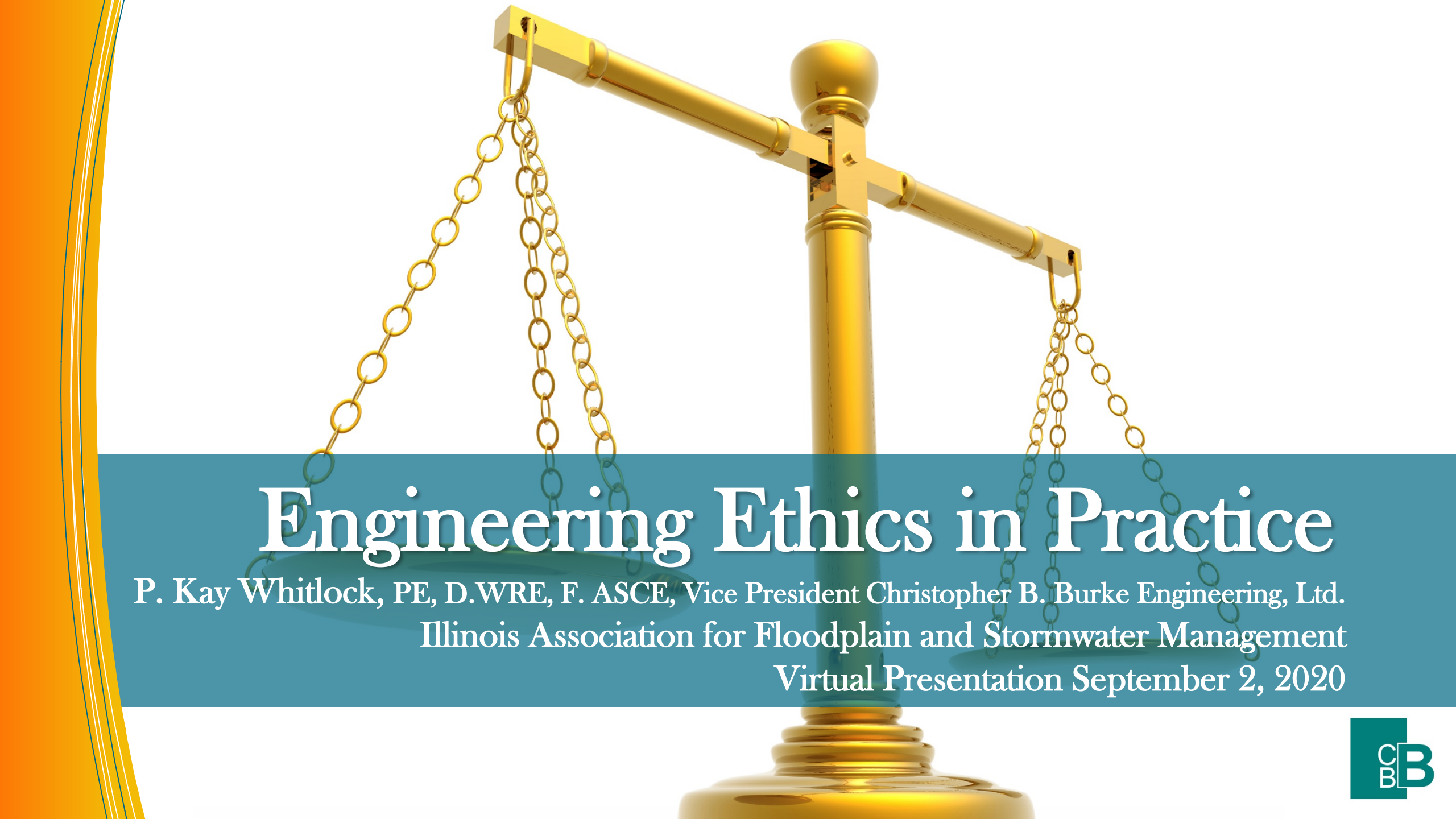

Engineering Ethics in Practice

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Illinois Association for Floodplain and Stormwater Management

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Why should we have a continuing dialogue about ethics?

Note: Kay's opinion

- Ethics represent the norms and ideals to which we aspire
- This is not a clear-cut topic
- Our success in achieving our obligations depends on how well we achieve and practice a solid understanding of professional ethics
- Ethics reflect our values

Physics Instructor; Sophomore Year, 1966

Note: Kay's experience

- It is either correct or it is not.
- NO PARTIAL CREDIT
- "Brutal"

Value/Benefits of Ethics and Codes

- There is value in the debate of figuring it out.
- A code provides a framework within which to sort out our actions; guidance in the decision-making process.
- It helps sustain the credibility of our profession by "announcing" our intentions.
- It helps us police our collective responsibility.

Ethics Have Contrasts / Different Interpretations Across Professions

- Civil Engineer responsible to the public
  - Illinois "licensed for the protection of the public health, safety and welfare…"
- Attorneys are responsible to provide the best defense for their client
- Nurses focus on compassionate patient care and patient advocacy
- Doctors' first consideration is the health of the patient; maintain utmost respect for human life

Engineering Ethics in the Workplace

- Many units of government adopt "***ethics***" codes primarily relating to:
  - Bribery
  - Gift bans or limits (the $5 calendar)
  - Meals, Coffee (the bottle of water)
  - Golf
  - Reimbursements

- These codes are not much help with Engineering Ethics

Professional Engineering Societies adopt codes better focused on our target of Engineering

- American Society of Civil Engineers
- National Society of Professional Engineers
- Society of American Military Engineers

ASCE Code of Ethics

Fundamental Principles

Engineers uphold and advance the integrity, honor and dignity of the engineering profession by:

- using their knowledge and skill for the enhancement of human welfare and the environment;
- being honest and impartial and serving with fidelity the public, their employers and clients;
- striving to increase the competence and prestige of the engineering profession; and
- supporting the professional and technical societies of their disciplines.

ASCE Code of Ethics

Fundamental Canons

1. Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development[3] in the performance of their professional duties.
2. Engineers shall perform services only in areas of their competence.
3. Engineers shall issue public statements only in an objective and truthful manner.
4. Engineers shall act in professional matters for each employer or client as faithful agents or trustees, and shall avoid conflicts of interest.

ASCE Code of Ethics

Fundamental Canons

5. Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others.
6. Engineers shall act in such a manner as to uphold and enhance the honor, integrity, and dignity of the engineering profession and shall act with zero-tolerance for bribery, fraud, and corruption.
7. Engineers shall continue their professional development throughout their careers, and shall provide opportunities for the professional development of those engineers under their supervision.
8. Engineers shall, in all matters related to their profession, treat all persons fairly and encourage equitable participation without regard to gender or gender identity, race, national origin, ethnicity, religion, age sexual orientation, disability, political affiliation, or family, marital, or economic status.

Order Of The Engineer
'Upholding Devotion to the Standards and Dignity of the Engineering Profession"

- The Order of the Engineer was initiated in the US to foster a spirit of pride and responsibility in the engineering profession. The goal is to bridge the gap between training and experience, and to present to the public a visible symbol identifying the engineer. Participants take the **Obligation of the Engineer** and receive a steel ring to be worn as a reminder of their commitment to high ethics and professionalism.
- ASCE is an official Link of the Order of the Engineer, which means it is allowed to conduct Ring Ceremonies. Requirements are established by the Order of the Engineer organization, which governs the program.
- Criteria to be inducted into the Order:
  - Graduate in engineering from an engineering program accredited by the Engineering Accreditation Commission of ABET, Inc. (EAC of ABET)
  - Senior in EAC of ABET-accredited engineering program within one academic year of graduation
  - Professional Engineer licensed in the United States
  - Member of the Canadian Calling

Obligation – Order of the Engineer

- I am an Engineer. In my profession I take deep pride. To it, I owe solemn obligations.
- As an Engineer, I pledge to practice integrity and fair dealing, tolerance and respect, and to uphold devotion to the standards and the dignity of my profession, conscious always that my skill carries with it the obligation to serve humanity by making the best use of Earth's precious wealth.
- As an Engineer, I shall participate in none but honest enterprises. When needed, my skill and knowledge shall be given without reservation for the public good. In the performance of duty and in fidelity to my profession, I shall give the utmost.

SAME

- It is the policy of SAME to adhere to the highest standards of ethical conduct in all its activities, including adherence to the DOD Joint Ethics Regulations. SAME fully supports and expects strict compliance by every member with all applicable laws and regulations in the conduct of business and professions. SAME recognizes that members who represent the government in matters affecting the economic interests of others hold special positions of public trust requiring them to observe the highest ethical standards. Accordingly, SAME supports the principle that strict impartiality must prevail in all business relationships involving the government.

Rotary International's Four Way Test of the things we think, say and do

- 1. Is it the truth?
- 2. Is it fair to all concerned?
- 3. Will it build good will and better friendship?
- 4. Will it be beneficial to all concerned?

Ethical Role in the Day-to-Day Work and Tasks of Engineers

- Another of Kay's Opinions:
  - Every task we do as an engineer has an ethical component
  - Engineers are obligated to protect public health, safety and welfare
    - Do not perform work without proper preparation / education / tools
    - Check and double check work, calculations and models
    - Remember my Physics Instructor: It's either correct or it is not.

Case Studies

PE License Use Case Study

Twenty years into her engineering career, Kay, a registered Professional Engineer in Illinois accepted a position in a public agency in California. She was not a registered PE in California. Was it ethical for Kay to identify herself as a PE on her business cards and signature block at the California agency?

YES

NO

The issue was reviewed by ASCE's Committee on Professional Conduct who concluded.....

Construction Job Ethics Case Study:

Assume you are employed by the City and have been placed in charge of a sewer project under construction by a private contractor. Because of your education and experience, you have made suggestions to the contractor that improved the project and have saved them money and time. The work is being done according to the P&S.

The president of the construction company stops by the site with a cooler of water and soft drinks and offers a drink to each of her employees.

1. If the president offers you a soft drink, may you accept? Why?
2. What if it's a bottle of wine?
3. What if the president offers a ballpoint pen labeled with the construction company name?
4. What about a jacket?
5. What if you have a working lunch the following week to discuss the project status and the president offers to pick up the tab, can you ethically accept this offer?

Mechanics of Ethics

The Mechanics of Ethics

Hierarchy

A. Statute or adopted rules

Much of the control is actually set by state statute and rules adopted in response to statute. Although similar, there are variations state by state. It's not simple enough to just do the "right" thing.

In statute and in various codes of engineering ethics, the highest charge is to protect the health, safety, and welfare of the public.

When confronted with a question of ethics, first turn to state statute and rules. Illinois has enacted statute and adopted rules with guidance for professional conduct.

Why is it so Difficult?

- Ethical considerations are an integral part of making engineering decisions. We make a multitude of decisions on a daily basis. Our professional obligations go beyond fulfilling a contract with a client, customer, agency or applicant.

Personal Code of Ethics

This one is yours to develop

- One simple code is known as the "golden rule"
- Islam - "No one of you is a believer until he loves for his neighbor what he loves for himself"
- Judaism - "What is hateful to you, do not to your fellow man. This is the entire Law; all the rest is commentary"
- Buddhism - "Hurt not others with that which pains yourself"
- Confucianism - "What you do not want done to yourself, do not do to others"
- Bahai - "And if thine eyes be turned towards justice, choose though for thy neighbor that which thou choosest for thyself"

In the words of the famous philosopher, Elvis Presley

- "Values are like fingerprints.

Nobody's are the same, but you leave 'em all over everything you do."

"People Die if We Lie"

- This is not always simple. It is not always straightforward. It is *always* important.


workplace
company
employer
punctuality
interview
integrity
integrity
interview
appearance
job market
efficiency
work ethics
discipline
work ethics
employee
career
dependability
discipline
interview
cheating
stealing
social skills
dress code
chain of command
non-work related activities
employer
success
attitude
success
integrity
workplace
discrimination
career
career
dress code
success
office politics
punctuality
attitude
diligence
employee
workforce
professionalism
discrimination
professionalism
appearance
dependability
responsibility
responsibility
work ethics
chain of command
professionalism
motivation
employer
job market
cheating
dependability
workforce
efficiency
efficiency
diligence
appearance
hard work
hard work
discrimination
social skills
office politics
stealing
workplace
dress code
discipline
non-work related activities
hard work
responsibility
motivation
office politics
chain of command
non-work related activities
employee
workforce
diligence
job market
company
attitude
company
social skills
punctuality
cheating
stealing
motivation

Questions?

THANK YOU

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Sources of Further Information

The related laws, regulations or the 'real teeth"

Illinois Title 68 – Professions and Occupations, Chapter VII, Part 1380
Section 300 – Standards of Professional Conduct

Do not have the force of law -- helpful

ASCE Code of Ethics

NSPE Code of Ethics

Investigating Organizations

ASCE Committee on Professional Practice

NSPE Board of Ethical Review

National Institute for Engineering Ethics (NIEE) hosted by Texas Tech

Resources

Engineering Ethics, Real World Case Studies by Steven Starrett, Amy Lara and Carlos Bertha, ASCE Press

ASCE quarterly publication *Journal of Professional Issues in Engineering Education and Practice* (ISSN 1052-3928), ASCE, 1801 Alexander Bell Dr., Reston, VA 20191.

Fledderman, C. (1999). *Engineering ethics*, Prentice-Hall, Upper Saddle River, NJ.

National Institute for Engineering Ethics (NIEE), Texas Tech University supports web site: http://www.niee.org/Case-of-the-Month/

The NIEE program presents cases taken from professional practice in order to stimulate greater emphasis on ethical issues in a real-world context.

The Foundation for Professional Practice's mission is to provide educational programs, services, and materials that focus on business and professional practice issues, ethics, and leadership in order to encourage and support lifelong learning among students and practicing engineers and scientists. Check out their web site: http://www.fppnet.org

ASCE Library on the web lists numerous books / articles about ethics

ASCE Civil Engineering magazine contains a case study in every edition under heading "A Question of Ethics"