Ethics II for the Professional Engineer

A Compendium of Ethical Cases Important to the Practicing Professional Engineer

This edition to be taken during the 2012-2014 biennium in preparation for renewal for the 2014-2016 biennium.
Introduction

This one hour course, Ethics II and the Professional Engineer, is a compendium of ethical cases involving professional engineers in the everyday practice of the profession. Although research turned up numerous cases and provided many situations the practicing engineer should avoid, seven cases based on the National Society of Professional Engineers Code of Ethics and considered by the NSPE’s Board of Ethical Review were selected for this compendium. These cases cover a wide range of ethical considerations and, when reviewed and contemplated, will serve to make the practicing engineer acutely aware of his or her obligations to the public and the engineering profession. The cases selected for study are:

1. Engineer Dispute with Client over Design
2. Whistle Blowing City Engineer
3. Code Enforcement
4. Engineer’s Disclosure of Potential Conflict of Interest
5. Serving as Design Engineer and General Contractor
6. Refusing to Sign / Seal Documents
7. Knowledge of Information Damaging to Client’s Interest -

In advance of the cases we have provided a copy of the NSPE Code of Ethics. We strongly recommend reading the Code in its entirety before studying the cases. We also suggest re-referring to the applicable portion of the code as read the cases.

At the conclusion of the seven cases there will be an exam with a question based on the Code of Ethics and cases in the compendium.
National Society of Professional Engineers

Code of Ethics

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 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.
   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 are encouraged to extend public knowledge and appreciation of engineering and its achievements.
   d. Engineers are encouraged to adhere to the principles of sustainable development 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 July 2007

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.

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.
Case #1

Engineer's Dispute with Client Over Design - Case No. 84-4

Facts:
Client hires Engineer A to design a particular project. Engineer A develops what he believes to be the best design and meets with the client to discuss the design. After discussing the design plans and specifications, the client and Engineer A are involved in a dispute concerning the ultimate success of the project. The client believes Engineer A's design is too large and complex and seeks a simpler solution to the project. Engineer A believes a simpler solution will not achieve the result and could endanger the public. The client demands that Engineer A deliver over to him the drawings so that he can present them to Engineer B to assist Engineer B in completing the project to his liking. The client is willing to pay for the drawings, plans, specifications, and preparation but will not pay until Engineer A delivers over the drawings. Engineer A refuses to deliver the drawings.

Question:
Would it be ethical for Engineer A to deliver over the plans and specifications to the client?

References:
Code of Ethics- Section II.1.a.: "Engineers shall at all times recognize that their primary obligation is to protect the safety, health, property, and welfare of the public. If their professional judgment is overruled under circumstances where the safety, health, property, or welfare of the public are endangered, they shall notify their employer or client and such other authority as may be appropriate."

Section II.1.e.: "Engineers having knowledge of any alleged violation of this Code shall cooperate with the proper authorities in furnishing such information or assistance as may be required."

Section III. 1.b.: "Engineers shall advise their clients or employers when they believe a project will not be successful."

Discussion:
The facts of the case presented to the Board, at first glance, appear to be fairly straightforward and easily addressed by the Code of Ethics. On its face we are presented with an engineer who has been retained by a client to design a project. However, both parties cannot agree as to the ultimate success of the project as developed by Engineer A. Thus, the client seeks to terminate the services of Engineer A, but wishes to obtain the drawings, plans, and specifications from Engineer A for a fee. Our discussion will be limited to the ethical rather than the contractual considerations of this case.

Much of the language contained in the Code relates to the engineer's obligation to protect the public health, property, and welfare (Section II.1.a.). In the present case it appears that Engineer A had a strong concern for the protection of the public health and welfare. Nevertheless, it is the view of this Board that Engineer A could have delivered over the drawings to the client and his conduct would have been ethically proper.

While it is true that Engineer A has an ethical obligation under Section II.1.a., that obligation assumes that Engineer A is in possession of verifiable facts or evidence which would substantiate a charge that an actual danger to the public health or safety exists. In the instant case, Engineer A makes the overly broad assumption that if he were to deliver over to the client the drawings so that the client can present them to Engineer B to assist Engineer B in completing the project to the client's liking, Engineer B would develop a set of plans which would endanger the public health and safety. We think that such an assumption is ill-founded and is not based upon anything more than a supposition by Engineer A. Therefore, we are of the view that Engineer A should not have withheld the drawings on
the basis of Section II.1.a.

In reviewing the conduct of Engineer A up until his refusal to deliver over the drawings to the client, we are of the view that Engineer A went as far as he was ethically required to go in preparing what he believed was the best design for the project and in informing the client of the dangers of proceeding with the client's simplified solution. Section III.1.b. is very clear in stating an "Engineer shall advise [his] client . . . when [he] believes a project will not be successful." We are of the view that, by conferring with the client and explaining his concerns over a proposed simplified solution, Engineer A had met his ethical responsibility.

In the event, however, that Engineer A does deliver over to the client the plans so that the client can present them to Engineer B for completion of the project to the client's liking, and thereafter Engineer A discovers that Engineer B developed plans which constitute a danger to the public, certain actions would then be required by Engineer A under the Code. Any verifiable conduct on the part of Engineer B which indicates that Engineer B's plans are a danger to the public, should be brought to the attention of the proper authorities, i.e., the responsible professional societies or the state engineering registration board.

**Conclusion:**
It would be ethical under the above circumstances for Engineer A to deliver over the plans and specifications to the client.

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**Case #2**

**City Engineer (aka Whistle Blowing) - Case No. 88-6:**

**Facts:**
Engineer A is employed as the City Engineer/ Director of Public Works for a medium-sized city and is the only licensed professional engineer in a position of responsibility in the city government. The city has several large food processing plants that discharge very large amounts of vegetable wastes into the city's sanitary system during the canning season. Part of the canning season coincides with the rainy season.

Engineer A has the responsibility for the disposal plant and beds and is directly responsible to City Administrator C. Technician B answers to Engineer A.

During the course of her employment, Engineer A notifies Administrator C of the inadequate capacity of the plant and beds to handle the potential overflow during the rainy season and offers possible solutions. Engineer A has also discussed the problem privately with certain members of the city council without the permission of City Administrator C. City Administrator C has told Engineer A that "we will face the problem when it comes." City Administrator C orders Engineer A to discuss the problems only with him and warns her that her job is in danger if she disobeys.

Engineer A again privately brings the problem up to other city officials. City Administrator C removes Engineer A from responsibility of the entire sanitary system and the chain of command by a letter instructing Technician B that he is to take responsible charge of the sanitary system and report
directly to City Administrator C. Technician B asks for a clarification and is again instructed via memo by City Administrator C that he, Technician B, is completely responsible and is to report any interference by a third party to City Administrator C. Engineer A receives a copy of the memo. In addition, Engineer A is placed on probation and ordered not to discuss this matter further and that if she does she will be terminated.

Engineer A continues in her capacity as City Engineer/Director of Public Works, assumes no responsibility for the disposal plant and beds, but continues to advise Technician B without the knowledge of City Administrator C.

That winter during the canning season, particularly heavy storms occur in the city. It becomes obvious to those involved that if waste water from the ponds containing the domestic waste is not released to the local river, the ponds will overflow the levees and dump all waste into the river. Under state law, this condition is required to be reported to the state water pollution control authority, the agency responsible for monitoring and overseeing water quality in state streams and rivers.

**Question:**
Did Engineer A fulfill her ethical obligation by informing City Administrator C and certain members of the city council of her concerns?

**References:**

*Code of Ethics* - Section I.1.: "Engineers, in the fulfillment of their professional duties, shall hold paramount the safety, health and welfare of the public in the performance of their professional duties."

Section II.1.a.: "Engineers shall at all times recognize that their primary obligation is to protect the safety, health, property and welfare of the public. If their professional judgment is overruled under circumstances where the safety, health, property or welfare of the public are endangered, they shall notify their employer or client and such other authority as may be appropriate."

Section II.4.: "Engineers shall act in professional matters for each employer or client as faithful agents or trustees."

Section III.2.b.: "Engineers shall 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, they shall notify the proper authorities and withdraw from further service on the project."

**Discussion:**
The engineer's obligation to hold paramount the safety, health, and welfare of the public in the performance of his professional duties, is probably among the most basic. Clearly, its importance is evident by the fact that it is the very first obligation stated in the NSPE Code of Ethics. Moreover, the premise upon which professional engineering exists -- the engineering registration process -- is founded upon the proposition that in order to protect the public health and safety, the state has an interest in regulating by law the practice of the profession.

While easily stated in the abstract, the breadth and scope of this fundamental obligation is far more difficult to fix. As we have long known, ethics frequently involves a delicate balance between competing and, oft times, conflicting obligations. However, it seems clear that where the conflict is between one important obligation or loyalty and the protection of the public, for the engineer the latter must be viewed as the higher obligation.

The Board has faced this most difficult issue on two other occasions in somewhat dissimilar circumstances. In Case 65-12, we dealt with a situation in which a group of engineers believed that certain machinery was unsafe, and we determined that the engineers were ethically justified in refusing to participate in the processing or production of the product in question. We recognized in that case that such action by the engineers would likely lead to the loss of employment.

More recently, in Case 82-5, the engineer was employed by a large industrial company and after reviewing plans for materials supplied by a subcontractor, determined that they were inadequate both from a design and a cost standpoint and therefore should be rejected. Thereafter, the engineer
advised his superiors of the deficiencies but his recommendations were rejected. The engineer persisted with his recommendations and was placed on probation with the warning that if his job performance did not improve he would be terminated.

In finding that an engineer does not have an ethical obligation to continue an effort to secure a change in the policy of an employer under these circumstances, or to report his concerns to the proper authority, we stated, nevertheless, that the engineer has an ethical "right" to do so as a matter of personal conscience. We emphasized, however, that the case then before us did not directly involve the protection of the public safety, health, and welfare, but rather was an internal dispute between an employer and an employee.

In addition, we found in Case 82-5 that the situation presented has become well known in recent years as "whistleblowing" and if an engineer feels strongly that an employer's course of action is improper when it relates to public concerns, and if the engineer feels compelled to "blow the whistle" to expose the facts as he sees them, he may well have to pay the price of loss of employment. We also commented that in recent years, engineers have gone through such experiences and even if they have ultimately prevailed on legal or political grounds, the experience is not to be taken lightly. We concluded that "the Code only requires that the engineer withdraw from a project and report to proper authorities when the circumstances involve endangerment to the public safety, health and welfare." Clearly, the case presently before the Board involves "endangerment to the public safety, health and welfare" -- the contamination of the water supply -- and therefore it is clear that Engineer A has an obligation to report the matter to her employer. Under the facts it appears that Engineer A has fulfilled this specific aspect of her obligation by reporting her concerns to City Administrator C and thereafter to certain members of the city council. However, under the facts of this case, we believe Engineer A had an ethical obligation under the Code to go considerably farther.

In the context of this case, we do not believe that Engineer A's act of reporting her concerns to City Administrator C or certain members of the city council constituted a reporting to the "proper authorities" as intended under the Code. Nor do we believe, Engineer A's decision to assume no responsibility for the plant and beds constitutes a "withdrawal from further service on the project." It is clear under the facts of this case that Engineer A was aware of a pattern of ongoing disregard for the law by her immediate superior as well as members of the city council. After several attempts to modify the views of her superiors, it is our view that Engineer A knew or should have known that the "proper authorities" were not the city officials, but more probably state officials (i.e., state water pollution control authority). We cannot find it credible that a City Engineer/Director of Public Works for a medium-sized town would not be aware of this basic obligation. Engineer A's inaction permitted a serious violation of the law to continue and appeared to make Engineer A an "accessory" to the actions of City Administrator C and the others.

In closing, we must acknowledge a basic reality that must confront all engineers faced with similar decisions. As we noted in Cases 65-12 and 82-5, the engineer who makes the decision to "blow the whistle" will in many instances be faced with the loss of employment. While we recognize this sobering
fact, we would be ignoring our obligation to the Code and hence to the engineering profession if, in matters of public health and safety, we were to decide otherwise. For an engineer to permit her professional obligations and duties to be compromised to the point of endangering the public safety and health does grave damage to the image and interests of all engineers.

**Conclusion:**
Engineer A did not fulfill her ethical obligations by informing the City Administrator and certain members of the city council of her concerns.

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**Case #3**

**Code Enforcement - Case No. 98-5**

**Facts:**
Engineer A serves as a director of a building department in a major city. Engineer A has been concerned that as a result of a series of budget cutbacks and more rigid code enforcement requirements, the city has been unable to provide a sufficient number of qualified individuals to perform adequate and timely building inspections. Each code official member of Engineer A's staff is often required to make as many as 60 code inspections per day. Engineer A believes that there is no way even the most conscientious code official can make 60 adequate, much less thorough, inspections in one day, particularly under the newer, more rigid code requirements for the city. These new code requirements greatly enhance and protect the public's health and safety. The code officials are caught between the responsibility to be thorough in their inspections and the city's desire to hold down costs and generate revenue from inspection fees. Engineer A is required to sign off on all final inspection reports.

Engineer A meets with the chairman of the local city council to discuss his concerns. The chairman indicates that he is quite sympathetic to Engineer A's concerns and would be willing to issue an order to permit the hiring of additional code officials for the building department. At the same time, the chairman notes that the city is seeking to encourage more businesses to relocate into the city in order to provide more jobs and a strengthened tax base. In this connection, the chairman seeks Engineer A's concurrence on a city ordinance that would permit certain specified buildings under construction to be "grandfathered" under the older existing enforcement requirements and not the newer, more rigid requirements now in effect. Engineer A agrees to concur with the chairman's proposal, and the chairman issues the order to permit the hiring of additional code officials for the building department, which Engineer A believes the city desperately needs.

**Question:**
Was it ethical for Engineer A to agree to concur with the chairman's proposal under the facts?

**References:**
Section I.1 - Code of Ethics: Engineers, in the fulfillment of their professional duties, shall hold paramount the safety, health and welfare of the public.

Section II.1.b - Code of Ethics: Engineers shall approve only those engineering documents which are in conformity with applicable standards.

Section II.3.b - Code of Ethics: Engineers may express publicly technical opinions that are founded upon knowledge of the facts and competence in the subject matter.

Section III.1.b - Code of Ethics: Engineers shall advise their clients or employers when they believe a project will not be successful.

Discussion:
The duty to hold paramount the public health, safety, and welfare is among the most basic and fundamental obligations to which an engineer is required to adhere. While in many instances, the obligation is often clear and obvious, in other instances, there could be an obligation on the part of the engineer to balance competing or concurrent obligations or responsibilities to protect the public health and safety. The facts of this case are in many ways a classic ethical dilemma faced by many engineers in their professional lives. Engineers have a fundamental obligation to hold paramount the safety, health, and welfare of the public in the performance of their professional duties (See Code Section I.1.). Moreover, the Code provides guidance to engineers who are confronted with circumstances where their professional reputations are at stake. Sometimes engineers are asked by employers or clients to sign off on documents about which they may have reservations or concerns (See Code Section II.1.b.).

The Board has addressed public health and safety issues in the code and approval process on numerous occasions. In BER Case 92-4, Engineer A, an environmental engineer employed by the state environmental protection division, was ordered to draw up a construction permit for construction of a power plant at a manufacturing facility. He was told by a superior to move expeditiously on the permit and "avoid any hang-ups" with respect to technical issues. Engineer A believed the plans as drafted were inadequate to meet the regulation requirements and that outside scrubbers to reduce sulfur dioxide emissions were necessary and without them the issuance of the permit would violate certain air pollution standards as mandated under the 1990 Clean Air Act. His superior believed that the plans, which involved limestone mixed with coal in a fluidized boiler process that would remove 90% of the sulfur dioxide, will meet the regulatory requirements. Engineer A contacted the state engineering licensure board and was informed, based upon the limited information provided to the board, that suspension or revocation of his engineering license was a possibility if he prepared a permit that violated environmental regulations. Engineer A refused to issue the permit and submitted his findings to his superior. The department authorized the issuance of the permit. The Board concluded that (a) it would not have been ethical for Engineer A to withdraw from further work in this case, (b) it would not have been ethical for Engineer A to issue the permit and (c ) it would be ethical for Engineer A to refuse to issue the permit. Specifically, the Board determined that it would not have been ethical for Engineer A to withdraw from further work on the project, because Engineer A had an obligation to stand by his position consistent with his obligation to protect the public, health, safety, and welfare and refuse to issue the permit. Said the Board, "Engineers have an essential role as technically-qualified professionals to 'stick to their guns' and represent the public interest under the circumstances where they believe the public health and safety is at stake."

As early as BER Case 65-12, the Board dealt with a situation in which a group of engineers believed that a product was unsafe. The Board then determined that as long as the engineers held to that view, they were ethically justified in refusing to participate in the processing or production of the product in question. The Board recognized that such action by the engineers would likely lead to loss of employment.

In BER Case 82-5, where an engineer employed by a large defense industry firm documented and reported to his employer excessive costs and time delays by sub-contractors, the Board ruled that the engineer did not have an ethical obligation to continue his efforts to secure a change in the policy after
his employer rejected his reports, or to report his concerns to proper authority, but has an ethical right to do so as a matter of personal conscience. The Board noted that the case did not involve a danger to the public health or safety, but related to a claim of unsatisfactory plans and the unjustified expenditure of public funds. The Board indicated that it could dismiss the case on the narrow ground that the Code does not apply to a claim not involving public health and safety, but that was too narrow a reading of the ethical duties of engineers engaged in such activities. The Board also stated that if an engineer feels strongly that an employer's course of conduct is improper when related to public concerns, and if the engineer feels compelled to blow the whistle to expose facts as he sees them, he may well have to pay the price of loss of employment. In this type of situation, the Board felt that the ethical duty or right of the engineer becomes a matter of personal conscience, but the Board was unwilling to make a blanket statement that there is an ethical duty in these kinds of situations for the engineer to continue the campaign within the company and make the issue one for public discussion.

More recently, in BER Case 88-6, an engineer was employed as the city engineer/director of public works with responsibility for disposal plants and beds and reported to a city administrator. After (1) noticing problems with overflow capacity, which are required to be reported to the state water pollution control authorities, (2) discussing the problem privately with members of the city council, (3) being warned by the city administrator to report the problem only to him, (4) discussing the problem again informally with the city council, and (5) being relieved by the city administrator of responsibility for the disposal plants and beds, the engineer continued to work in the capacity as city engineer/director of public works. In ruling that the engineer failed to fulfill her ethical obligations by informing the city administrator and certain members of the city council of her concern, the Board found that the engineer was aware of a pattern of ongoing disregard for the law by her immediate supervisor, as well as by members of the city council. After several attempts to modify the views of her superiors, the engineer knew, or should have known, that "proper authorities" were not the city officials, but more probably, state officials. The Board could not find it credible that a city engineer/director of public works for a medium-sized town would not be aware of this basic obligation. The Board said that the engineer's inaction permitted a serious violation of the law to continue and made the engineer an "accessory" to the actions of the city administrator and others.

Turning to the facts of the present case, Engineer A is faced with a predicament with a variety of options and alternatives. First, Engineer A could interpret the situation presented as one involving "trade-offs," in which Engineer A must weigh one "public good" (a better building inspection process) against a competing or concurrent "public good" (a consistent code enforcement process). In such a situation, Engineer A could arguably rationalize a decision to permit the inconsistent application of a building code in order to accomplish the larger objective of obtaining the necessary resources to hire a sufficient number of code enforcement officials to provide proper protection to the public health and safety. On the other hand, Engineer A's decision to permit developers to avoid compliance with the newer, updated building code enforcement requirements might potentially cause a real danger to the public health and safety if the a new facility causes harm to the public because of its failure to comply with the more updated code requirements. In addition, agreeing to the chairman's arrangement has the appearance of compromising the public health and safety for political gain.

While this case presents a difficult dilemma for Engineer A, on balance, the Board believes that previous BER cases provide sufficient guidance for Engineer A. Each of the earlier cases discussed present a constant theme that the engineer must hold the public health and safety paramount and that the engineer has an responsibility to insist, however strongly and vociferously, that public officials and decision-makers take steps and corrective steps if necessary to see that this obligation is fulfilled. The Code of Ethics makes it clear that engineers have an obligation to advise their clients or employers when they believe a project will not be successful. In this case, Engineer A should make it plain and clear to the chairman that "righting a wrong with another wrong," does grave damage to the public health and safety (See Code Section III.1.b.). Engineer A should insist that the public will be seriously damaged in either case and that if the integrity of the building code enforcement process is undermined for short-term gain, the city, its citizens, and its businesses will be harmed in the long term.

Conclusion:
It was not ethical for Engineer A to agree to concur with the chairman's proposal under the facts. Additionally, it was not ethical for Engineer A to sign inadequate inspection reports. (See Code Section II.1.b.)

Case #4

Engineer's Disclosure of Potential Conflict Of Interest – Case No. 85-6:

Facts:
Engineer A is retained by the state to perform certain feasibility studies relating to a possible highway spur. The state is considering the possibility of constructing the highway spur through an area that is adjacent to a residential community in which Engineer A's residence is located. After learning of the proposed location for the spur, Engineer A discloses to the state the fact that his residential property may be affected by the new spur and fully discloses the potential conflict with the state. The state does not object to Engineer A's performing the work. Engineer A proceeds with his feasibility study and ultimately recommends that the spur be constructed. The highway spur is constructed.

Question:
Was it ethical for Engineer A to perform the feasibility study despite the fact that his land may be affected thereby?

References:
Code of Ethics- Section II.4.:"Engineers shall act in professional matters for each employer or client as faithful agents or trustees."
Section II.4.a.:"Engineers shall disclose all known or potential conflicts of interest to their employers or clients by promptly informing them of any business association, interest, or other circumstances which could influence or appear to influence their judgment or the quality of their services."

Discussion:
This Board has noted on numerous occasions that the ethical duty of the engineer in areas of conflict of interest is to inform the client of those business connections or interests that may influence the judgment and quality of the engineering services. Those decisions have been consistent with the provisions of Section II.4.a. of the NSPE Code of Ethics cited above.

While that provision of the Code has been interpreted many times over the years, it is, as are all Code provisions, subject to constant examination and reinterpretation. For any code of ethics to have meaning, it must be a living, breathing document which responds to situations that evolve and develop.

This Board has generally interpreted that Code provision in a strict manner. In BER Case 69-13, the Board reviewed a situation where an engineer was an officer in an incorporated engineering consulting firm that was engaged primarily in civil engineering projects for clients. Early in the engineer's life, he had acquired a tract of land by inheritance, which was in an area being developed for residential and industrial use. The engineer's firm had been retained to study and recommend a water and sewer system in the general area of his land interest. The question faced by the Board under those facts was, "May the engineer ethically design a water and sewer system in the general area of his land interest?" The Board ruled that the engineer could not ethically design the system under those
The Board acknowledged that the question was a difficult one to resolve, pointing to the fact that there was no conflict of interest when the engineer entered his practice but that the conflict developed in the normal course of his practice when it became apparent that his study and recommendation could lead to the location of a water and sewer system that might cause a considerable appreciation in the value of his land depending upon the exact location of certain system elements in proximity to his land. The Board stated that while the engineer must make full disclosure of his personal interest to his client before proceeding with the project, such disclosure was not enough under the Code. Said the Board, "He can avoid such a conflict under these facts either by disposing of his land 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." The Board concluded by saying: "This is a harsh result, but so long as men are in their motivations somewhat 'lower than angels,' it is a necessary conclusion to achieve compliance with both the letter and the spirit of the Code of Ethics. The real test of ethical conduct is not when compliance with the Code comports with the interests of those it is intended to govern, but when compliance is adverse to personal interests."

We agree with much of what was stated in BER Case 69-13 considering the Code then in effect. In its reading of the Code of Ethics, the Board took a strict view of the meaning of the Code provisions then in force, which stated:

- "8. The Engineer will endeavor to avoid a conflict of interest with his employer or client, but when unavoidable, the Engineer shall fully disclose the circumstances to his employer or client."
- "8. (a) The Engineer will inform his client or employer of any business connections, interests, or circumstances which may be deemed as influencing his judgment or the quality of his services to his client or employer."

It is clear from a reading of BER Case 69-13 that the Board focused its attention on the first clause of Section 8 stating that "The engineer will endeavor to avoid a conflict of interest with his employer or client." Undoubtedly, the Board reasoned that this was the basic obligation of the engineer in this context, and that any qualification of that obligation would dilute the essential meaning and intent of that obligation. Therefore, the Board did not choose to rely upon the remaining provisions contained in Sections 8 and 8(a) in reaching its decision. Instead, the Board determined that under the facts it would not be sufficient for the engineer to make full disclosure of his personal interest to the client in order to properly address the potential conflict-of-interest question.

While the reasoning of the Board in BER Case 69-13 is extremely important in understanding the ethical dimensions of the instant case, the decision becomes less significant in view of the fact that the Code provisions under which the decision was rendered have been crucially altered. (See Code Sections II.4. and II.4.a., the successor provisions to Section 8.)

As one can readily see, the phrase "engineer will endeavor to avoid a conflict of interest with his employer or client. . . " is no longer contained in the applicable Code provision. Clearly, the reason for that omission is certainly not out of a lack of desire within the engineering profession for an ethical proscription relating to conflicts of interest. Truly, ethical dilemmas relating to conflicts of interest are some of the most significant issues facing the engineering profession today.

Nevertheless, the provision in the Code relating to conflicts of interest was amended and those changes impact upon the manner in which this Board regards BER Case 69-13 as well as the manner in which the Board interprets the Code. It is evident that had Sections II.4. and II.4.a. been in effect at the time the Board decided BER Case 69-13, the Board may well have reached a different result. While it is not our role to speculate upon the intent of this significant change in the NSPE Code of Ethics since BER Case 69-13 was rendered, we do think that some expression by this Board in that regard would assist readers in understanding the basis for the change. In no sense should this change be interpreted in any way to suggest a retreat by this Board or the Code of Ethics from a deep concern for dilemmas relating to conflicts of interest. Rather, it is our view that the modifications in the Code reflect recognition of the fact that conflicts of interest emerge in a multitude of degrees and circumstances and that a blanket, unqualified expression prohibiting engineers to avoid all activities that raise the shadow of a conflict of interest is not a workable approach.
It is often a question of degree as to what does and does not constitute a significant conflict of interest. Obvious and significant conflicts of interest are easily identifiable and should always be avoided. These difficult, multifaceted situations require discussion and consideration as they are complex and sometimes irresolvable. A code should address and provide guidance for these kinds of conflicts of interest. We believe the new Code provisions sought to establish the ethical obligation to engage in dialogue with a client or employer on the difficult questions relating to conflicts of interest. We think that it was for this reason that the Code provisions were altered.

Turning to the facts of the instant case, we are of the view that the ethical obligations contained in Section II.4.a. do not require the engineer to "avoid" any and all situations that may or may not raise the specter of a conflict of interest. Such an interpretation of the Code would leave engineers with neither any real understanding of the ethical issues nor any guidance as to how to deal with the problem. The basic purpose of a code of ethics is to provide the engineering profession with a better awareness and understanding of ethical issues that impact upon the public. Only through interacting with the public and clients will engineers be able to comprehend the true dimensions of ethical issues. We believe that holds true in the area of conflicts of interest.

We add that the Board assumes that under the facts of this case, the state agency involved has a fully qualified staff which will ultimately review the recommendation of the engineer.

Therefore, we are of the view that Engineer A's discussion with the client prior to performing the services and disclosing the possible conflict of interest came within the ethical guidelines of the Code and was a proper course to take in dealing with the conflict. We are not willing to state as we did in BER Case 69-13 that the engineer can only avoid such a conflict either by "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." We do not read the current Code to require such action.

**Conclusion:**
It was not unethical for Engineer A to perform the feasibility study despite the fact that his land may be affected thereby.

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**Case #5**

**Serving As Design Engineer and General Contractor - Case No. 98-1**

**Facts:**
Engineer A, a principal in a local consulting engineering firm practicing as a professional corporation, who also is a principal owner in a construction contracting firm, prepared plans and specifications for the design and construction of a conventional/non-proprietary roof structure for a municipal wastewater treatment facility. The scope of his services were limited to this project only. The municipality engaged a second firm, Engineer B, to administer the bidding and construction, using the plans and specifications prepared by Engineer A. The project was advertised for public bidding, and bids were received and opened. One of the bidders was Engineer A's construction contractor firm.

**Question:**
Was it ethical for Engineer A to bid as the general contractor on a project Engineer A designed?
References:

- Section III.4.a. - Code of Ethics: 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.
- Section III.8.a. - Code of Ethics: Engineers shall conform with state licensure laws in the practice of engineering.

Discussion:

The Board has had an opportunity to discuss the question of conflicts of interest in connection with so-called "Turnkey Procedures" on at least one other occasion. In BER Case 76-9, Engineer Jones was retained by a public agency to develop technical guidelines for an incinerator facility at a major government installation. Following submission, approval and payment to Jones for the technical guidelines, the public agency owner decided it wanted to proceed with the design and construction by a "turnkey" method of one entity providing both the design and construction. The owner requested Jones to participate in this approach through a joint venture arrangement with a construction contractor; or if he preferred, to bid the complete "turnkey" contract and subcontract the construction to a construction company. In any of these arrangements, the owner proposes to secure bids for the design and construction. In concluding that Jones may ethically participate in the enterprise through any of the design/construction procedures stated, the Board, addressing the question of conflict of interest noted, that it could find nothing in the Code that stands for the proposition that engineers may not engage in design/construct or "turnkey" procedures. The Board cited that the conflict of interest provisions in the Code are not controlling by its terms because the owner not only has knowledge of the possibility of a conflict through a business relationship of the parties, but is in fact the moving party desiring the design/construct method.

In BER Case 76-9, the Board proceeded to note that there was no apparent basis under the facts to be concerned about the business relationship influencing the judgment or the quality of services of the engineer because he will jointly with the contractor have the duty to provide the owner with quality engineering services, which are basic to sound construction.

While there are obvious differences in the facts, in some respects, there are basic similarities between BER Case Nos. 79-6 and 98-1. In both cases, the engineers were involved in either the development of technical design guidelines or plans and specifications for a client on a specific project and later were offered the opportunity to lead the construction effort on the same project.

From the facts of this case, it is clear that Engineer A, by being involved in the design of the roof structure for the municipal utility system has become thoroughly knowledgeable about the plans, specifications, drawings, and financing of the project and will have a material and arguably unfair competitive advantage over other contractors who submit bids on the project. Also, although there is nothing in the facts to suggest this possibility, Engineer A could potentially be exposed to criticism that his firm designed a roof structure system that either specified or contained performance criteria that was coordinated with a potential proposal by Engineer A's construction contracting firm.

Finally, while not stated in the facts, there appears to be a possible implication based upon a reading of the facts that among the reasons why Engineer A may have been engaged for design services only was the fact that the laws of the jurisdiction in which the work is being performed precluded Engineer A from performing the work under a "design/build" arrangement and that Engineer A's "limited engagement" effectively permitted Engineer A to bid the work as the contractor through a de facto design/build arrangement (See Code Section III.8.a.). If the purpose of this arrangement was merely to serve as a subterfuge to allow Engineer A the opportunity to evade a legal restriction on design/build and provide Engineer A with a competitive advantage, the Board of Ethical Review would have serious concerns about this arrangement, since it is clear that such an arrangement would undermine procedures at least arguably intended for the protection of the public.
On the other hand, the Board would not be less concerned if the laws of the jurisdiction permitted a design/build contracting arrangement. While design/build has become an accepted and established project delivery system that identifies single-point responsibility for design and construction services, and most of the ethical objections to design/build concerning the engineer's obligation to the client have been clarified, strict adherence to federal, state and local design/build procedures are critical to assure the protection of the public and the administration of fair and reasonable practices for designers and contractors. In this conclusion, the Board would note that many of the issues relating to conflicting loyalties and independent judgment addressed in the NSPE Board of Ethical Review decisions noted above can be addressed through full disclosure and the establishment of clear lines of communication and authority between and among the parties involved in the design/build process (See BER Case No. 95-1).

Moreover, engaging the services of an separate engineer, Engineer B, to administer the bidding and construction phase, will presumably establish a degree of objectivity and impartiality over the process and result in a ongoing independent review of the plans and specifications for the benefit of the client. Gaining the benefit of the design engineer's thorough knowledge and understanding of the plans and specifications as part of the construction team is an option a client should be able to consider.

**Conclusion:**
It is ethical for Engineer A to bid as the general contractor on a project Engineer A designed under the facts presented, as long as the process followed was not a subterfuge to evade the requirements of state and local procurement, licensure laws, and disclosures or consent of all interested parties contained.

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**Refusing to Sign/Seal Construction Documents - Case 96-3**

I.4. - Code of Ethics: Engineers, in the fulfillment of their professional duties, shall act for each employer or client as faithful agents or trustees

III.4. - Code of Ethics: 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.

III.7. - Code of Ethics: 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.

III.8. - Code of Ethics: 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.

**Facts:**
Engineer A, employed by Firm X, left Firm X and goes to work for Firm Y, a competitor. A project on which Engineer A was in responsible charge was virtually completed, but Engineer A did not sign or seal the construction documents before leaving Firm X’s employment. Engineer B, a principal in Firm X...
requests Engineer A to sign and seal the drawing. Engineer A refuses to sign or seal the construction documents unless Firm X pays Engineer A an additional fee.

Questions:
Question 1: Was it ethical for Engineer A to refuse to sign or seal the plans?
Question 2: Was it ethical for Engineer B to ask Engineer A to sign and seal the construction documents?
Question 3: If additional work was required on the part of Engineer A, would it be ethical for Engineer A to request additional compensation?

Discussion:
The obligation of the engineer to take responsibility for professional services is a basic ethical principal contained in the NSPE Code of Ethics. As a general matter, engineers as professionals have the obligation to assume responsibility for professional services performed by them or under their direct personal supervision. Depending upon the nature of the work and other requirements, this may include work performed for the benefit of a client, design work, reports, plans, specifications and work prepared by the engineer which will be submitted to a public authority for approval.

Engineers who work for one firm and then move on to another firm are not released from this professional responsibility. The work that they performed for their previous employer is no less their work because they no longer have a direct relationship with that firm. Once a professional renders professional services on behalf of a client, the professional is duty bound to make certain that the work is done in a responsible and professional manner and that the client’s interests are protected and preserved.

This circumstance can become particularly sensitive where an engineer leaves a firm to go to work with a competing firm. This issue has been discussed by the BER on numerous occasions (see BER Cases 89-7, 92-6, 93-3, 93-7). Nevertheless, the fact that the two firms are in direct competition should have no bearing upon the responsibility of the engineer to assume responsibility for the work and take appropriate steps for the benefit of the client. It would seem not only the ethical course of action, but also an action which comports with the interests of all parties, including the interests of the new firm by which the engineer is now employed.

It is not entirely clear from the facts the full extent to which the work had been completed by Engineer A. However, it can be assumed by the facts and the use of the term “virtually completed” that the work had been completed in almost all respects and only minor ministerial detail remained to be performed. On that basis, it can be assumed that Engineer B would not be requested to perform an exhaustive or detailed review of the work, since it can be assumed that Engineer A was already intimately familiar with the work on the project for which he had been and continues to be responsible. In addition, it does not appear under the facts that because Engineer A is not employed by the original firm at the time he is being asked to sign and seal the drawings that he would be violating any ethical proscription contained in the NSPE Code of Ethics (see NSPE Code Section III.4.). We are concerned by Engineer A’s professional attitude concerning the firm’s request that he sign and seal drawings. While we believe Engineer A may have legitimately been entitled to a small fee for performing additional professional services performed for his former employer, and as part of his accountability to his new firm, we are struck by Engineer A’s refusal to sign and seal the drawings unless paid additional compensation. As we have discussed earlier, since Engineer A was primarily responsible for the work and had direct control and personal supervision over the work, Engineer A has a professional obligation to sign the work regardless of the how the compensation matter is resolved. It is unclear whether competitive pressures between the firms may have been a factor in Engineer A’s position, but such factors should not come into play in a matter of this type by signing and sealing the drawings. (see NSPE Code Section III.8.).

Assuming as we have in this case that Engineer A was primarily responsible for the work and had direct control and personal supervision over the work, Engineer B was clearly justified in asking Engineer A to sign and seal the documents in question.

Conclusions:
Question 1: It was unethical for Engineer A to refuse to sign or seal the construction documents.
Question 2: It was ethical for Engineer B to ask Engineer A to sign and seal the construction documents.
Question 3: It would be ethical for Engineer A to request additional compensation.

Case #7

Knowledge of Information Damaging to Client's Interest - Case No. 76-4

Facts:
The XYZ Corporation has been advised by a State Pollution Control Authority that it has 60 days to apply for a permit to discharge manufacturing wastes into a receiving body of water. XYZ is also advised of the minimum standard that must be met.

In an effort to convince the authority that the receiving body of water after receiving the manufacturing wastes will still meet established environmental standards, the corporation employs Engineer Doe to perform consulting engineering services and submit a detailed report.

After completion of his studies but before completion of any written report, Doe concludes that the discharge from the plant will lower the quality of the receiving body of water below established standards. He further concludes that corrective action will be very costly. Doe verbally advises the XYZ Corporation of his findings. Subsequently, the corporation terminates the contract with Doe with full payment for services performed, and instructs Doe not to render a written report to the corporation. Thereafter, Doe learns that the authority has called a public hearing and that the XYZ Corporation has presented data to support its view that the present discharge meets minimum standards.

Question:
Does Doe have an ethical obligation to report his findings to the authority upon learning of the hearing?

References:
Code of Ethics - Section 1 - "The Engineer will be guided in all his professional relations by the highest standards of integrity, and will act in professional matters for each client or employer as a faithful agent or trustee." Section 1(c) - "He will advise his client or employer when he believes a project will not be successful." 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 nontechnical 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 7 - "The Engineer will not disclose confidential information concerning the business affairs or technical processes of any present or former client or employer without his consent."

Discussion:
Section 1 of the code is clear in providing that the engineer "will act in professional matters for each client or employer as a faithful agent or trustee." In this spirit Engineer Doe has advised the XYZ Corporation that the results of his studies indicate that the established standards will in his opinion be violated. His verbal advice to the corporation would seem to meet the letter and spirit of Section 1 and
The termination of Doe's contract with full payment for services rendered is a business decision which we will presume is permitted by the terms of the engineering services contract between Doe and his client. Doe, however, has reason to question why the corporation specifically stipulates that he not render a written report. Upon learning of the hearing, he is squarely confronted with his obligations to the public concerning its safety, health and welfare. Section 2(a) requires that his duty to the public be paramount. In this case, it is presumed that a failure to meet the minimum standards established by law is detrimental to the public health and safety.

We note that we have not heretofore during the entire existence of the board had occasion to interpret Section 2(c) of the code. That portion of Section 2(c) which requires the engineer to report any request for "unprofessional" conduct to "proper authorities" is particularly pertinent in the situation before us. The client's action instructing Doe to not render a written report when coupled with XYZ's testimony at the hearing raises the question of Doe's obligation under Section 2(c). We interpret the language in the context of the facts to mean that it would now be "unprofessional conduct" for Doe to not take further action to protect the public interest.

It is not material, in our view, that the subject matter does not involve plans and specifications as stipulated in Section 2(c). We interpret "plans and specifications" in this section to include all engineering instruments of service. That particular reference must be read in light of the overall thrust of Sections 2 and 2(a), both of which indicate clearly that the paramount duty of the engineer is to protect the public safety, health and welfare in a broad context. As we noted in Case No. 67-10, even though involving unrelated facts and circumstances, "It is basic to the entire concept of a profession that its members will devote their interests to the public welfare, as is made abundantly clear in Section 2 and Section 2(a) of the code."

Section 7 of the code does not give us pause because the action of the engineer in advising proper authority of the apparent danger to the public interest will not in this case be disclosing the technical processes or business affairs of the client.

**Conclusion**: Doe has an ethical obligation to report his findings to the authority upon learning of the hearing.  

*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.*
1. The Rules of Practice contained in the NSPE Code of Ethics for Engineers requires that they perform services:
   a. only in the technical areas in which they were licensed.
   b. for an entire project provided it was prepared under their supervision.
   c. only in the areas of their competence.
   d. only when qualified by education in the specific technical fields involved.

2. The NSPE Code of Ethics for Engineers promulgates certain Professional Obligations that are applicable to:
   a. Engineers who are members of NSPE.
   b. Engineers in private practice.
   c. Engineers employed in the government sector.
   d. all Engineers.
3. The NSPE Code of Ethics for Engineers:

   a. forbids Engineers from bidding on professional services.
   b. was revised in July, 2007 to rescind the prohibition against competitive bidding
to secure professional services.
   c. requires the selection of an Engineer or firm to be based on qualifications.
   d. sets forth standards and guidelines for the selection process.

4. Case #1 illustrates the fact that, while there may be a difference of opinion between an
   Engineer and the client over a design,

   a. it is ethical for the Engineer to deliver the project documents to the client.
   b. the Engineer is not obligated the plans and specifications to the client.
   c. the Engineer does not need to have verifiable facts or evidence to substantiate a charge that a
danger to the public exists in order to withhold the project documents from the client.
   d. an Engineer cannot assume that turning over plans and specifications to the client may result in
   subsequent endangerment to the public.

5. The primary conclusion that may be drawn from Case # 2 is:

   a. Engineer A’s decision to assume no responsibility for the sewage treatment plant
constituted a withdrawal from further service on the project.
   b. since “whistle blowing”, in many instances, may result in loss of employment,
Professional obligations and duties may be compromised.
   c. since the Engineer was removed from responsibility for the sanitary sewer system
by her Supervisor, she is no longer liable for its performance.
   d. an Engineer must use good judgment in determining what constitutes “the proper
authority(ies)” when reporting a potential situation involving public safety.

6. Case #3, Code Enforcement, describes an agreement reached by the Director of the
   Building Department and the Chairman of the City Council to assist the City in meeting its objectives
with regard to building inspections.

   a. it is an example of where “trade-offs” resulted in a good “win-win” situation for the City.
   b. It is an example of where “trade-offs” resulted in endangerment to the public health and safety.
   c. The Director of the Building Department has no obligation to advise the Council Chairman that
the proposed “trade-off” would be unsuccessful.
   d. agreeing to the Chairman’s proposal did not appear to compromise the public health and safety
for political gain.
7. Case #4, Disclosure of Potential Conflict of Interest.
   a. places emphasis on the ethical obligation of an Engineer to fully disclose a possible conflict of interest to both employers or clients.
   b. has no merit as an ethical case to be reviewed.
   c. conflict of interest cases are subject to much interpretation and speculation
   d. concluded that the Engineer should dispose of his land prior to commencing the feasibility study.

8. Case #5:
   a. shows the disadvantages of the design-build project delivery system.
   b. provided the Engineer with a competitive advantage by allowing him to bid on the project.
   c. Upheld the ethics of the design-build scenario described provided it met the requirements of state and local procurement and licensing laws.
   d. Conflict of interest provisions in the Code of Ethics do not apply to “Turnkey Projects”.

9. Case #6 provides answers to certain questions pertaining to the signing/sealing of construction documents, to wit:
   a. it is unethical for an Engineer to refuse to sign/seal construction documents prepared under his/her direct supervision
   b. it is ethical for a principal Engineer to ask an Engineer to sign/seal construction documents prepared under his/her direct supervision.
   c. it is ethical for an Engineer to request additional compensation for signing/sealing under the scenario described in the Case.
   d. all of the above.

    a. the finding was weakened by the fact that the matter did not involve the preparation of plans and specifications.
    b. illustrates the fact that a professional engineer’s obligation to protect the public safety, health, and welfare overrides his obligation to his client.
    c. the finding was weakened by the fact that technical processes and business affairs of the client were disclosed.
    d. the finding was weakened by the fact that the client had terminated the Engineer’s contract.