

Software Development and Professional Liability

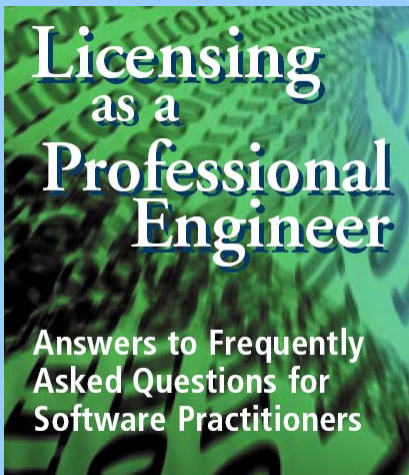
An Overview

Overview

- Professional Software Engineers
 - Professional responsibility
 - Ethical obligations
 - Professional Liability
 - Product Liability

Software Engineering

- Certain obligations flow from the professional status of “engineer.”
- Is a software developer/practitioner an engineer?
- Professional Engineering: “any act of designing, composing, evaluating, advising, reporting, directing or supervising wherein the safeguarding of life, health, property or the public welfare is concerned and that requires the application of engineering principles, but does not include practising as a natural scientist.”
 - *Professional Engineers Act*, R.S.O. c. P.28, s.1. (Ontario)
 - Software is increasingly integral to the acts of engineering, and may also raise issues related to the protection of life, health, property or the public welfare.
- The Professional Engineers of Ontario flyer on the requirements for professional designation for software engineers.
 - www.peo.on.ca/registration/SoftwarePamphlet.pdf



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“It is the association’s view that the design and implementation of any computer program whose operation (or malfunction) could adversely effect the health, safety or welfare of the public or the environment constitutes professional engineering work as defined under the Act, and by the definition of professional engineering practice as accepted by the Canadian Council of Professional Engineers.”

APEO, “Guideline: The Use of Computer Software Tools by Professional Engineers and the Development of Computer Software Affecting Public Safety and Welfare” (1993).

Engineering as a “self-governing” profession

- Engineering is a “self-governing” profession under provincial laws.
 - Characteristics of “professions”
 - Confidence of client in technical competence of the professional.
 - Public confidence in integrity and ethics of the profession.
 - Clients are generally ignorant of the technical matter, and so depend upon the professional’s competence and skill. The professional has a correlative duty and responsibility.
- Self-governing bodies are empowered to admit members, to regulate their conduct, and to discipline members for misconduct.

Professional Engineers and Ethics

- The self-governing bodies have established Codes of Ethics which govern their members, and have provided disciplinary procedures for breaches of the Codes.
- For example, the Professional Engineers of Ontario's Code of Ethics is available on its website <www.peo.on.ca/>
 - The Code is given legal foundation under the Ontario Regulation 941, s.77.

The screenshot shows the Ontario e-Laws website. At the top, there is the Ontario logo and the text "Ontario" in a large font. To the right of the logo is a "FRANÇAIS" button. Below the logo is a navigation bar with links: "SERVICES | ABOUT ONTARIO | ABOUT GOVERNMENT | TOP NEWS | FAQ". The main content area is titled "HOME / e-LAWS" and features a sidebar on the left with a menu of links: "e-LAWS", "HOME", "CURRENT CONSOLIDATED LAW", "SOURCE LAW", "REPEALED, REVOKED AND SPENT LAW", "PERIOD IN TIME LAW", "LEGISLATIVE TABLES", "LINKS", "GLOSSARY", "FAQs", "ORDER", and "CONTACT US". Below the sidebar is a section for "OTHER RESOURCES" with links to "Current Bills", "Ontario Gazette", and "Federal Legislation". The main content area is titled "ServiceOntario e-Laws" and includes a "WELCOME TO THE NEW e-LAWS SITE" message. The message states: "e-Laws is a database of Ontario's statutes and regulations, both consolidated and source law. The e-Laws database is updated continually. Specific information about the currency of consolidated law on e-Laws is contained within each consolidated statute and regulation. New source law is usually published on e-Laws within two business days." Below this message is a button that says "Search or Browse Current Consolidated Law". To the right of the main content area is a "LEGAL ADVICE" section that reads: "We cannot provide legal advice, interpret the law or conduct research. For such assistance, we recommend contacting a lawyer." Below this is a "FREQUENTLY ACCESSED LAW" section with a list of acts: "Consumer Protection Act", "Employment Standards Act", "Family Law Act", "Highway Traffic Act", "Human Rights Code", "Labour Relations Act", "Occupational Health and Safety Act", "Residential Tenancies Act", and "Workplace Safety and Insurance Act". At the bottom of the page, there is a "MINIMUM COMPUTER AND BROWSER REQUIREMENTS" section. The URL "http://www.e-laws.gov.on.ca" is displayed at the bottom of the screenshot.

<http://www.e-laws.gov.on.ca>

[Français](#)

Professional Engineers Act

R.S.O. 1990, CHAPTER P.28

Consolidation Period: From June 22, 2006 to the [e-Laws currency date](#).

Last amendment: 2006, c.19, Sched.B, s.14.

[SKIP TABLE OF CONTENTS](#)

CONTENTS

1.	Definitions
2.	Association
3.	Council of Association
4.	Annual meetings
5.	Membership
6.	Powers of Minister
7.	Regulations
8.	By-laws
9.	Official publication
10.	Establishment of committees
11.	Executive Committee
12.	When licences or certificates required
13.	Corporation
14.	Issuance of licence
15.	Issuance of certificate of authorization
16.	Issuance of licence or certificate of authorization on direction of Council
17.	Supervision by professional engineer
18.	Issuance of temporary, provisional or limited licence
19.	Notice of suspension to members or refuse to renew

Professional Misconduct and Incompetence

Professional Misconduct

- -a member may be found guilty of professional misconduct if (a) convicted of an offence relevant to suitability to practice or (b) the Discipline Committee finds the member guilty of professional misconduct as defined in the regulations.

Incompetence

- -a member may be found incompetent if the member (a) has displayed a lack of knowledge, skill or judgment or disregard for the welfare of the public to an extent that demonstrates lack of fitness to carry out the responsibilities of a professional engineer, (b) is suffering from a physical or mental condition or disorder to an extent making it desirable in the interests of the public or the member that the member no longer be permitted to engage in the practice of professional engineering.

Definition of professional misconduct (s.72(2), Regulation 941)

“professional misconduct” means,

- (a) negligence,
- “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.
- (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,
- (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,
- (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, ...
- (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,

PEO Code of Ethics

- Among the obligations are the following:
 - Duty of fairness and loyalty, fidelity to public needs, devotion to personal honour and professional integrity, knowledge of developments in the area of engineering, competence to perform the services undertaken.
 - Engineer must regard “duty to public welfare as paramount.”
 - Regard as confidential information obtained related to business affairs, technical methods or processes of an employer
 - Must avoid or disclose conflicts of interest that might influence one’s actions or judgment.

Negligence

- Elements of the modern negligence lawsuit
 - A “duty of care” – i.e., the defendant owed a duty of care to the plaintiff. [*duty of care*]
 - A breach of the “duty of care” – i.e., the defendant failed to act in accordance with the required “standard of care.” [*standard of care*]
 - The breach of duty “caused” the plaintiff’s loss. [*causation*]
 - The plaintiff’s loss was not too “remote” a consequence of the defendant’s breach of his duty of care. [*remoteness*]
 - The plaintiff suffered an actual, compensable loss. [*actual loss*]

Software Defects

- Switching gears to the question of product liability for defective software.
- Forms of liability
 - Negligent manufacture
 - Negligent design
 - Failure to warn of dangers resulting from negligent design or manufacture, dangers resulting from using the product in certain ways, and warnings about inherent unavoidable risks to unusually susceptible consumers.
- Frequently, software licenses disclaim liability for harms resulting from defects.
- Note that certain warranties of quality are implied into contracts by statute, and the Ontario *Consumer Protection Act* limits the ability of a vendor to disclaim these warranties.
- Note that contractual disclaimers of liability only apply between the parties to the contract, and not against third-parties who may be harmed.