Objectivity and Truthfulness, Public Health and Safety, Signing and Sealing of Engineering Drawings, and Misrepresentation

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has been approved for continuing education credit by New York State. Participants requiring documentation for New York will receive direction to the online quiz that is required following this session.





- Black and White Areas Easy
 - Right vs. Wrong
- Gray Areas Tougher
 - Right vs. Right
 - Lesser of the Evils/Dilemma
- Other Factors
 - Time/Money
 - Family
 - Career
 - Reputation





Why Study Engineering Ethics?

 To Understand the Standards Governing What is Acceptable Behavior in the Practice of Engineering

Why Practice Engineering Ethically?

- Personal Injury/Property Damage
- Disciplinary Action
- Impact on Reputation, Employer, Clients, Profession
- Possible Loss of Job, Business, etc.

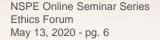




Three Basic Ethical Obligations:

- (1) Public
- (2) Employer/Client
- (3) Other Professionals
 - Never Mutually Exclusive Reciprocal
 - Not A "Zero Sum Game"
 - All Need To Be Considered At All Times
 - Should Be Complementary to Integrated With One Another to the Fullest Extent Possible
 - Ethical Integration = Professional Integrity







Seven Principles Impacting Each Obligation

- 1. Protecting the Public Health, Safety and Welfare
- 2. <u>Demonstrating Professional Competence</u>
- 3. Maintaining Objectivity/Truthfulness
- 4. Addressing Conflict of Interest
- 5. Preserving Confidentiality
- 6. Receiving and Providing Valuable Consideration
- 7. Emerging Areas/Emerging Challenges



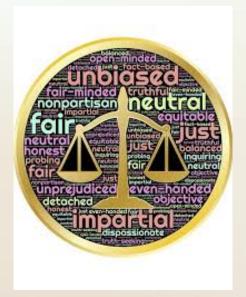
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NSPE's Deputy Chief Executive Officer and General Counsel Arthur Schwartz, CAE will review will review engineering ethics principles and discuss relating to objectivity and truthfulness, public health and safety, signing and sealing of engineering drawings, and misrepresentation. Polling questions and opportunity for Q&A will allow opportunities for audience interaction.



Objectivity and Truthfulness— Professional Reference Policy





Objectivity and Truthfulness—Professional Reference Policy

Facts:

Engineer A is a principal for XYZ Consulting Engineering. Engineer A establishes an XYZ Consulting Engineering firm's 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.





Objectivity and Truthfulness—Professional Reference Policy

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?

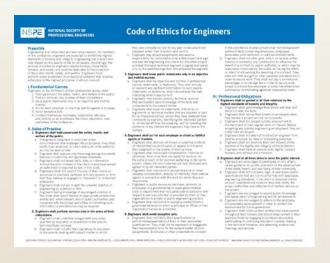




Objectivity and Truthfulness—Professional Reference Policy

Section I.3. – NSPE Code of Ethics

Engineers, in the fulfillment of their professional duties, shall issue public statements only in an objective and truthful manner.





Objectivity and Truthfulness—Professional Reference Policy

Section II.3.a. - NSPE Code of Ethics

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.

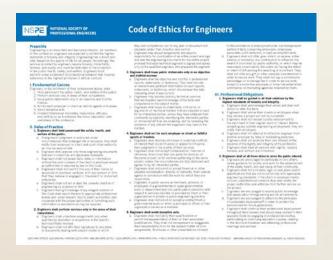




Objectivity and Truthfulness—Professional Reference Policy

Section III.7. – NSPE 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.





Objectivity and Truthfulness—Professional Reference Policy

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.





Objectivity and Truthfulness—Professional Reference Policy

Polling Question #1

It would have been ethical for Engineer prevent *current* employees to serve as a professional licensure reference for current XYZ Consulting Engineering employees.

- Agree
- Disagree
- Not Sure





PUBLIC HEALTH AND SAFETY— OBSERVED STRUCTURAL DEFECTS AND INSPECTION BY COUNTY BUILDING OFFICIAL





Public Health and Safety—
Observed Structural Defects and Inspection by County Building Official

Facts:

Engineer A is hired by Client B to conduct a building investigation to determine the origin and cause of a fire resulting in financial loss. During the investigation, Engineer A, who was also a structural engineer, observes that the building is structurally unstable.





Public Health and Safety— Observed Structural Defects and Inspection by County Building Official

Facts (continued):

Engineer A performs a preliminary investigation of the building and after speaking with Client B, concludes that there were recent structural changes made to the building that may have caused the roof to sag and the walls to lean outward due to insufficient lateral restraint. Engineer A also learns that following construction modifications, the building was issued a certificate of occupancy by a county building official.





Public Health and Safety—
Observed Structural Defects and Inspection by County Building Official

Facts (continued):

Although not imminent, collapse of the building is a danger, Engineer A believes. Engineer A immediately advises Client B and calls the county building official. The county building official did not return Engineer A's phone call. Engineer A also recommended to the owners to brace the building to prevent its collapse.





Public Health and Safety—
Observed Structural Defects and Inspection by County Building Official

Question:

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





Public Health and Safety— Observed Structural Defects and Inspection by County Building Official

Section I.1. - NSPE Code of Ethics

Engineers, in the fulfillment of their professional duties, shall hold paramount the safety, health, and welfare of the public.

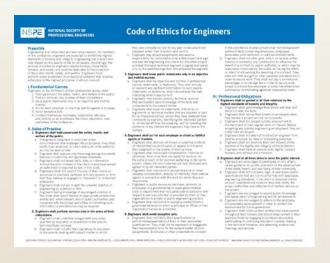




Public Health and Safety— Observed Structural Defects and Inspection by County Building Official

Section I.2. - NSPE Code of Ethics

Engineers, in the fulfillment of their professional duties, shall perform services only in areas of their competence.

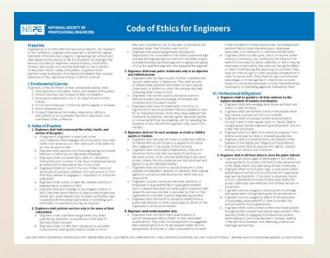




Public Health and Safety— Observed Structural Defects and Inspection by County Building Official

Section II.1.a. - NSPE Code of Ethics

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.

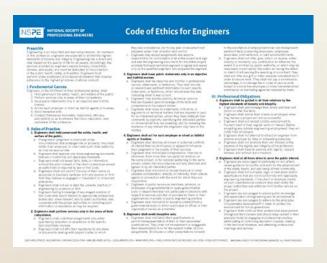




Public Health and Safety— Observed Structural Defects and Inspection by County Building Official

Section III.1.b. - NSPE Code of Ethics

Engineers shall advise their clients or employers when they believe a project will not be successful.





Public Health and Safety—
Observed Structural Defects and Inspection by County Building Official

Conclusion:

Engineer A had an obligation to continue to pursue a resolution of the matter by working with Client B and in contacting in writing the supervisor of the county official, the fire marshal, or any other agency with jurisdiction, advising them of the structural deficiencies.





Public Health and Safety—
Observed Structural Defects and Inspection by County Building Official

Polling Question #2

If Engineer A had received a response from the county building official, Engineer A's ethical obligations would have been satisfied.

- Yes
- No
- Not Sure





SIGNING AND SEALING—MANUFACTURER'S DRAWINGS





Facts:

Engineer A is the lead engineer for FGH Design which is designing a plan to interface with a manufactured alarm and public address system with existing equipment at a State X Government Laboratory.





Facts (continued):

The final design drawings will show the interconnections between Buzzpeak, the manufacturer of the alarm and public address system, and the State X facility infrastructure, such as speakers, and alarm triggers.





Facts (continued):

The preliminary drawing package consists of two groups of documents: 1) the interconnection drawings specifically designed for the government client, and 2) the standard drawing from the PA system manufacturer of their cabinet, with modifications to facilitate connection to the facility.





Facts (continued):

The Client, State X Government Laboratory, has requested that the final drawings be sealed by Engineer A, including drawings provided by Buzzpeak, which contain changes made by Buzzpeak to their drawings that were required for interfacing to the customer's systems at the request of the Engineer A.





Question:

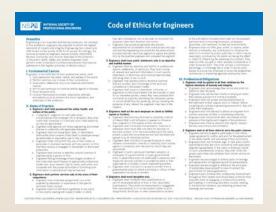
Would it be ethical for Engineer A to sign and seal drawings provided by the manufacturer, which contain changes made by the manufacturer to their drawings that were required for the interfacing to the customer's systems?





Section II.2.a. - NSPE Code of Ethics

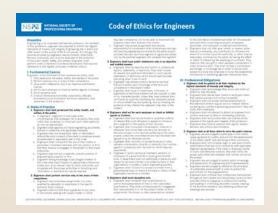
Engineers shall undertake assignments only when qualified by education or experience in the specific technical fields involved.





Section II.2.b. - NSPE Code of Ethics

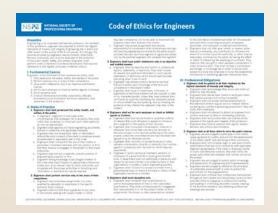
Engineers shall not affix their signatures to any plans or documents dealing with subject matter in which they lack competence, nor to any plan or document not prepared under their direction and control.





Section II.2.c. - NSPE Code of Ethics

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.





Case: Signing and Sealing—Manufacturer's Drawings

Conclusion:

It would not be ethical for Engineer A to sign and seal drawings prepared by the manufacturer that contain changes made by the manufacturer to their equipment that are required for the interfacing to the customer's systems.





Case: Signing and Sealing—Manufacturer's Drawings

Polling Question #3

I have a clear understanding what the engineering licensing laws and regulations require in connection with the signing and sealing of drawings that show the integration of manufactured systems into a facility being constructed.

- Agree
- Disagree
- Not Sure





MISREPRESENTATION— CLAIMING CREDIT FOR WORK OF FORMER EMPLOYER

God Intentions
Misrepresentation
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Misrepresentation—Claiming Credit for Work of Former Employer

Facts:

Engineer A is a professional engineer and owner of ABC Engineering. Engineer A recently learned that Engineer B, a former employee of ABC who recently started his own firm (EFG Engineering), is claiming "extensive project experience." The EFG Engineering website references a list of "past clients" and "past projects."





Misrepresentation—Claiming Credit for Work of Former Employer

Facts (continued):

In fact, Engineer A was the Engineer of Record and it was Engineer A's company (ABC Engineering) that was responsible for the design of the "past projects" referenced for "past clients." On none of the projects Engineer B lists on the EFG website was Engineer B the Engineer of Record.





Misrepresentation—Claiming Credit for Work of Former Employer

Facts (continued):

Engineer B was an engineer-intern for most of Engineer B's tenure with ABC Engineering. While Engineer B performed tasks for the referenced clients and on "past projects," Engineer B's role was as a junior member of the design team.





Misrepresentation—Claiming Credit for Work of Former Employer

Question:

What are Engineer A's ethical responsibilities?





Misrepresentation—Claiming Credit for Work of Former Employer

Section II.1.f. - NSPE Code of Ethics

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.

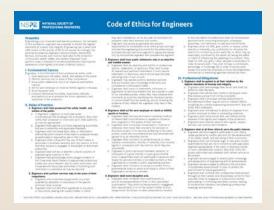




Misrepresentation—Claiming Credit for Work of Former Employer

Section II.4. - NSPE Code of Ethics

Engineers shall act for each employer or client as faithful agents or trustees.





Misrepresentation—Claiming Credit for Work of Former Employer

Section II.5.a. - NSPE Code of Ethics

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.

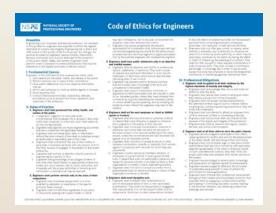




Misrepresentation—Claiming Credit for Work of Former Employer

Section III.9. - NSPE Code of Ethics

Engineers shall give credit for engineering work to those to whom credit is due, and will recognize the proprietary interests of others.

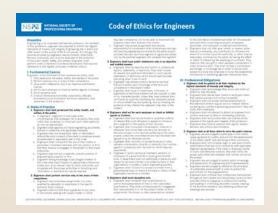




Misrepresentation—Claiming Credit for Work of Former Employer

Section III.9.a. - NSPE Code of Ethics

Engineers shall, whenever possible, name the person or persons who may be individually responsible for designs, inventions, writings, or other accomplishments.





Misrepresentation—Claiming Credit for Work of Former Employer

Conclusion:

Engineer A should:

- (1) consider sending a letter to Engineer B, noting the fact that Engineer B and Engineer B's firm are improperly and falsely claiming credit for work for which they were not responsible or in which Engineer B played a minor role;
- (2) demanding that Engineer B and Engineer B's firm cease and desist from including the subject references on their website; and,
- (3) where appropriate, Engineer A shall report Engineer B to the state board of professional engineers.





Misrepresentation—Claiming Credit for Work of Former Employer

Polling Question #4

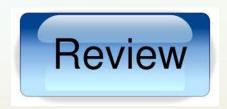
I think it is an acceptable form of promotion and advancement to overstate to a certain degree one's qualifications and experience on individual or company resume or C.V.

- Agree
- Disagree
- Not sure



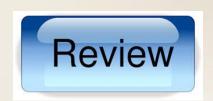


Key Ethics Points





- Black and white ethical situations are among the easiest ethical situations to resolve.
- A conflict between the public health and safety and the duty of confidentiality is an example of a gray area ethical situation.
- In the hierarchy of ethical obligations, protection of public health and safety is paramount.



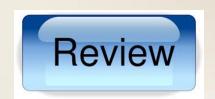


- While it is important to understand the various individual provisions of the Code of Ethics, reading the Code in its entirety is critical to understanding an engineer's ethical obligations.
- Engineers practicing internationally should be mindful of their obligations to continue to adhere to US laws and regulations.
- Giving due credit to and recognizing the contributions of professional colleagues is a critical part of being an ethical professional engineer.





- Conforming to the requirements of state engineering licensure laws and regulations often involves proactive measures on the part of a professional engineer in relation to the public, employers/clients and professional colleagues.
- Sustainable design and development principles should incorporated in all professional engineer's services.





Discussion





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Thank You!

