

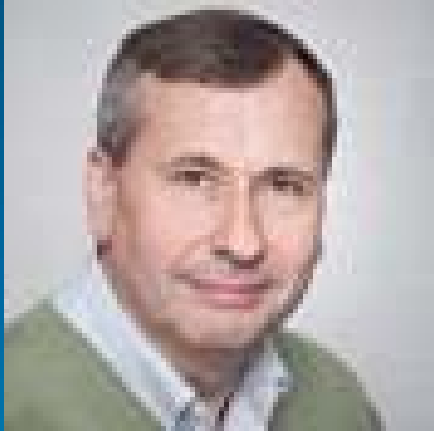


The Federation of New York Solid Waste Associations Conference
Virtual Conference, May 2021

ETHICS IN ENGINEERING

A PANEL DISCUSSION





TODAY'S MODERATOR

MARK SWYKA, PE
TETRA TECH



TODAY'S PANELISTS



KEVIN BERNSTEIN, ESQ.



AMY DAVIES, IE



REBECCA
GUARDINO



DARYL O'DELL, PE

Share your opinion...

Use the chat feature to share your perspective



Engineering Code of Ethics

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.

(NSPE)

Fundamental Canons

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

- Hold paramount the safety, health and welfare of the public
- Perform services only in areas of their competence
- Issue public statements only in an objective and truthful manner
- Act for each employer or client as faithful agents and trustee

PANELIST PERSPECTIVE

- *What does engineering ethics mean to you?*



PANELIST PERSPECTIVE

- *What does engineering ethics mean to you?*
- *Are “ethical” and “legal” synonymous?*



SCENARIO REVIEW

BOARD OF ETHICAL REVIEW CASES: PANELIST PROSPECTIVE



SCENARIO 1 – Conflict of Interest

Engineer A (*professional engineer in private practice*) is appointed to a public utility board selection committee for the purpose of hiring an engineer for a sewer project. **Engineer B** (*a professional engineer in private practice*) submits a statement of qualifications for the sewer project.

- **Both engineers A and B** have their own engineering firms and compete in the same geographic area where the sewer project is being proposed.
- Engineer A is not competing for this project. During the utility board selection process, Engineer A evaluates and assigns Engineer B a low score. Engineer B was not selected for the sewer project.
- **Instead, Engineer C** (*the engineer with the highest-ranked score*) is retained by the public utility to perform the engineering services.

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



Engineer A had an obligation to fulfill all required conflict-of-interest disclosure requirements that might apply under the applicable public utility laws and regulations. At that point, it would be up to the public utility selection board to determine whether Engineer A would be required to be recused from the selection.

Ref. Sections: II.4.a, II.4.d, III.5, III.6. (19-5)

SCENARIO 2 – Objectivity & Truthfulness

Engineer A is a consulting engineer who performs structural inspections for DOT using mechanical drones. The scope of Engineer A's services on a project was solely to identify the physical conditions of a bridge and make recommendations regarding bridge repairs.

- Engineer A deploys a drone to perform a series of bridge inspections as part of Engineer A's contract for inspection services with the state Department of Transportation.
- During one inspection the drone unexpectedly records an encounter between a law enforcement officer and a motorist that results in the exchange of gunfire.
- Following review of the drone recording, Engineer A relay notified DOT of the gunfire event. The state DOT advised Engineer A that it does not plan to share the information with state or local law enforcement unless so requested by state or local authorities.

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

SCENARIO 2 – BOARD CONCLUSION



Engineer A took appropriate steps to bring this matter to the attention of the state DOT, Engineer A's client and an appropriate authority. While the BER believes Engineer A fulfilled their ethical responsibility under the NSPE Code of Ethics, since this is a matter of significant public interest and concern and relates to the public health and safety, the BER is of the view that Engineer A should also properly bring the existence of the drone recording to the attention of appropriate local or state law enforcement authorities for further review and investigation, and also advise the state DOT.

Ref. Sections: II.1, II.1.f, II.3.a, II.4, III.3.a. (18-11)

SCENARIO 3 – Public Criticism - Parody

Engineer A is an engineering student within an engineering program at a major university.

- In an online student blog not directly associated with the university, Engineer A parodied one of his **engineering professors, Engineer B**.
- The parodied characterization could be viewed by some as humorous and not malicious.
- It could also be viewed by others as disparaging. The blog was viewed by many engineering students at the university as well as by engineering faculty.

Question: *Was it ethical for Engineer A to satirize one of engineering professors (Engineer B)?*

SCENARIO 3 – BOARD CONCLUSION



Engineer A's actions were inconsistent with the NSPE Code of Ethics. Engineer A should issue an apology to Engineer B in Engineer A's blog and personally.

Ref. Section: III.7 (19-8)

SCENARIO 4 – Out-of-State Services

Engineer A is licensed in **State A** and is retained by an attorney in the state to evaluate a large piece of capital equipment that failed in an industrial plant located there.

- There is a pending legal action before the state courts.
- Following the equipment failure, the owner moved the equipment to its warehouse in **State B**. **Engineer A** is not licensed in **State B**.

Question: *Would it be ethical for Engineer A (not licensed in State B), to inspect equipment in State B?*



Engineer A has an ethical obligation to review the definition of the practice of engineering in State B or become licensed in State B if the activities Engineer A will be performing require a license.

Ref. Section: III.8.a. (19-6)

Engineer A, a professional engineer licensed in four states, specializes in air pollution control and air emissions permitting and has practiced professional engineering successfully for 25 years for multiple employers.

- **Engineer A has high-functioning Autism.** Engineer A has kept this fact not only from his current employer (which he has worked for 5 years) but also previous employers.
- **Engineer A** recently attended an autism support conference. One of the speakers presented on self-advocacy, which encourages autistic individuals, when able, to share who they are and what they can do. The speaker noted that a person with autism needs to be treated with respect and not as someone with *“special needs.”*
- After considerable thought, Engineer A considered the language in the NSPE Code of Ethics, which requires engineers to “avoid deceptive acts.” Engineer A would like to be open about his autism, but because Engineer A obtained his employment without disclosing his autism,
- Engineer A is concerned that doing so might place his career in jeopardy. At the least, disclosure could limit his career options if his employer and potential future employers have biases or concerns about client interactions.

Question: *What are Engineer A’s ethical obligations under the circumstances?*



Engineer A is certainly free to disclose his autism if he so chooses. However, the NSPE Code of Ethics does not compel disclosure nor does a failure to disclose somehow constitutes a "deception."

Ref. Sections: 1.5, 1.6, III.1.f. (19-1)

SCENARIO 6 – Fee Tied to Charitable Contribution

Engineer A has a consulting engineering firm and enters into an agreement with a not-for-profit organization to design a renovation of one of the organization's buildings.

- Following the execution of the agreement, the organization proposes a series of design changes that cause the services to exceed the budgeted amounts.
- Because the organization has limited resources and because the organization's mission is charitable, Engineer A does not immediately invoice the organization for the design changes.
- Engineer A proposes that in lieu of immediate payment from the organization, Engineer A will delay submitting the invoice, make a personal charitable cash contribution to the organization for an amount approximating the amount of the invoice (but not claim a tax deduction for the contribution).
- And thereafter invoice the organization, with the organization paying Engineer A's firm for his engineering design services.

SCENARIO 6 – Fee Tied to Charitable Contribution

Question: Was it ethical for Engineer A to...

- Propose that in lieu of immediate payment from the organization, Engineer A will delay submitting the invoice...
- Make a personal charitable cash contribution to the organization for an amount approximating the amount of the invoice (*but not claim a tax deduction for the contribution*)...
- And thereafter invoice the organization, with the organization paying Engineer A for his engineering design services?



Engineer A's actions are consistent with the professional engineer's obligation to participate in civic affairs and other activities to advance the well-being of their community, assuming these actions are lawful and do not involve any illegal or fraudulent activity. The board strongly encourages Engineer A to be cautious of any appearance of impropriety and to seek advice and assistance with appropriate legal and tax professionals.

Ref. Sections: I.6, II.1.d, II.3.c, III.2.a. (19-2)

SCENARIO 7 – Expert Witness

Engineer A is a professional engineer with expertise in mechanical engineering who also serves as a forensic engineering expert.

- Engineer A, who chairs a boiler code standards and safety committee within an engineering society, has been requested by **Attorney X**, a defense attorney, to conduct an investigation and potentially serve as an expert witness on behalf of a boiler manufacturer in connection with a personal injury case involving a pressure vessel explosion.
- Engineer A learns that the forensic engineering expert for the plaintiff, **Engineer B**, is a member of one of the technical subcommittees within the boiler code standards and safety committee that Engineer A chairs.

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



Engineer A's role as a private forensic engineering expert should not present any clear or apparent conflict of interest.

Engineer A has an obligation to (1) fully disclose to Attorney X his role as the chairman of the boiler code standards and safety committee within an engineering society, and (2) advise Attorney X that Engineer B serves a member of one of the technical subcommittees within the boiler code standards and safety committee.

Engineer A has an obligation to be respectful of Engineer B in his role as a member of one of the technical subcommittees within the boiler code standards and safety committee and also not engage in any written or verbal exchanges with Engineer B regarding the pending litigation without direction from legal counsel.

Ref. Sections: 11.3.a, 11.3.c, 11.4.a. (19-3)

Engineer A is a professional engineer employed as an owner's representative for the design and construction of a commercial project in a small community.

- Engineer A prepares drawings, plans, and specifications for the project and submits them to a public authority for approval.
- The public authority routinely assigns **Engineer B**, a civil/structural engineer in private practice, to review the drawings, plans, and specifications and make recommendations to the public authority.
- Engineer B also performs inspections for the public authority during the construction process to verify compliance with local codes and standards.
- During Engineer B's design review process, Engineer B makes a series of recommendations concerning modifications to Engineer A's design drawings, plans, and specifications, and suggests that Engineer A and the owner engage Engineer B's services to assist in the preparation of the modified documents in order to obtain approval by the public authority.

Question: *Was it ethical for Engineer B to suggest that Engineer A and the owner engage Engineer B's services to assist in the preparation of the modified documents in order to obtain approval by the public authority?*

SCENARIO 8 – BOARD CONCLUSION



It was not ethical for Engineer B to advise that Engineer A and the owner engage Engineer B's services to assist in the preparation of the modified documents in order to obtain approval by the public authority.

Ref. Sections: II.4, II.4.a, II.4.b, II.4.c, II.4.d. (19-4)

SCENARIO 9 – Confidentiality

Engineer A is retained by **Attorney X**, representing **Client Y**, a plaintiff in a lawsuit against the owner of a building and several building material manufacturers, to conduct a forensic engineering investigation in connection with a building fire that resulted in the death and injury of several individuals.

- Following the completion of Engineer A's investigation and report, Attorney X and Client Y enter into a private settlement with the building owner and the building material manufacturers.
- Under the terms of the settlement, which is approved by the court, Engineer A is ordered not to reveal the contents of her forensic engineering investigation report.
- Engineer A is concerned that her settlement will undermine her obligation to the public, because she believes the forensic engineering report contains important findings relating to the use of manufactured building materials.

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

SCENARIO 9 – BOARD CONCLUSION



Engineer A has an ethical obligation to maintain the confidentiality of the forensic engineering report. Engineer A may also explore an alternative path to identify the technical issues involved, such as further research that explains her technical concerns without revealing specific and identifiable facts and circumstances that would compromise the settlement agreement involving Client Y.

Ref. Sections: II.1, II.1.a, III.2.a, III.4. (19-7)

SCENARIO 10 – Objectivity & Truthfulness

Engineer A is a principal for **XYZ Consulting Engineering**.

- Engineer A establishes an XYZ Consulting Engineering firm policy.
- Under the firm's policy, it would be improper for XYZ firm employees to provide or serve as a professional licensure reference for past XYZ Consulting Engineering employees.

Question: *Was it ethical for Engineer A to establish an XYZ Consulting Engineering firm policy under which it would be improper for employees to serve as professional licensure references for past employees of XYZ Consulting Engineering?*

SCENARIO 10 – BOARD CONCLUSION



It was unethical for Engineer A to establish an XYZ Consulting Engineering firm policy under which it would be improper for all employees to serve as professional licensure references for past employees of XYZ Consulting Engineering.

Ref. Sections: I.3, II.3.a, III.7. (19-9)

Our Take-Away:

- Ethical and Legal are not synonymous
- The same action can be either ethical or unethical depending upon the circumstances
- Each situation needs to be tested against the fundamental cannons of the Engineer's Code of Ethics

