competency mismatch, then Call should confront Knowitall, make his concerns known, and recommend that Knowitall withdraw from the project. If Knowitall refuses to follow this advice, Call has an obligation under the NSPE Code of Ethics to bring the matter to the attention of his client and appropriate authorities, and, if his concerns are not met, to withdraw from the project.

Moreover, while it may be possible for Knowitall, as a consultant to the contractor, to retain the services of a competent structural engineer to design the structural footings for the facility, the NSPE Board of Ethical Review does not consider this feasible under the facts. Rather, it appears that Knowitall was retained specifically for the sole and exclusive purpose of designing the structural footings in question. If Knowitall were to seek a separate firm to perform that very task, one would have wonder what Knowitall was actually hired to perform and for what he was being paid.

**PANEL: ETHICS IN ENGINEERING
REAL LIFE FACT BASE CASE STUDIES
Case #9**

What the Board Said

If Caliber determines that Edge's work is or may be in violation of state and local safety requirements and endangers public health, safety, and welfare, Caliber should immediately discuss these issues with Edge in an effort to clarify and resolve this issue quickly. If Caliber and Edge are unable to resolve the issue, Caliber must inform Edge that as a professional engineer, his only alternative is to notify the proper authorities.

In recent years, various professions, including engineering groups, have successfully developed peer review programs. These voluntary programs have been immensely successful in creating a mechanism for professionals to work together in a collegial atmosphere to understand and improve professional practice. This can be accomplished by analyzing and evaluating the actions, decisions, and techniques of the professional and offering constructive and, at times, critical feedback. Peer review enhances professional practice.

However, such programs are built on a foundation of confidentiality-an individual agreeing to serve as a peer reviewer must sign a confidentiality agreement -and for good reason. Firms under peer review should be encouraged to provide as much pertinent, detailed information to the peer reviewer as possible to allow a thorough evaluation of the firm. Confidentiality ensures a maximum amount of disclosure. In addition, confidentiality helps build trust between the parties involved in the peer review process and promotes an atmosphere that will improve production and guarantee success.

While the merits of confidentiality are clear, in Caliber's case, the NSPE Board of Ethical Review was faced with the discovery that the Edge may be in violation of state and local safety code requirements and could endanger public health and welfare. This ethical dilemma appears to involve two separate provisions of the NSPE Code of Ethics-Section III.4. and Section II.1.e. The BER has considered at least one case involving an engineer gaining knowledge of information damaging to a client's interest and affecting the public health and safety (see BER Case 76-4). On one hand, the engineer has an obligation not to disclose confidential information concerning the business affairs or technical processes of any present or former client without the client's consent. On the other hand, Caliber, having knowledge of any alleged violation of the Code of Ethics, has an obligation to cooperate with the proper authorities in furnishing such information or assistance as may be required.

**PANEL: ETHICS IN ENGINEERING
REAL LIFE FACT BASE CASE STUDIES
Case #10**

What the Board Said

It would be unethical for Global to proceed. Clearly, Global is being asked to participate in a project under circumstances that may involve a violation of U.S. law, as well as the NSPE Code of Ethics. While being respectful of all the parties involved in this matter, Global should diplomatically indicate that, although he would be interested in participating in the project and offering professional services, it would be illegal and unethical for him to do so under the described arrangement. He should further explain that he would be willing to consider an alternative arrangement under circumstances that were consistent with U.S. law and engineering ethics.