



Professionalism and Ethics in the Practice of Engineering

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Disclaimer

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Handouts and Quiz

- Handouts for the course include a copy of the slides.
- After the course, you will receive an electronic Quiz and Evaluation which you must complete to:
 - Confirm your attendance at the session (a score of 70% will be required to get CEU (PDH) credit for the course.)
 - Gather your feedback on the value of the course

Overview

- Basis for Making Ethical Decisions
- The NEW ASCE Code of Ethics
- The NSPE Code of Ethics
- NSPE Board of Ethical Review (BER)
- BER Case Search Engine and Ethics Study Guide
- Rules of Professional Conduct in Indiana Statutes and Rules
- Reporting Violations
- Making Value-laden Decisions
- A case study
- Summary

Expectations

By the end of this session, you will:

- Know about different types of Engineering Codes of Ethics
- Be aware of the Indiana Statutes and Rules associated with professional conduct in engineering practice
- Have a systematic process for solving ethical dilemmas
- See the value of professional and technical organizations in the engineering profession

Ethical behavior

Contract among affected parties

- Unwritten understanding...
 - **Agreed behavior among individuals**
 - **Taught by our upbringing**
 - **“Gentlemen’s Agreement”**
- Written Contract – defined focus
 - **Professional Code of Ethics**
 - **Established and administered by a profession**
- The Law
 - **Federal, state, and local Statutes and Rules**
 - **Administered and enforced by officials: fines and penalties**

Codes of Ethics

- Established by membership of professional societies
- Examples:
 - National Society of Professional Engineers (NSPE)
(<http://www.nspe.org/Ethics/CodeofEthics/index.html>)
 - American Society of Civil Engineers (ASCE)
(<http://www.asce.org/code-of-ethics/>) **New October 26, 2020**
 - American Society of Mechanical Engineers (ASME) –
<https://tinyurl.com/y3799lgx>
 - NCEES Code of Ethics <https://tinyurl.com/yxtjonp9>

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- B.S. Rochester Institute of Technology
- M.S. Univ. of Colorado at Boulder
- Ph.D. from Purdue University.
- 10-years as a senior geotechnical engineer and project mgr.
- Licensed professional engineer in multiple states.
- 2020 ASEE Outstanding Teacher Award
- 2020 ASCE Professional Practice Ethics and Leadership Award



New ASCE Code of Ethics

- Task Committee established by the ASCE Board of Dir., Oct. 2018
- TC had 8 members, including a student
- Started with a *clean slate*.
- Did extensive research
- Consulted ASCE membership on multiple occasions
- Discussed draft new Code with multiple other ASCE Committee
- Approved by the ASCE Board of Dir., Oct. 2020
- [Brock Barry explaining the process](#)

NSPE Code of Ethics

<http://www.nspe.org/Ethics/CodeofEthics/index.html>

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.*

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Slide 11

DVP1

Dave Kish picks up

Drnevich, Vincent P, 2/17/2021

NSPE Code of Ethics, Cont'd.

II. Rules of Practice

1. *Engineers shall hold paramount the safety, health, and welfare of the public.*
2. *Engineers shall perform services only in the areas of their competence.*
3. *Engineers shall issue public statements only in an objective and truthful manner.*
4. *Engineers shall act for each employer or client as faithful agents or trustees*
5. *Engineers shall avoid deceptive acts.*

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NSPE Code of Ethics, Cont'd.

III. Professional Obligations

1. *Engineers shall be guided in all their relations by the highest standards of honesty and integrity.*
 - f. *Engineers shall treat all persons with dignity, respect, fairness and without discrimination.*
2. *Engineers shall at all times strive to serve the public interest.*
3. *Engineers shall avoid all conduct or practice that deceives the public.*
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.*



New in
2019

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NSPE Code of Ethics, Cont'd.

III. Professional Obligations

5. *Engineers shall not be influenced in their professional duties by conflicting interests*
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.*
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.*

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NSPE Code of Ethics, Cont'd.

III. Professional Obligations

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

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Board of Ethical Review (BER)

The Board of Ethical Review is [a panel of engineering ethics experts](#) that has served as the profession's guide through ethical dilemmas since 1954.

- The board consists of seven licensed members who are appointed by the NSPE president.
- The purpose of the BER is to render impartial opinions pertaining to the interpretation of the [NSPE Code of Ethics](#), develop materials, and conduct studies relating to ethics of the engineering profession.

What does a typical BER case look like?

1. List the facts
2. Compare to Others
 - NSPE Code of Ethics
 - Previous BER Cases
3. Detailed discussion of situation
4. Provide a Conclusion


BER Case Resources:

<https://www.nspe.org/resources/ethics/ethics-resources/board-ethical-review-cases>

Board of Ethical Review Cases

Home » Ethics » Ethics Resources » Board of Ethical Review Cases

The following constitute all published opinions of the NSPE Board of Ethical Review. Opinions issued by the NSPE Board of Ethical review prior to 1980 are provided solely for historic purposes and may no longer be valid because of changes to the NSPE Code of Ethics as well as legal and regulatory requirements.

 Watch this video tutorial from NSPE on navigating the new and improved BER Case search engine.

Filter by year:

Search keywords in cases:

Filter by subject:

Filter by code section:

NSPE Ethics Study Guide

includes:

An ethics pre-test

Steps to ethical engineering decisions

Key concepts in engineering ethics, including a hierarchy of ethical obligations



Indiana Law and the Practice of Engineering

**Covered in Indiana Code IC 25-31, IC 25-1-11-5,
and
Rules of the Board 864 IAC Rule 11**

Indiana Law and the Practice of Engineering

- Established by the Legislature – Indiana Code (IC 25-31) (<http://www.in.gov/legislative/ic/code/title25/ar31/>)
- Implemented by Rules established by the State Board of Registration for Professional Engineers – Administrative Code (864 IAC) (http://www.in.gov/legislative/iac/iac_title?iact=864)
- IC 25-1-11-5 - Practitioner compliance with professional standards; findings meriting disciplinary sanctions; fraud or material deception (Applies to all professions in Indiana)
- 864 IAC Rule 11 – Professional Conduct (Applies to engineering practice by licensed engineers)

Rules of the Board IAC 864

- Rules of the Board - refers to the rules generated by the State Board of Registration of Professional Engineers and applies to the practice of all engineering disciplines
 - Draft Rules created by Board, staff, and counsel to the Board
 - Public Hearing with opportunity for input
 - Approval by the Office of the Attorney General
 - Approval by the Office of Management and Budget
 - Governor's Office has opportunity to veto

IAC 864 Rules of the Board

Rule 11 – Professional Conduct (“administrative” sections)

- Section 1: Establishes requirements concerning ethical, economic, and legal principles and unprofessional conduct in the practice of engineering.
- Section 2: [It is assumed that a licensed engineer] is knowledgeable of the Act and Rules of the board and [A licensed engineer agrees] to abide by the Act and Rules
- Section 3: [A licensed engineer understands] that the practice of engineering is a privilege
.....
- Section 24: Conviction of a crime may be a basis for disciplinary action
- Section 25: Discipline of a professional engineer’s license by another jurisdiction may be grounds for disciplinary action

Rule 11 – Professional Conduct

(Rules of the Board - applies to the practice of engineering)

Group the remaining 19 sections into the following seven (7) categories:

1. Public Health Safety and Welfare

- Section 4: The engineer shall at all times recognize the primary obligation to protect the safety, health, and welfare of the public in the performance of professional duties

2. Engineer's Qualifications to practice

- Sections 5-7, 20 & 21 including: The engineer shall undertake to perform engineering assignments only when qualified by education and experience ...

3. "Statements" – including reports and testimony

- Sections 9-11: The engineer shall be completely objective and truthful in all professional reports, statements, or testimony.

4. Conflicts of Interest

- Sections 12,13,17 & 18: The engineer shall conscientiously avoid conflicts of interest with the engineer's employer or client ...

5. Payments and Gifts

- Sections 14-16 & 19: The engineer shall not offer to pay ... any commission, political contribution, gift, or other consideration in order to secure work

6. Use of name in fraudulent or dishonest venture (Section 22)

7. Reporting Violations (Section 23)

Reporting violations in Indiana

IC 25-1-7 Investigation and Prosecution of Complaints Concerning Regulated Occupations

- **Sec. 2.** The office of the attorney general, under the conditions specified in this chapter, may receive, investigate, and prosecute complaints concerning regulated occupations.
- **Sec. 4.** All complaints must be written and signed by the complainant and initially filed with the director. Except for employees of the attorney general's office acting in their official capacity, a complaint may be filed by any person, including members of any of the boards listed in section 1 of this chapter.

<https://www.in.gov/pla/3638.htm>

Reporting violations in Other States

<https://www.usa.gov/state-tribal-governments>

[Contact information for federal, state, and local government officials.](#)

[Contact your state's governor or the mayor of the District of Columbia.](#)

[Information about and resources for Native Americans.](#)

[Contact information for local governments by state.](#)

[Contact information for the attorney general of each state.](#)

[State Consumer Protection Offices](#)

[State Governments](#)

[Contact information for state, county, and municipal courts.](#)

Reporting violations in Federal Agencies

(<https://www.usa.gov/complaint-against-government#item-37437>)

To file a complaint against a federal agency:

1. First, contact the agency directly. View an A-Z index of federal agencies. (<https://www.usa.gov/federal-agencies/a>)
2. If you are unable to resolve an issue with a federal government agency, contact the office of the Inspector General (IG) of that agency. (<https://www.oig.dhs.gov/hotline>)

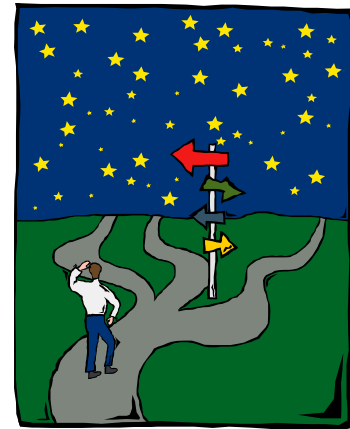
Recognizing Ethical Problems

- We have an ethical problem when we:
 - Have “that feeling in the pit of our stomach”
 - Start rationalizing about a decision
 - Use the phrases
 - “everyone does it”
 - “it’s not that important”
 - “that could hurt his/her feelings”
 - _____????



Systematic Approach to Ethics

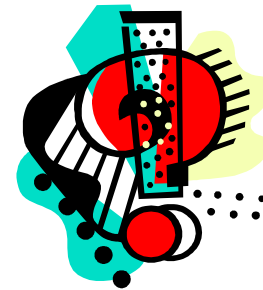
- **How do you solve ethical problems?**
- Ethical thinking - "organized, reasoned analysis of value-laden problems."



Making value-laden decisions

Generated by the CE394 class on October 29, 1998

1. Realize that we have a problem
2. Define the problem (Who - stakeholders, What, When, Where, Why, Evidence)
3. Options available - Possible solutions
4. Weigh the consequences (Pros. vs. Cons.)
5. Compare to others - Code of Ethics
6. Compare to the law (IC 25-1-11-5 and 864 IAC Rule 11)
7. Does it feel right? (NY Times rule. What does your gut tell you? The Golden Rule.)
8. Ask someone else
9. Choose what to do
10. Act on it
11. Learn from experience



Case Study – The Discoverer of Margaritaville

Kish Engineering is selected by the authorities in the mythical country of Margaritaville to build the foundation and base for a statue of that country's discoverer. Kish subcontracts with Vince Drnevich to assess the soil on which the foundation will be constructed. While reviewing documents Kish shared with him in confidence, Vince learns Kish contributed to a fund established to cast a statue of Margaritaville's discoverer.

It's common practice in Margaritaville for people to leave gifts (or tips as they are called in that region) in consideration of better service in the future. Has Kish acted ethically? What should Vince do?



Margaritaville – Apply Decision-Making Process

- 1 Does Vince or David have a problem?
2. Define the problem:
 - a) Who is the owner?
 - b) Who is paying for the project?
 - c) What type of contract covered the work?
3. Is there a relationship between Kish and the owner?
4. Options available?
 - a) Is it an ethical problem?
 - b) Discuss with Kish
 - c) Discuss with others
5. Check with the Code of Ethics and the Law

Margaritaville – applying the ASCE Code of Ethics

Discussion:

Has Kish acted ethically?

1. Assume he did not.

What should Drnevich do?

ASCE Code Provisions:

1. [Society: d, g, and i](#)
3. [Profession: a, b, & d](#)
4. [Clients & Employers: a, b, and e](#)



ASCE Code of Ethics

1. SOCIETY

Engineers:

.....

- d. have zero tolerance for bribery, fraud, and corruption in all forms, and report violations to the proper authorities;

.....

- g. acknowledge the diverse historical, social, and cultural needs of the community, and incorporate these considerations in their work;

.....

- i. report misconduct to the appropriate authorities where necessary to protect the health, safety, and welfare of the public.

ASCE Code of Ethics

3. PROFESSION

Engineers:

- a. uphold the honor, integrity, and dignity of the profession;
- b. practice engineering in compliance with all legal requirements in the jurisdiction of practice;
.....
- d. reject practices of unfair competition;

ASCE Code of Ethics

4. CLIENTS AND EMPLOYERS

Engineers:

- a. act as faithful agents of their clients and employers with integrity and professionalism;
- b. make clear to clients and employers any real, potential, or perceived conflicts of interest;
.....
- e. keep clients' and employers' identified proprietary information confidential;

Margaritaville – applying the NSPE Code of Ethics

Discussion:

Apply the Process of Making
Value-Laden Decisions

Rules of Practice for Canon 2.

[II. 1. c\)](#)

Prof. Obligations

[III. 1](#)

[III. 3](#)

[III. 4](#)



NSPE Code of Ethics

II. Rules of Practice

1. *Engineers shall hold paramount the safety, health, and welfare of the public.*
 - 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.*

NSPE Code of Ethics

III. Professional Obligations

1. *Engineers shall be guided in all their relations by the highest standards of honesty and integrity.*
.....
3. *Engineers shall avoid all conduct or practice that deceives the public.*
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.*

Margaritaville – applying IAC 864 rule 11

Discussion: Assuming Indiana Rules and Laws apply in Margaritaville ...

Has Kish acted ethically?

[Section 19: Payment of consideration to secure work prohibited](#)

What should Vince do?

[Section 12: Conflicts of interest](#)

[Section 13: Disclosure of conflict of interest](#)

[Section 19: Payment of consideration to secure work prohibited](#)

[Section 22: Use of name in fraudulent or dishonest venture \(Drnevich is party to the violation\)](#)

[Section 23: Reporting Violations](#)



IAC 864 Rule 11

Sec. 12. *The engineer shall conscientiously avoid conflicts of interest with the engineer's employer or client, but, when unavoidable, the engineer shall forthwith disclose the circumstances to the engineer's employer or client.*

Sec. 13. *The engineer shall avoid all known conflicts of interest with the engineer's employer or client and shall promptly inform the engineer's employer or client of any business association, interest, or circumstances which could influence judgment or quality of services*

Sec. 19. *The engineer shall not offer to pay, either directly or indirectly, any commission, political contribution, gift, or other consideration in order to secure work, exclusive of securing a salaried position through employment agencies.*

IAC 864 Rule 11

Sec. 22. *The engineer shall not knowingly associate with or permit the use of the engineer's name or firm name in a business venture by any person or firm which the engineer knows, or has reason to believe, is engaging in business or professional practices of a fraudulent or dishonest nature.*

Sec. 23. *If the engineer has knowledge or reason to believe that another person or firm may be in violation of this article, the engineer shall present such information to the board in writing and shall cooperate with the board in furnishing such further information or assistance as may be required by the board.*

Ethical Decisions are Tough!

- Not always “black” or “ ”, but most often shades of “gray”
- Personal loyalties/feelings involved
- No-win situations
- Job or livelihood at stake
- Conflicting guidelines
- _____????



Ethical Health Fitness

- Balance of physical, emotional, social, intellectual, economic, and spiritual health
- Take time to “sharpen the saw” (Covey) through reflection, study, Cont. Ed., etc.
- Discuss issues with other professionals
- Consistency of behavior in small things as well as big



NCEES Code of Ethics

- **NCEES Model Rules**

<http://ncees.org/wp-content/uploads/2012/11/ModelRules-20151.pdf> (Page 15)

- A. Licensee's Obligation to the Public

- 10 Rules

- B. Licensee's Obligation to Employer and Clients

- 9 Rules

- C. Licensee's Obligation to Other Licensees

- 4 Rules

Used in FE and PE Exams!

Practice Ethics Exam by NSPE

- Twenty-five true-false questions to hone your skills

<http://www.nspe.org/Ethics/EthicsResources/EthicsExam/index.html>

- Answers to check ethical sharpness

http://www.nspe.org/Ethics/EthicsResources/EthicsExam/exam_answers.html

Ethics References

- **Indiana State Board of Registration for Professional Engineers**

- http://www.in.gov/pla/files/SBRPE_2014_Compilation.pdf

- **The National Society of Professional Engineers**

- <http://www.nspe.org/ethics/>
- <https://www.nspe.org/sites/default/files/resources/pdfs/Ethics/EthicsResources/NSPE-Study-Guide-2018-Jan29.pdf>
- <https://www.nspe.org/resources/ethics/ethics-resources/board-ethical-review-cases> (Searchable by topic, date, etc.)

- **American Society of Civil Engineers (ASCE)**

- <http://www.asce.org/code-of-ethics/>

- **5 Ethical Gray Areas in Civil Engineering**

- [Ben Walpole](#), October 25, 2016, <https://tinyurl.com/y6lqr34q>

Summary

- Ethical behavior benefits everyone
- Ethical behavior may be:
 - Unwritten agreements
 - Codes established by professional societies
 - Statutes and Rules
- Upon renewal of PE license, the person
 - Acknowledges familiarity with the Law and Rules
 - Agrees to abide by them
- Engineers must be aware of agency and company policies concerning gifts

Summary, Cont'd.

- Codes of Ethics are essential for professionals
- Professional/technical societies and professional licensing laws and rules determine the ethical practice of engineering
- Use a systematic approach for resolving value-laden problems (Use the process developed in CE 394 and NSPE BER Ethics Study Guide)
- Board of Ethical Review gives examples of many ethic problems
- Stay Ethically fit

***Comments and
Questions???***

Course Quiz and Evaluation

- Complete the Course Quiz and Evaluation online
- Submit it to get credit for this course.



This completes the “Ethics and Professionalism” course!

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