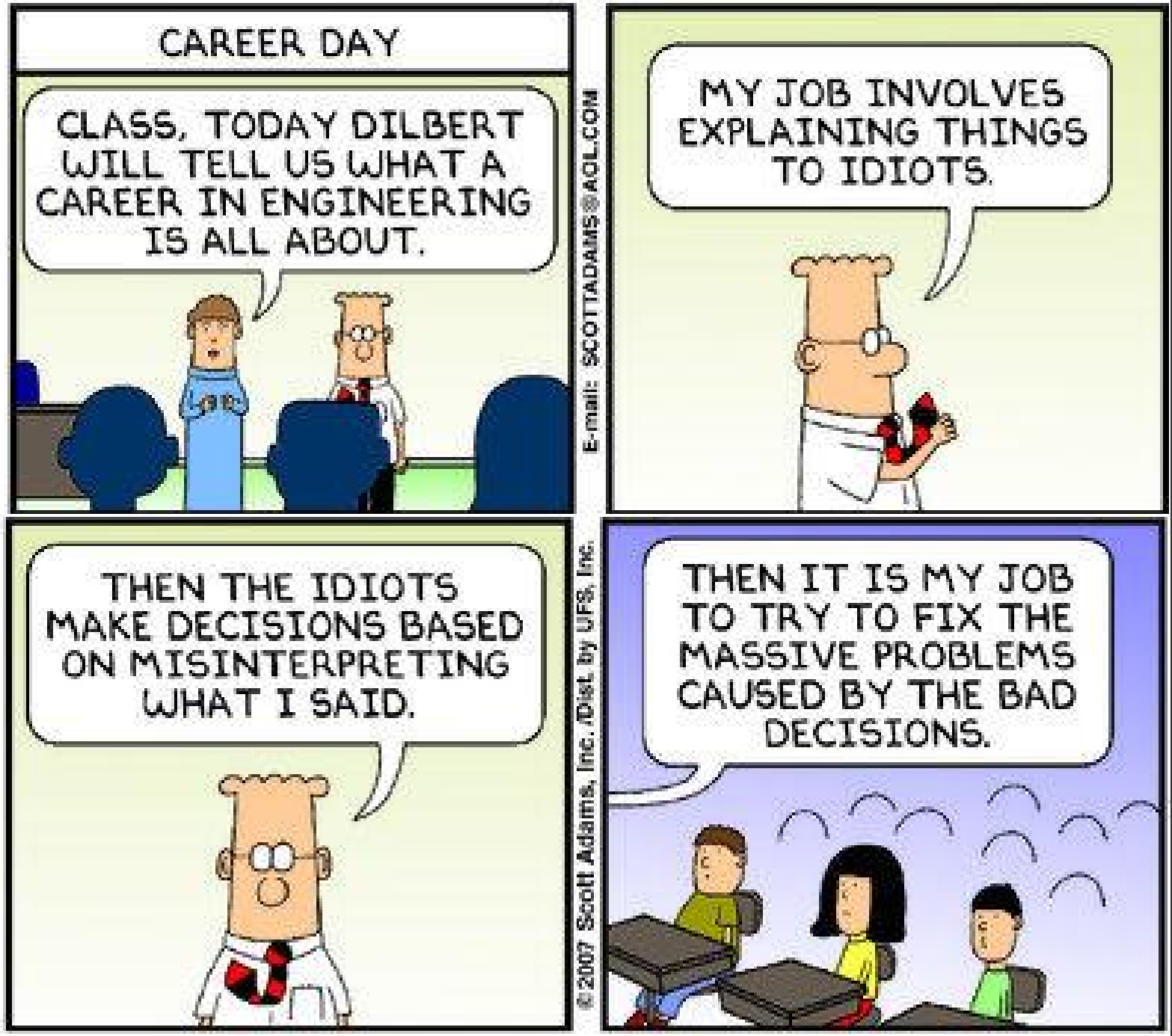

ENGINEERING ETHICS
ACT
INDUSTRY
FULFILLMENT
PARAMOUNT
SERVING
CONTRACTORS
CONDUCT
CORRUPTION
INTEGRITY
SAFETY
HEALTH
CODE
ADOPT
ETHICAL
WELFARE
ETHICS
PROFESSION
SOCIETY
ORIGINS
PUBLIC
DIGNITY
UPHOLD
ENVIRONMENT
PRESTIGE
MERIT
CASE
DUTY
GROWING
EDUCATION
MOLASSES
FOUNDING
BRIBERY
DISASTER
MEMBERS
MAGNANIMITY
PROVINCES
RESPONSIBILITY
FAILURE
REGARD
DESIGN
PROVIDE
PRINCIPLES
ENGINEER
PERFORMANCE
STANDARDS
TECHNICAL
KICKBACKS
LICENSE
OFFSHORING
OPPORTUNITIES
SUSTAINABLE
CLIENT
IMPARTIAL
HONOR
PRACTICE
CHARTERING
FIDELITY
KNOWLEDGE
ISSUE
TEMPERANCE
EMPLOYER
CENTURY
CONCERN
PROTECTION
GROUPTHINK
INTEREST
IMPETUS
COMPETENCE

Britt E. Smith, PE, F.NSPE
President - NSPE

- Jefferson City, Missouri Public Works Operations Division Director
- Civil Engineer
- Focused on Municipal Engineering
- 30-Year Engineering Career
- Licensed in Missouri

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS


CAREER DAY
CLASS, TODAY DILBERT WILL TELL US WHAT A CAREER IN ENGINEERING IS ALL ABOUT.
MY JOB INVOLVES EXPLAINING THINGS TO IDIOTS.
THEN THE IDIOTS MAKE DECISIONS BASED ON MISINTERPRETING WHAT I SAID.
THEN IT IS MY JOB TO TRY TO FIX THE MASSIVE PROBLEMS CAUSED BY THE BAD DECISIONS.
E-mail: SCOTTADAMS@AOL.COM
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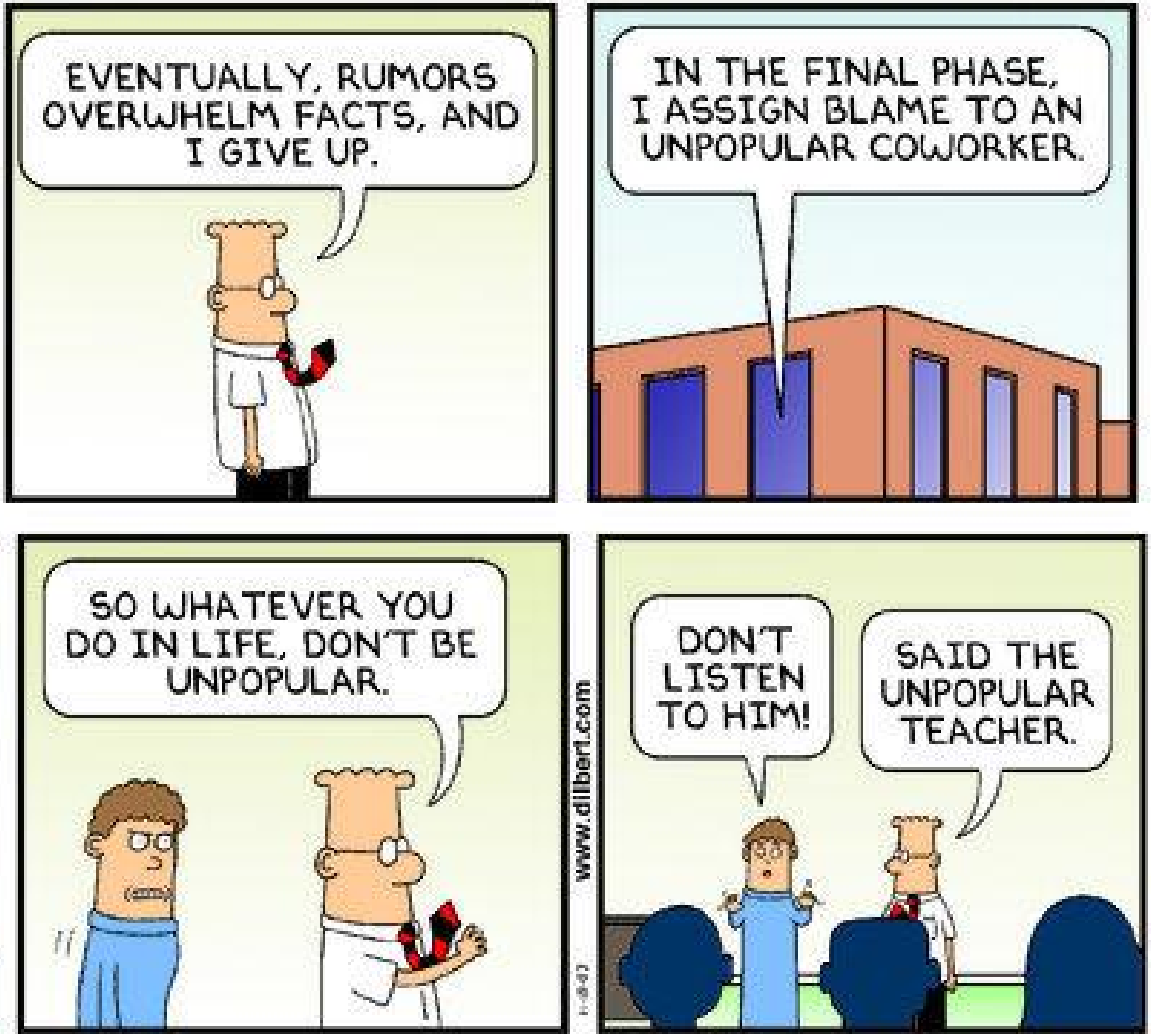
EVENTUALLY, RUMORS OVERWHELM FACTS, AND I GIVE UP.
IN THE FINAL PHASE, I ASSIGN BLAME TO AN UNPOPULAR COWORKER.
SO WHATEVER YOU DO IN LIFE, DON'T BE UNPOPULAR.
www.dilbert.com
DON'T LISTEN TO HIM!
SAID THE UNPOPULAR TEACHER.

What Are Ethics?

Webster Defines **Ethics** as:

1. The study of standards of conduct and moral judgement.
2. The system of morals of a particular person, religion, group, etc.

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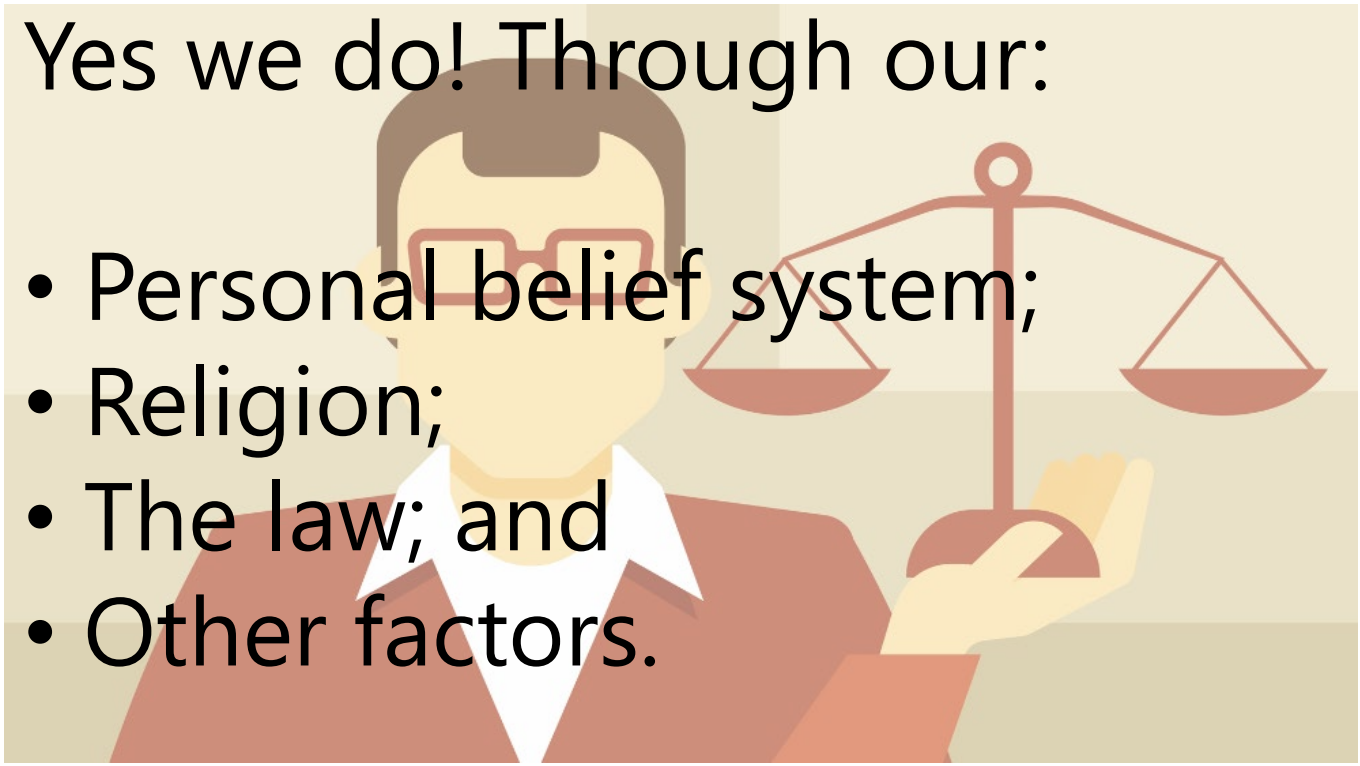
Do we as individuals set the standards for our own ethical behavior?



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Does **licensure** have anything to do with **ethics**?

Many professions seem to believe it does.

- Licensure for lawyers started 1763.
- For physicians and dentists, it began in the mid-1800's.
- Accountants (CPA) in the late 1800's.
- Licensure for engineers began in 1907.

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But why is licensure needed for engineering?

- If you need a doctor, you can look into their credentials before submitting to care.
- The same for an attorney, a CPA or just about any other professional service.
- But, for engineers, most don't know who designed the bridge they drove over or the thousands of other services used each day.
- In most cases, we have no choice but to use those services.

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Let’s start with a Simple Premise

Whether or not you have ever even *met* an engineer, we all deserve to live in a world where the engineering decisions that impact our lives are made by qualified and ethically accountable professionals.

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What is the role of the engineer?

- Solving real-world problems
- Creating solutions for human life

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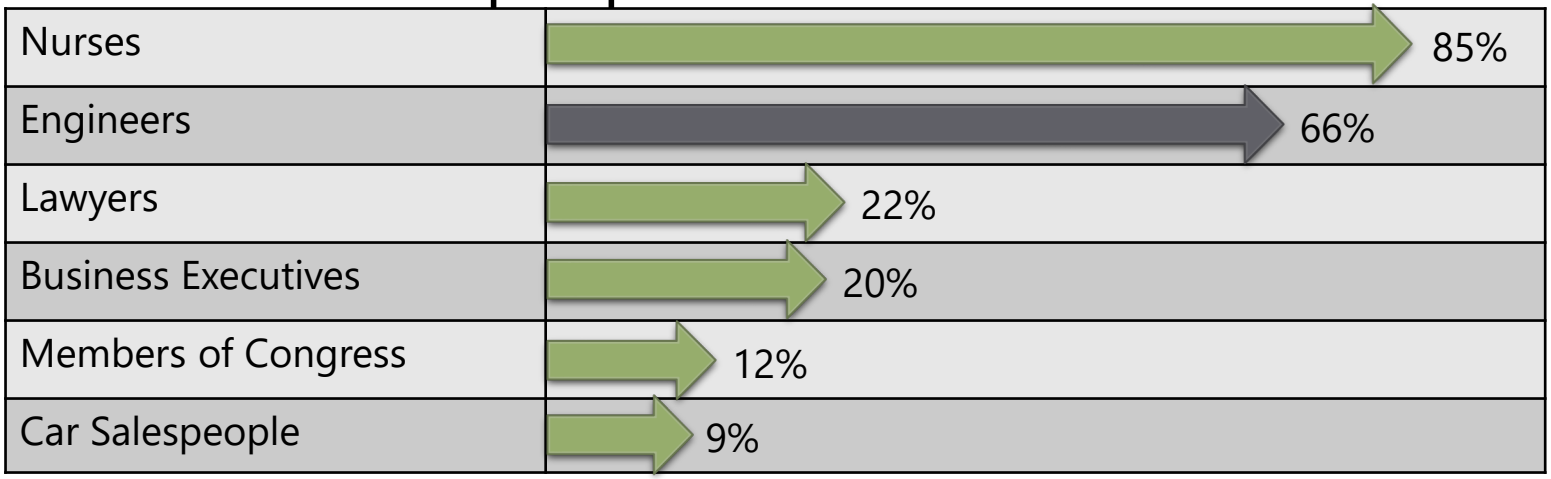
How does the public perceive engineers?

When asked to rate the honesty and ethical standards of people in these different fields –



Gallup January 2020 survey
https://news.gallup.com/poll/1654/honesty-ethics-professions.aspx

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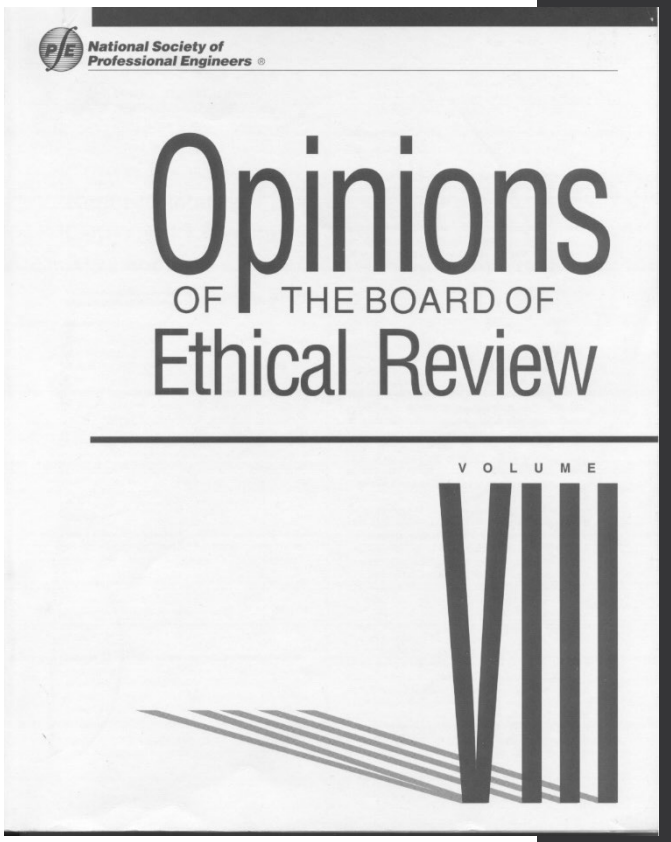
What governs our professional conduct?

- State Licensure Laws
- Board Rules
- Professional Society (NSPE)
  - Code of Ethics for Engineers

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

- NSPE Code of Ethics - 1946
- Board of Ethical Review
  - Established - 1954
  - Nearly 700 opinions published
  - New cases published annually
  - Searchable on-line database



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Code of Ethics
- Recent updates

SUSTAINABLE DEVELOPMENT

ANTI-DISCRIMINATION PRINCIPLES

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Why are we talking about ethics?

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New London, Texas 1937

- In 1937, an explosion at a school in New London, Texas, killed 300 people and severely injured another 300.
- The cause of the explosion? Faulty engineering linked to cost-saving actions by the school board.

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But that was a long time ago, that couldn't happen today. Right?

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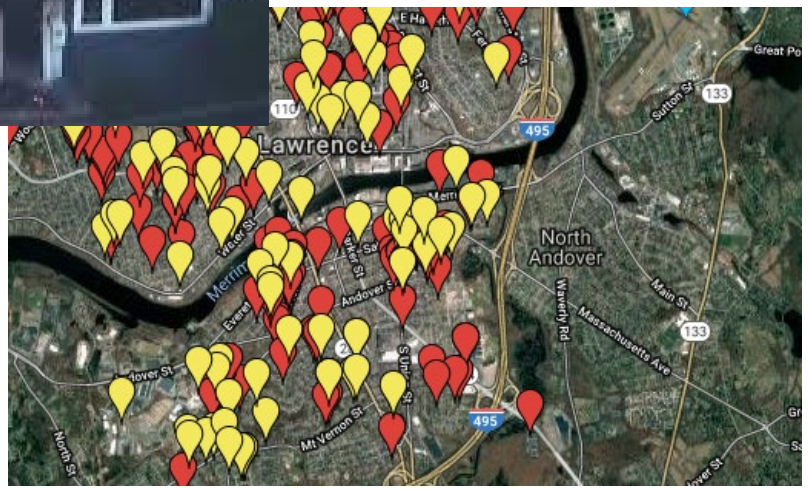
Merrimack Valley gas explosion: Did we not learn anything from 1937?



Merrimack Valley Gas Pipeline Explosions September 2018

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You wouldn't trust an unlicensed individual to be in responsible charge of this environment.

So why would you in this one?

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#WhyPEsMatter

NSPE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

All information was taken from the Board of Ethical Review on NSPE website and is available free of charge to NSPE members.

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Steps to Ethical Engineering Decisions

1. Stop and think
2. Clarify goals
3. Determine facts known and unknown
4. Develop options
5. Consider foreseeable results of options
6. Refer to the NSPE Ethics Resources
7. Refer to state registration law for guidance
8. Consult with respected staff or outside professionals
9. Decide the course of action and TAKE IT

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NSPE Code of Ethic

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Code of Ethics for Engineers

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
percentage, or brokerage f
except to a bona fide empl
commercial or marketing a

III. Professional Obligation

1. Engineers shall be guided in a
highest standards of honesty

a. Engineers shall acknowled
distort or alter the facts.
b. Engineers shall advise thei
they believe a project will
c. Engineers shall not accept
the detriment of their regu
accepting any outside eng
notify their employers.
d. Engineers shall not attemp
another employer by false
e. Engineers shall not promot
expense of the dignity and
f. Engineers shall treat all pe
fairness, and without discr

2. Engineers shall at all times str

a. Engineers are encouraged t
career guidance for youths;
of the safety, health, and w
b. Engineers shall not compl
specifications that are not
engineering standards. If t
on such unprofessional co
proper authorities and wit
the project.
c. Engineers are encouraged
and appreciation of engine
d. Engineers are encouraged
of sustainable developmen
environment for future gen
e. Engineers shall continue th
throughout their careers a
specialty fields by engaging in professional practice, participating in continuing education courses, reading in the technical literature, and attending professional meetings and seminar.

1420 KING STREET, ALEXANDRIA, VIRGINIA 22314-2794 • 888-285-NSPE (6773) • LEGAL@NSPE.ORG • WWW.NSPE.ORG • PUBLICATION DATE AS REVISED JULY 2019 • PUBLICATION #1102

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Fundamental Canons

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Gifts 1 of 2

Mining Safety Boots
Case No. 20-05

Facts:

- Engineer A works for an insurance company, and visits remote mining sites to assess compliance with best practices as outlined by the company
- At a remote site visit to Mine M, Engineer A begins the day with a meeting with facility management: reviews documentation regarding safety and other applicable information.
- Management at the remote site brought their safety compliance specialists to the site to assist with the visit and to respond quickly to Engineer A's findings.
- As Engineer A prepares to begin inspection of the mine, he realizes he forgot to bring the necessary PPE—he does not have his safety boots.

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Gifts 2 of 2

Mining Safety Boots
Case No. 20-05

Facts Continued:

- Mine M staff offer him a new pair of safety boots; they routinely make boots available to visitors to the mine who may not have the necessary PPE.
- Engineer A's company has a policy that forbids accepting gifts valued at more than $100, and because he has recently purchased new safety boots, Engineer A knows the boots Mine M is offering are valued at more than $100.
- If he returns to his motel to get his own boots, he will be unable to complete the inspection, and the visit would have to be rescheduled because the mine owner's safety specialists are not able to be on site the next day.

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Gifts

Mining Safety Boots
Case No. 20-05

Question:

What should Engineer A do?

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Gifts

Mining Safety Boots
Case No. 20-05

Conclusion:

- It would be ethical for Engineer A to use the safety boots during his inspection of the mine. When the inspection visit is complete, Engineer A may either return the safety boots or pay for them.
- Engineer A should report the incident and circumstances to the employer.

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Public Health, Safety, and Welfare

Drinking Water
Case No. 20-04

Facts:

- Engineer A is a professional engineer who serves as the superintendent and chief engineer for the Metropolitan Water Commission (MWC).
- In order to reduce municipal expenditures and lower water rates, the MWC has been considering changing its water supply source from purchasing water from remote reservoirs from another regional authority to using the local river.
- Engineer B, a consulting engineer retained by the MWC charged with evaluating water treatment needs for the change in water source.
- Engineer B provides a report to Engineer A recommending extensive capital investments and a three-year timeline for further evaluation of water quality, design, and construction of improvements.

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Public Health, Safety, and Welfare

Drinking Water
Case No. 20-04

Facts Continued:

- The improvements are needed prior to the change in water source to ensure that sufficient corrosion control is provided so that old service pipes don't leach lead at levels in excess of drinking water standards.
- Both Engineer A and Engineer B met with the MWC at a meeting sparsely attended by the public and recommended that the change in water source be substantially delayed until improvements could be completed.
- Despite those recommendations, the MWC voted to proceed simultaneously with the accelerated evaluation and design of needed water treatment improvements and the change in water source.

Public Health, Safety, and Welfare

Drinking Water
Case No. 20-04

Questions:

1. What are the ethical obligations of Engineer A and Engineer B in this circumstance?

2. What should Engineer A and Engineer B do?

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Public Health, Safety, and Welfare

Drinking Water
Case No. 20-04

Conclusions:

1. In fulfillment of their ethical obligations under the Code, Engineers A and B should formally communicate their concerns to the MWC, including that they believe the project will not be successful.
2. Both Engineers A and B have ethical obligations to notify the MWC and other appropriate authorities that prematurely changing the water source puts the public health and safety at risk.
   - Furthermore, Engineers A and B have independent obligations to formally and in writing, report their concerns to the state regulatory agency.
   - While they may provide a joint and cooperative report, each has an independent obligation. Neither the consent nor opposition of the client is a factor in their fulfillment of this obligation.

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Hierarchy of Ethical Obligations

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Credit for Engineering Work

Establishing Own Firm—Material on Website
Case No. 17-12

Facts:

- Engineer A was responsible for all engineering designs, project and team management, and oversight in her role as vice president at her previous employer, Firm X.
- Engineer A has established her own firm, Firm Y, and would like to include some of her work for Firm X on the Firm Y website.
- Engineer A has a series of questions regarding the crediting of work for Firm X, including crediting Firm X and the individual employees of Firm X who were involved.
- In addition, Engineer A has questions regarding whether Engineer B, the owner of Firm X, should credit Engineer A for the work Engineer A performed for Firm X as an employee.

Credit for Engineering Work

Establishing Own Firm—Material on Website
Case No. 17-12

Question:

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

2. What are Engineer B's ethical obligations under the circumstances?

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Credit for Engineering Work

Establishing Own Firm—Material on Website
Case No. 17-12

Conclusion

1. **Engineer A must not engage in any actions that would be implicitly or explicitly misleading or deceptive.** All promotional material must make clear that the work was performed under the auspices of Firm X and should also include references to those key individuals within Firm X who made substantive contributions to the design and related services on each project.

2. **Engineer B should credit Engineer A for Engineer A's contributions to the work of Firm X** even after Engineer A has departed from Firm X.

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Ethics & Education Resources

- NSPE PE Institute: www.nspe.org

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Ethics Education Resources – Cont.

- Board of Ethical Review
- You be the Judge
- Milton F. Lunch Contest
- Ethics Exam

More information is available at:

https://www.nspe.org/resources/ethics

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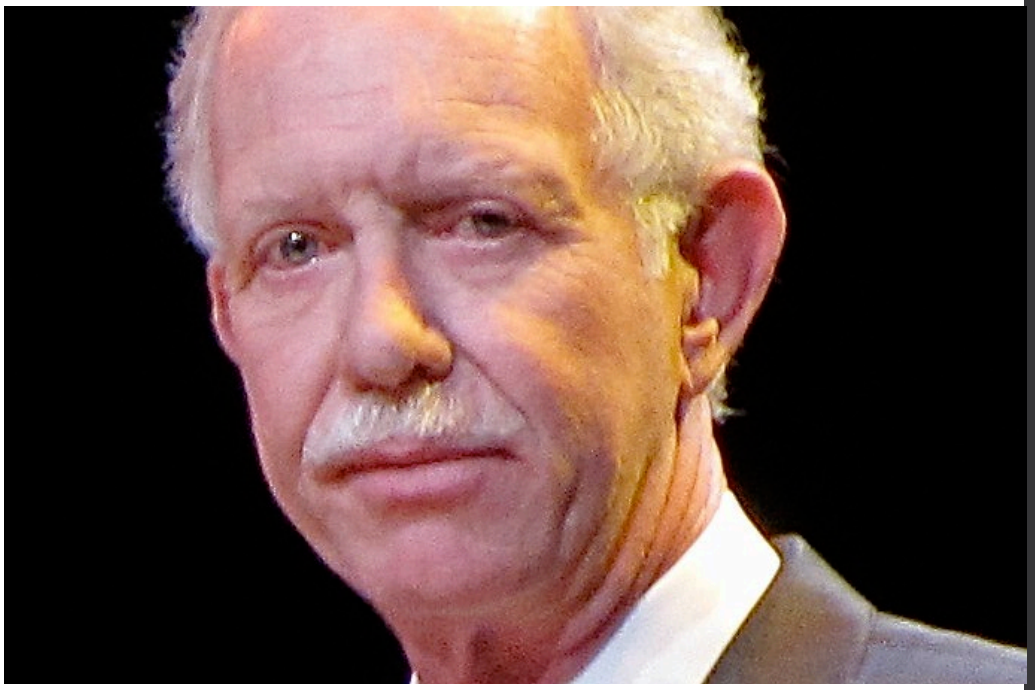
Some closing thoughts



"In so many aspects of life, you need to be a long-term optimist, but a short-term realist. You need to know what you know and what you don't know…

We need to try to do the right thing every time because we never know what moment in our lives we will be judged on…"

Captain Chesley "Sully" Sullenberger

Questions?

Contact Info

Britt E. Smith, PE, F.NSPE

National Society of Professional Engineer

President 2022-2023

BrittESmithPE@gmail.com

573-291-8268

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Conflict of Interest

Design and Construction of House in Flood Area
Case No. 11-09

Facts:

- First Owner wants to build a house and hires Architect A and Engineer B.
- Following disagreements over the location of the house due to potential flooding and drainage issues, First Owner terminates Architect A and Engineer B after paying their fee.
- First Owner then hires Architect C and Engineer D to design the house. After the house construction is completed, First Owner then sells the House to Second Owner.
- Following a heavy rain, Second Owner discovers that the house has serious flooding and drainage issues and sues First Owner.
- Second Owner hires Architect A and Engineer B to perform redesign services for the house. Engineer B is a fact witness and could also serve as an expert witness in the lawsuit.

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Conflict of Interest

Design and Construction of House in Flood Area
Case No. 11-09

Question:

1. In light of Engineer B's concerns, did Engineer B have any ethical obligation to report to appropriate public authorities First Owner's decision to locate the house in an area subject to potential flooding and drainage issues?
2. Would it be ethical for Engineer B to perform redesign services for the house?
3. Would it be ethical for Engineer B to serve as an expert witness in connection with the litigation between First Owner and Second Owner?

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Conflict of Interest

Design and Construction of House in Flood Area
Case No. 11-09

Per the Board of Ethical Review:

1. **Engineer B did not have any ethical obligation to report to appropriate public authorities** First Owner's decision to locate the house in an area where potential flooding and drainage issues were raised.
2. **It would be unethical for Engineer B to perform redesign services** for the house during any active litigation over the matter.
3. **It would be unethical for Engineer B to serve as an expert witness** in connection with the litigation between First Owner and Second Owner.

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