ONTARIO SOCIETY OF PROFESSIONAL ENGINEERS

ExPS™ Examination Preparation Services™

PE403
NPPE Prep Course

Brief coverage of
NPPE Prep Part 1: Intro, I. Professionalism
for McMaster Engineering, Fall 2023

Useful Resources

- PEO Resources:
  - Ontario Professional Engineers Act & Regulation 941
  - PEO Guidelines to Professional Practice
    - (Especially the Professional Engineering Practice Guideline)

I. Professionalism

1. What's Engineering?
2. What's a Professional?
3. The Engineering License in Ontario (& Purpose for it)
4. Professional Responsibility
5. Duty to Report
6. [Some] Rules of Professional Engineering Practice
    1. Due Diligence
    2. Report Writing
    3. Giving Opinions
7. Conflicts of Interest & Confidential Information

1. What's Engineering?

From Section 1 of the Professional Engineers Act in Ontario:

- A1: "practice of professional engineering" means
  - any **act** of
    - planning, designing, composing, evaluating, advising, reporting, directing or supervising
  - that requires the application of
    - **engineering principles**
  - and concerns the **safeguarding** of
    - life, health, property, economic interests, the public welfare or the environment,
  - **or** the **managing** of any such act.

2. What's a Profession?

- Characteristics of a Profession:
  - Specialized **Knowledge & Skills**
    - at least a university degree required
  - Renders a **Public Service**
    - can perform services for the public good
    - Services performed directly for members of the "public", of public interest
  - Bound by a distinct **Ethical Code**
    - some set of rules specific to that profession for how its members should act in delivering service
  - Long and intensive **Preparation**
  - Require **Continued Study and Development**
  - *Hint: Requires a **Licence***
    - *by some government organization or self-regulating licencing body*

The Special Skill of Professionals

- Professionals are seen as individuals who have special skill, which gives them the ability to see things invisible to someone without that skill.
  - e.g., expert witnesses
- Members of the public are expected to trust professionals when it comes to matters of their professional opinion - professionals rely on this trust.
- This trust comes at a price: professionals are then capable of *negligence*; this occurs when they *don't* exercise the care and skill of a reasonably prudent practitioner in that circumstance.
  - Negligence (according to R72.1): "means an act or an omission in the carrying out of the work of a practitioner that constitutes a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances."
  - *Due Diligence* means the amount of carefulness that you ought to have in that circumstance.
  - Fulfilling your due diligence requirements means never being negligent

Tort Liability (briefly)

- Professionals are much more easily susceptible to **Tort liability**
- *Tort* is one of two ways you can be sued (the other is *breach of contract*)
- You're liable in tort whenever (all 3 must be true):
  - You owe someone a **duty of care** (e.g., don't be negligent),
  - You **breach** this duty (e.g., by being negligent), and
  - That person (or corporation) suffers an **injury** as a result of your breach (e.g., they lose some money they should've had).
- Professionals implicitly (i.e., by default; without having to explicitly promise it) owe everyone a duty of care to not be negligent in their professional services
  - i.e., for professionals, the default is that you're responsible
  - You're responsible for the work of your subordinates; if they're professionals they're also responsible.
  - When engineering is done by other disciplines in a report you're the lead on, you're responsible as well. Be sure to be clear who's responsible for what; this helps avoid mistakes.

Engineering as Profession

- Characteristics of a Profession:
  - Specialized **Knowledge & Skills**
    - B. Eng. or Equivalent teaches "Engineering Principles"
  - Renders a **Public Service**
    - Practice of Professional Engineering
  - Bound by a distinct **ethical code**
    - The Code of Ethics (Regulation 941 Section 77 for PEO)
  - Long and intensive **Preparation**
  - Require **Continued Study and Development**
  - *Requires a **Licence***
    - *P. Eng. Licence from PEO (or equivalent in other provinces)*

3. The Engineering License in Ontario - Who Gives the Licence?

- Professional licencing is in **provincial** (or territorial) government jurisdiction
- These governments usually write **Acts** which allow the professions to **self-regulate** via **provincial regulatory bodies**
  - AKA:
    - "[Provincial] Regulators"
    - "[Provincial] Associations"
  - *Not* the same as:
    - Engineering Societies
    - Unions
    - Technical Societies / Associations / Institutions
- **The regulators** write **Regulations** that specify details of things the Acts reference

Objects of PEO

- Principle Object (A3)
  - **Regulate the Practice of Professional Engineering** and
  - govern the ones who do it
    - holders of Licences, Certificates of Authorization, Temporary Licences, Provisional Licences, and Limited Licences
  - in accordance with the laws about it
    - the Act, the Regulations, and the Bylaws
  - in order to **serve and protect the public interest**.

Objects of PEO

- Additional Objects (A4)
  - Establish, maintain, and develop standards of
    - Knowledge & Skill,
    - Qualification & Practice, and
    - Professional Ethics
  - Promote public awareness of its role
  - Comply with other government requirements

Ontario Licence Overview

- Licence
  - Member; just called “Licence” by PEO; not discipline-specific
- Temporary Licence
  - For visiting engineer from another province, famous engineer from elsewhere, or past P.Eng. to practice here on one project
- Provisional Licence
  - To help internationally-trained engineers get a job
- Limited Licence
  - For technologists or scientists to practice in a specific field only
- Certificate of Authorization (CofA)
  - Business licence; needed to consult (i.e., offer engineering services “directly to the public”)

Licensing Requirements

- The main engineering licence has similar requirements across Canada
  - Academics: Bachelor's degree in Engineering (or equivalent)
  - Experience: 48 months of engineering experience
  - Exams: Complete a PPE of some kind
  - Good character
  - Filling out the application form and paying appropriate fees

Ontario Licence Overview

	Licence	Temporary Licence	Provisional Licence	Limited Licence
Is a P.Eng.?	Yes	Yes	No	No
Is a Member?	Yes	No	No	No
Duration?	Renewable indefinitely	Up to 1 year	1 year with 1 renew allowed	Renewable indefinitely
Discipline Specific?	No	Yes	No	Yes
Project Specific?	No	Yes	No	No
Can Practice Alone?	Yes	Maybe	No	Yes
Responsible for CofA?	Yes	Yes	No	Yes
Number	85000+	~180	~18	~1800

CofA

- Needed to offer engineering services “to the public” (i.e., to clients; anyone other than yourself or your full time employer)
- Must have engineers or limited license holders responsible for the work done under the CofA
- Must have insurance or exemption from it (see R941 section 74)

“Consulting engineer” is a prestige title you can apply for once you’ve been licensed for 5+ years and have spent at least 2+ years responsible for a CofA offering engineering services to the public (and still do). It’s not *necessary* for anything other than *referring to yourself as a consulting engineer*.

The Public Welfare

- What is the “public”?
  - Different things in different contexts;
  - Usually means *everyone* (equally; without regard for special status like “employer”, “client”, or “self”)
  - Sometimes (e.g., when you’re considered “consulting” and PEO’s CofA is needed) means everyone *except* yourself and your employer.
- What is “public welfare”?
  - General goodness for everyone
  - What everyone is interested in
  - What’s in society’s collective best interest in having / maintaining

The Public Welfare

- Protecting & enhancing public welfare is the primary obligation of any engineer:
  - R77.2.i, excerpt from Ontario's Code of Ethics:
    "[A practitioner shall] **regard the practitioner's duty to public welfare as paramount**"
- It's also the main reason for licencing & regulation itself:
  - A2, Principal Object of PEO:
    "The principal object of the Association is to regulate the practice of professional engineering and to govern its members, holders of certificates of authorization, holders of temporary licences, holders of provisional licences and holders of limited licences in accordance with this Act, the regulations and the by-laws **in order that the public interest may be served and protected**."

Licences as Restrictions - PEO

- Licences restrict unlicensed people from practicing except when supervised by a licence holder

From section 12 of Ontario's Professional Engineers Act (i.e., "A12"):

Licensing requirement

12 (1) No person shall engage in the practice of professional engineering or hold himself, herself or itself out as engaging in the practice of professional engineering unless the person is the holder of a licence, a temporary licence, a provisional licence or a limited licence. R.S.O. 1990, c. P.28, s. 12 (1); 2001, c. 9, Sched. B, s. 11 (16).

Certificate of authorization

(2) No person shall offer to the public or engage in the business of providing to the public services that are within the practice of professional engineering except under and in accordance with a certificate of authorization. R.S.O. 1990, c. P.28, s. 12 (2).

Licences as Restrictions - PEO

Exceptions

(3) Subsections (1) and (2) do not apply to prevent a person,

(a) from doing an act that is within the practice of professional engineering in relation to machinery or equipment, other than equipment of a structural nature, for use in the facilities of the person's employer in the production of products by the person's employer;

(b) from doing an act that is within the practice of professional engineering where a professional engineer or limited licence holder assumes responsibility for the services within the practice of professional engineering to which the act is related;

(c) from designing or providing tools and dies;

(d) from doing an act that is within the practice of professional engineering but that is exempt from the application of this Act when performed or provided by a member of a class of persons prescribed by the regulations for the purpose of the exemption, if the person is a member of the class;

(e) from doing an act that is exempt by the regulations from the application of this Act;

(f) from using the title "engineer" or an abbreviation of that title in a manner that is authorized or required by an Act or regulation.

...

Enforcement - PEO

Offences and penalties

Offence, practice of professional engineering

40 (1) Every person who contravenes section 12 is guilty of an offence and on conviction is liable for the first offence to a fine of not more than $25,000 and for each subsequent offence to a fine of not more than $50,000. R.S.O. 1990, c. P.28, s. 40 (1).

Offence, use of term "professional engineer", etc.

(2) Every person who is not a holder of a licence or a temporary licence and who,

(a) uses the title "professional engineer" or "ingénieur" or an abbreviation or variation thereof as an occupational or business designation;

(a.1) uses the title "engineer" or an abbreviation of that title in a manner that will lead to the belief that the person may engage in the practice of professional engineering;

(b) uses a term, title or description that will lead to the belief that the person may engage in the practice of professional engineering; or

(c) uses a seal that will lead to the belief that the person is a professional engineer,

is guilty of an offence and on conviction is liable for the first offence to a fine of not more than $10,000 and for each subsequent offence to a fine of not more than $25,000.

Licences as Restrictions - APEGA

If you are not licensed, you can't use reserved titles or designations in job titles, on resumes, or on social media because the public may believe that you have the right to practise engineering or geoscience. This can endanger public safety.

Engineering Reserved Titles & Designations
Professional engineer (or P.Eng.)
Professional licensee (engineering)
(or P.L. (Eng.))

any title or abbreviation that implies you are licensed with APEGA

The word *engineer* combined with any name, title, description, letter, symbol, or abbreviation that implies you are licensed with APEGA

Examples of Engineering Titles & Designations
Jane Doe, P.Eng., Structural Engineer
Jane Doe, P.L. (Eng.), Civil Engineer

Geoscience Reserved Titles & Designations
Professional geoscientist (or P.Geo.)
Professional geologist (or P.Geol.)
Professional geophysicist (or P.Geoph.)
Professional licensee (geoscience) (or P.L. (Geo.))

any title or abbreviation that implies you are licensed with APEGA

The word *geoscientist*, *geologist*, or *geophysicist* combined with any name, title, description, letter, symbol, or abbreviation that implies you are licensed with APEGA

Examples of Geoscience Titles & Designations
John Smith, P.Geo., Wellsite Geologist
John Smith, P.Geo., Hydrogeochemist

Licences as Restrictions - APEGA

- **Exception to Reserved Titles**
- APEGA's Compliance Department decides if a title is being used improperly and if the public would believe that the person can practise engineering or geoscience.
- For example, if a person working in a bakery uses the job title *cupcake engineer*, it is unlikely that someone would believe that a cupcake engineer is allowed to practise engineering. Therefore, this title doesn't endanger public safety.

Licences as Restrictions - APEGA

Member-in-Training and Student Titles & Designations

- As a member-in-training, you are not fully licensed but have the right to represent yourself as an engineer or geoscientist if you clarify it with *"in training."* As a student, you are not fully licensed, which means you must represent yourself in that context.
- **Examples of Engineering Titles for Non-Professional Members**
  - Jane Doe, E.I.T., Civil Engineer-in-Training
  - Jane Doe, Engineer-in-Training
  - John Smith, Civil Engineering Undergraduate Student

Alternative Titles for Non-Members

- If you are not licensed to practise engineering or geoscience but work in that industry, here are some alternatives:
  - Jane Doe, Wellsite Consultant
  - John Smith, Environmental Scientist
  - Jane Doe, Construction Manager

Licences as Restrictions - APEGA

Corporate Titles & Designations

- Companies without a Permit to Practice from APEGA are not allowed to practise engineering or geoscience, nor can they use reserved titles. In addition, companies without a permit are not allowed to be incorporated or registered with the words:
  - engineering
  - geology
  - geophysics
  - geoscience
  - any variations of those words that would give the public the impression that the company can provide engineering or geoscience services
- Corporate Title Use Examples
  - John Doe Consulting Services designs, manufactures, installs, and tests pressure-vessel equipment. Although the company name does not include a reserved title, it is doing engineering work. Therefore, it must have a Permit to Practice from APEGA to legally provide engineering services.
  - Jane Doe Consulting Services sells pressure vessels. This is not providing an engineering service. Therefore, the company does not need a Permit to Practice.
  - John Doe Hydrogeological Consulting provides geoscience services but does not have a Permit to Practice. This company must either stop providing this service and change its name or get a permit from APEGA.

Professional responsibility – PEO's Definition of Professional Misconduct

Professional misconduct – definition

R72. (1) In this section,

"harassment" means engaging in a course of vexatious comment or conduct that is known or ought reasonably to be known as unwelcome and that might reasonably be regarded as interfering in a professional engineering relationship;

"negligence" means an act or an omission in the carrying out of the work of a practitioner that constitutes a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances.

(2) For the purposes of the Act and this Regulation,

"professional misconduct" means,

(a) negligence,

(b) failure to make reasonable provision for the safeguarding of life, health or property of a person who may be affected by the work for which the practitioner is responsible,

(c) failure to act to correct or report a situation that the practitioner believes may endanger the safety or the welfare of the public,

(d) failure to make responsible provision for complying with applicable statutes, regulations, standards, codes, by-laws and rules in connection with work being undertaken by or under the responsibility of the practitioner,

(e) signing or sealing a final drawing, specification, plan, report or other document not actually prepared or checked by the practitioner,

(f) failure of a practitioner to present clearly to the practitioner's employer the consequences to be expected from a deviation proposed in work, if the professional engineering judgment of the practitioner is overruled by non-technical authority in cases where the practitioner is responsible for the technical adequacy of professional engineering work,

(g) breach of the Act or regulations, other than an action that is solely a breach of the code of ethics,

(h) undertaking work the practitioner is not competent to perform by virtue of the practitioner's training and experience,

PEO's Definition of Professional Misconduct

"failure to disclose an interest that might be prejudicial to the professional judgment of the practitioner in rendering service"

(i) failure to make prompt, voluntary and complete disclosure of an interest, direct or indirect, that might in any way be, or be construed as, prejudicial to the professional judgment of the practitioner in rendering service to the public, to an employer or to a client, and in particular, without limiting the generality of the foregoing, carrying out any of the following acts without making such a prior disclosure:

1. Accepting compensation in any form for a particular service from more than one party.
2. Submitting a tender or acting as a contractor in respect of work upon which the practitioner may be performing as a professional engineer.
3. Participating in the supply of material or equipment to be used by the employer or client of the practitioner.
4. Contracting in the practitioner's own right to perform professional engineering services for other than the practitioner's employer.
5. Expressing opinions or making statements concerning matters within the practice of professional engineering of public interest where the opinions or statements are inspired or paid for by other interests,

(j) conduct or an act relevant to the practice of professional engineering that, having regard to all the circumstances, would reasonably be regarded by the engineering profession as disgraceful, dishonourable or unprofessional,

(k) failure by a practitioner to abide by the terms, conditions or limitations of the practitioner's licence, provisional licence, limited licence, temporary licence or certificate,

(l) failure to supply documents or information requested by an investigator acting under section 33 of the Act,

(m) permitting, counselling or assisting a person who is not a practitioner to engage in the practice of professional engineering except as provided for in the Act or the regulations,

(n) harassment.

PEO's Code of Ethics

77. The following is the Code of Ethics of the Association:

1. It is the duty of a practitioner to the public, to the practitioner's employer, to the practitioner's clients, to other members of the practitioner's profession, and to the practitioner to act at all times with,
    i. fairness and loyalty to the practitioner's associates, employer, clients, subordinates and employees,
    ii. fidelity to public needs,
    iii. devotion to high ideals of personal honour and professional integrity,
    iv. knowledge of developments in the area of professional engineering relevant to any services that are undertaken, and
    v. competence in the performance of any professional engineering services that are undertaken.
2. A practitioner shall,
    i. regard the practitioner's duty to public welfare as paramount,
    ii. endeavour at all times to enhance the public regard for the practitioner's profession by extending the public knowledge thereof and discouraging untrue, unfair or exaggerated statements with respect to professional engineering,
    iii. not express publicly, or while the practitioner is serving as a witness before a court, commission or other tribunal, opinions on professional engineering matters that are not founded on adequate knowledge and honest conviction,
    iv. endeavour to keep the practitioner's licence, temporary licence, provisional licence, limited licence or certificate of authorization, as the case may be, permanently displayed in the practitioner's place of business.
3. A practitioner shall,
    i) act in professional engineering matters for the practitioner's employer as a faithful agent or trustee and
    ii) shall regard as confidential information obtained by the practitioner as to the business affairs, technical methods or processes of an employer and
    iii) avoid or disclose a conflict of interest that might influence the practitioner's actions or judgment [to your employer].

PEO's Code of Ethics

4. A practitioner must disclose immediately to the practitioner's client any interest, direct or indirect, that might be construed as prejudicial in any way to the professional judgment of the practitioner in rendering service to the client.
5. A practitioner who is an employee-engineer and is contracting in the practitioner's own name to perform professional engineering work for other than the practitioner's employer, must
    i) provide the practitioner's client with a written statement of the nature of the practitioner's status as an employee and the attendant limitations on the practitioner's services to the client, must
    ii) satisfy the practitioner that the work will not conflict with the practitioner's duty to the practitioner's employer, and must
    iii) inform the practitioner's employer of the work.
6. A practitioner must co-operate in working with other professionals engaged on a project.
7. A practitioner shall,
    i. act towards other practitioners with courtesy and good faith,
    ii. not accept an engagement to review the work of another practitioner for the same employer except with the knowledge of the other practitioner or except where the connection of the other practitioner with the work has been terminated,
    iii. not maliciously injure the reputation or business of another practitioner,
    iv. not attempt to gain an advantage over other practitioners by paying or accepting a commission in securing professional engineering work, and
    v.
        A) give proper credit for engineering work,
        B) uphold the principle of adequate compensation for engineering work,
        C) provide opportunity for professional development and advancement of the practitioner's associates and subordinates, and
        D) extend the effectiveness of the profession through the interchange of engineering information and experience.
8. A practitioner shall maintain the honour and integrity of the practitioner's profession and without fear or favour expose before the proper tribunals unprofessional, dishonest or unethical conduct by any other practitioner.

Ontario vs. Other Provinces

- Ontario is unique here: we have *two* documents,
  - one that's directly enforceable (the Definition of Professional Misconduct) and
  - another that's more of a set of guidelines (the Code of Ethics)
- Other Provinces have *only* a code of ethics which is more directly enforceable

APEGA's Code of Ethics

Professional engineers and geoscientists shall recognize that professional ethics is founded upon integrity, competence, dignity and devotion to service. This concept shall guide their conduct at all times.

1. Professional engineers and geoscientists shall, in their areas of practice, hold paramount the health, safety and welfare of the public and have regard for the environment.
2. Professional engineers and geoscientists shall undertake only work that they are competent to perform by virtue of their training and experience.
3. Professional engineers and geoscientists shall conduct themselves with integrity, honesty, fairness and objectivity in their professional activities.
4. Professional engineers and geoscientists shall comply with applicable statutes, regulations and bylaws in their professional practices.
5. Professional engineers and geoscientists shall uphold and enhance the honour, dignity and reputation of their professions and thus the ability of the professions to serve the public interest.

Discipline (briefly)

- If you've committed professional misconduct you experience a penalty imposed by the association's discipline committee.
- Process overview (Ontario)
  - Written complaint about a licensed practitioner submitted to PEO
  - **Complaints committee** (made up of Members)
    - investigates the complaint
    - If they feel you're innocent they dismiss it. Otherwise they pass it to the discipline committee.
  - **Discipline committee** (made up of Members)
    - Holds a hearing (like a trial where they're the judges) to determine whether you're guilty
    - If they feel you're guilty, they can impose a penalty
    - Possible discipline penalties:
      - Revoke licence
      - Suspend licence for up to 24 months
      - Fine of up to $5000
      - etc.

→ What does and doesn't count as "professional misconduct" by the definition is ultimately decided by your *fellow association members*

5. Duty to Report

- "Whistleblowing" means exposing (publicly or to a client or regulatory agency) the secret illegal or secret unethical actions of your employer or fellow employees
  - (or, in the case of internal whistleblowing, to higher management)
- Engineers are professionally obligated to report situations that endanger safety & welfare of the public
  - Engineers also have obligations to be fair and loyal to employers and clients, and keep their information confidential
  - If the public is seriously and immediately at risk then you must take whatever action returns them to safety as quickly as possible, internal or external.
  - If time allows, out of your duty to your employer you should usually try to resolve things in the following order, only escalating if the previous step failed:
    - Solving the problem yourself if your responsibility, or having a friendly conversation with the one responsible
    - Going to higher management with the concern
    - Going to top management with the concern
    - Going to the relevant government authorities

6.1: Due Diligence

- "Due Diligence" means acting with the amount of knowledge, care, and skill, that a person who would usually be expected to complete that task would exercise in the circumstances.
  - e.g., in engineering where there are relevant hazards, it means doing appropriate *risk management*
- The amount of diligence due depends on:
  - The complexity of the task
  - The amount of safeguards for errors (people that will check over the work)
  - The amount of people relying on the work being done correctly
  - The severity of the consequences if it's done incorrectly

Risk Management

- Risk:
  - *the effect of uncertainty on objectives* (according to ISO 31000, Risk Management)
  - bad thing that could happen if certain conditions take place
- Risk management:
  - Identifying, assessing (i.e., evaluating & prioritizing) risks, then
  - Developing & implementing plans that minimize the likelihood or impact of those risks (i.e., control & reduce hazards, then communicate this clearly via your duty to report / duty to warn).
- Risk management is likely to occur in two areas in your engineering practice:
  - Risks to public welfare
    - Here, you're professionally responsible for putting public welfare first and minimizing the risk to public welfare
  - Risks to your client's project or business success
    - The owner (client) is ultimately responsible for this risk management
    - You the engineer will provide expert advice to the client and make suggestions but the client decides whether and how to follow this advice (similar to how a medical doctor can give you professional advice but it's your responsibility to decide what to do with it).

6.2: Report Writing

- Report = "record of engineering service provided that may be referenced by people unfamiliar with the project and possibly with engineering work in general."
- Must identify:
  - the project,
  - the time period in which the work occurred,
  - the date the report was completed,
  - the parties it's addressed to,
  - the engineer(s) who prepared and take(s) responsibility for the work.
- Must have contact info for the engineering firm, identify the client, and explain terms of reference for the project.
- Should
  - explain what work was done and how this fulfilled objectives of the client.
  - be a complete description of the work taken and opinions or directions made on the basis of that work
- Must contain:
  - purpose of report
  - description of work involved to create it,
  - specific ID of drawings, photographs, manuals, documents, etc. and other reference material used to create it,
  - references to legislation, standards, or guidelines relevant,
  - details of reasoning that led to conclusions or findings where any judgement is made,
  - ID of all responsible people contributing to it, and
  - professional engineer's seal(s).

6.2: Report Writing continued

- Conclusion / final opinion:
  - If no conclusion reachable, should state that and explain why
  - Must write conclusion if info gathered was sufficient to do so. Must be carefully worded and readable in positive sense without unnecessary disclaimers, while accurately reflecting your degree of certainty so you don't mislead the client in either direction.
- Avoid subjective appraisals;
  - e.g., terms "good condition" or "severely compromised" without specifically defining these terms in the report (unless they have specific definitions in the context that will be understood by most people familiar with the work). Instead, use quantitative and verifiable language: express observations and conclusions in objective, preferably numerical terms.
- A *preliminary report* is only to inform the client of the progress of your investigation, and therefore shouldn't contain any conclusions.
  - However, once the investigation is complete, prior to preparing the final (i.e., "final for the purpose intended") report you can discuss facts & conclusions with the client for guidance of what to include in the report (i.e., to determine issues the client wants addressed, not to change your conclusions – as the engineer, you're accepting professional responsibility for the report so shouldn't let the client exert undue influence on its contents).
- Laws preventing you from giving false info to regulatory bodies also apply to info presented in engineering reports.
- Since an engineering report may be read by non-technical individuals, be careful not to use unnecessary jargon.
  - The report body should be simple, brief, and in non-technical language where possible – instead, put technical explanations / info for knowledgeable individuals in appendices.

6.3 Giving opinions

- Professional Opinion = any guidance you give (to a client, employer, or others) that involves applying professional knowledge which they'll rely on or take into consideration when making their own decisions.
- When giving opinions, make it in writing or at least follow up in writing to ensure client or employer has clear explanation of it and the reasons leading to it.
- Must only express opinions when they're based on adequate knowledge and honest conviction; therefore, must do enough investigation and analysis to be able to do this (determining how much work is required to do this, and being aware of the clients' needs, address only these, avoiding unnecessary work).
- You can still be liable for opinions given to anyone in informal or social settings if they had reason to believe the opinions were your professional opinion.

7. Conflict of Interest

- Interest = Motivation
  - *I want to make a lot of money*
- Conflict of interest = when your motivations interfere with each other
  - *I want to do a good job on this government environmental assessment project*
  - *I want to spend as much time as possible watching Netflix*
- Secret conflict of interest
  - *I want to do a good job on this government environmental assessment project*
  - *If I write the assessment in a way that makes the coal mining company look good they'll give me a $5 M bonus*
- *Secret* conflicts of interest are the problem. The solution is to disclose them to clients before starting the job.
  - Required by Codes of Ethics & Definitions of Professional Misconduct
- In some extremely compromised situations, or when you're making the decision rather than recommending to others, disclosing isn't enough and you must fully *avoid* the CoI (by taking yourself off of the project)

Confidential Information

- Unless it's publicly available (i.e., on their website), assume all information you learn about your employer or client while working for them is **confidential**
  - **Note:** Doesn't apply to general technical info & skill you could've learned while at another employer in the same field, this is fair for you to use and apply elsewhere if you later change jobs
- It's unethical to disclose confidential information to others
- This is overruled if public safety is at risk by keeping the information secret
  - When time allows, it's better to work with the company to correct the problem or disclose it to the government

Note the distinction between Conflict of Interest & Confidential Information:

- Conflict of Interest: keeping it secret is the problem
- Confidential Information: keeping it secret is the solution