



Professional Codes:

where values and duty meet

In their graduating year, engineering students in Ontario can choose to participate in the Ritual of the Calling of an Engineer, during which they take an obligation, written by Rudyard Kipling in 1924, to bind themselves upon their "honour and cold iron" to not "suffer or pass, or be privy to the passing of, bad workmanship or faulty material" in anything concerning their work as engineers, or in their dealings with their own souls before their maker. Noble words, to be sure. But in practice, engineers, like all professionals, have public or ethical duties with somewhat more tangible implications if they fail to keep them.

“In the engineering profession, codes of ethics were developed after disasters had occurred, as a means of ensuring that individual engineers would exercise integrity,” says Ian Greene, associate professor of political science, and member, Centre for Practical Ethics, York University. The disasters that provided the impetus to create the early codes were usually bridge collapses that resulted in the loss of human life.

There is evidence that engineering is considered to be a highly ethical profession. A 1986 National Academy of Engineering report found that in the United States engineers are ranked

behind only clergy and physicians for highest ethical standards.

Such professions as medicine, law, engineering and accounting, with protected titles and defined scopes of practice, are mandated under legislation to provide specific services that benefit society. However, since each profession has different duties to the public, the practitioners of each ascribe to codes of ethics that reflect their differing duties to society. “Whereas doctors are entrusted with maintenance of personal health and lawyers support society’s concerns dealing with justice and rights, engineers are expected to protect the welfare of society in its relation with

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the natural world," says PEO Manager of Professional Practice Bernard Ennis, P.Eng.

How are the codes of ethics of engineering associations similar? How do they compare with the codes of other self-regulating professions? Are they enforced and, if so, how? This article will answer these questions, and look at the philosophies behind the development of these codes.

Ethics and engineering professionalism

The definition of professionalism included in first-year engineering courses bearing such titles as "Safety and Risk" or "The Engineer in Society" is that: "Engineers are licensed, and are accountable for their work. Their duty is to protect the public safety."

"Ethical rules that have a bearing on determining the ideal solution are becoming part of the ordinary process of professional engineering practice," says Ennis. These rules are developed in response to the public's reliance on professional engineers to ensure that the infrastructure, technology and consumer products on which society depends are both safe and do not negatively affect our way of life. That means economics and technical feasibility cannot be the only parameters considered when making design decisions. "Several well-documented cases, such as the Challenger disaster, Ford Pinto, and Union Carbide in Bhopal, India," adds Ennis, "have shown that the professional responsibilities of engineers cannot be subordinated to management goals, market pressures or personal interests."

In its 1993 annual report, the Canadian Engineering Qualifications Board (CEQB) recognized the development of awareness of an engineer's public duties as a necessary component of qualifying experience for licensure:

"The social implications of engineering are becoming an increasingly important aspect of the practice of engineering. The work environment should provide realistic involvement to heighten [professional engineers'] awareness of the potential consequences, both positive and negative, of the project they are working on. This should include such aspects as:

- (i) the safeguards in place to protect the public and mitigate adverse impacts.
- (ii) a recognition of the significant role of regulatory agencies on the practice of engineering."

The CEQB is a standing committee of the Canadian Council of Professional Engineers (CCPE) that develops national guidelines on qualifications and standards of practice. CCPE is the national organization of the provincial and territorial associations/ordre that regulate the profession of engineering in Canada and license the country's 157,000 professional engineers.

Duty to public paramount

"Professionals owe a duty to the public," says Ennis. "When society gives an exclusive right to practise, the profession, represented by the self-regulatory body, needs to give society assur-

ances that its licensed practitioners have the necessary knowledge and experience, that they ascribe to a code of ethics, and that they will endeavour to protect the public." Under the authority of provincial and territorial Acts, self-regulating professions, including engineering, have codes of ethics that describe acceptable conduct for practitioners.

The codes of ethics for Canadian professional engineers all establish similar expectations for licensed practitioners' behaviour. Chief among these is the expectation that engineers will consider their duty to protect the safety, health and welfare of society as paramount. In the past, if engineers designed bridges that wouldn't fall down, they would have been considered to have done their duty. Increasingly, however, this duty is being seen as a duty to protect the environment for subsequent generations and to design products free of all defects and hazards.

To facilitate national and international mobility of engineers, CCPE prepares national guidelines to establish baselines and encourage national standards and consistency. Its national Code of Ethics model, published in 1997, contains nine tenets related to professional ethics and practice, which are interpreted and supported by its other national guidelines. Although not enacted in law and therefore unenforceable (regulation of the professions is a provincial/territorial responsibility under the Canadian constitution), the CCPE code was developed to assist its constituent associations/ordre in developing or revising their own codes to encourage harmonization across the country.

The philosophy of CCPE's code, says Begonia Lojk, P.Eng., CCPE's manager of engineering practice, is to "promote truth, honesty and trustworthiness of the individual engineering practitioner and his or her paramount duty to safeguard human life, welfare and the environment. A code of ethics should cover most situations that arise in a professional engineer's career." If it is too prescriptive, she says, it will not be flexible enough to deal with unforeseen situations.

CCPE's *National Guideline on the Environment and Sustainability* provides a description of the responsibilities individual engineers have in safeguarding the welfare of the public and the environment by ensuring that the works for which they are responsible and with which they are involved are considered safe. According to the CCPE guideline, sustainable design supports the paramount duty of engineers by "integrating an appropriate balance between a viable economy, protection of the environment and social well-being so that future generations can meet their own needs."

"The overriding aspect of the CCPE code of ethics," says Lojk, "is protecting human life." One way that professional engineers do that is by assessing their own competence. Under section four of the code, engineers are duty-bound to: "keep themselves informed in order to maintain their competence, strive to advance the body of knowledge within which they practise and provide opportunities for the professional development of their subordinates." Under the CCPE *Guideline on Continued Competency Assurance of Professional Engineers* (G05-96), it is recommended that licensed practitioners accept work only in their area of competence, advise clients if work is outside their area of expertise, and seek out other practitioners who have the required experience when necessary.

Provincial codes of ethics

In addition to the paramount duty to protect public welfare, the codes of ethics adopted by Canadian engineering licensing bodies recognize important, but non-paramount, duties to employers, clients, colleagues, employees and subordinates, as well as duties to the profession and oneself.

For the most part, provincial engineering acts include the code of ethics as part of the statute. In April 2000, a revised code of ethics was ratified at the Annual General Meeting of the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA). The new code was the result of four years of meetings and consultations of the APEGGA Practice Standards Committee (PSC) at the request of APEGGA Council.

Expected to be proclaimed in legislation soon, the code provides five streamlined tenets for professional conduct. The principal tenet, like most Canadian engineering codes, is to "hold paramount the health, safety and welfare of the public and have regard for the environment." The other tenets direct practitioners to: undertake work only within their area of competence; conduct themselves with integrity, honesty, fairness and objectivity in their professional activities; comply with applicable statutes, regulations and by-laws; and uphold and enhance the honour, dignity and reputation of the professions and their ability to serve the public interest.

"The new code is written as a guide for members," says Ray Chopiuk, P.Eng., APPEGA's director of professional practice. As part of the research to develop the new code of ethics, the PSC looked at codes from other associations and professions and at recent ethical issues.

"The new code was designed to be short, concise and memorable," says Chopiuk. In other words, it says to practitioners: "These are APEGGA's expectations to guide you in your professional conduct in making decisions that are not defined in terms of technical codes or standards." "The new code can be thought of as a set of general rules for APEGGA's members to follow," adds Chopiuk. "However, the association can still bring members to task without citing the Code of Ethics."

The current APPEGA Code of Ethics also addresses such specific issues as the use of seals, misrepresentation of qualifications, and a duty to advise the registrar of any practice by an association member that is contrary to the Code of Ethics. It is included in APPEGA's Manual of Professional Practice under the Code of Ethics. The manual also contains an "Interpretation and Amplification of the Code of Ethics."

Unlike other provincial engineering codes of ethics, the Ontario code is not included in the *Professional Engineers Act* itself, but in a separate regulation (Section 77, Ontario Regulation 941/90).

Under the Ontario Code of Ethics, in addition to the paramount and other duties already discussed, PEO practitioners are expected to display their licence certificates in their place of business. Employee engineers also offering services to the public are to advise their clients of their employment status and of any limitations of service that might consequently arise.

Other professions

The duties of other professions relate more directly to their responsibilities to their clients. The primary duty of physicians, for example, is to "do no harm" to their patients. Under the Code of Ethics of the Canadian Medical Association (approved by the CMA Board of Directors on October 15, 1996), physicians and surgeons are charged first with considering the well-being of the patient. Additional duties include treating all patients with respect without exploiting them, conducting competent and unimpaired practice, engaging in lifelong learning to maintain and improve professional knowledge, skill and attitudes, and recognizing one's own professional limitations.

The Canadian Nurses Association Code of Ethics recognizes seven primary values that are "central to ethical nursing practice: health and well-being, choice, dignity, confidentiality, fairness, accountability, and practice environments conducive to safe, competent and ethical care."

The legal profession, like the health care professions, also has a primary duty not to harm clients. The Law Society of Upper Canada's (LSUC's) recently revised Rules of Professional Conduct for lawyers specify seven areas of responsibility, the first being that "a lawyer has a duty to carry on the practice of law and discharge all responsibilities to clients, tribunals, the public, and other members of the profession honourably and with integrity" [section 1.03(1)(a)].

The Ontario College of Teachers, established under the Ontario College of Teachers Act, has established "Ethical Standards for the Teaching Profession." These voluntary tenets emphasize the duty of college members to "maintain professional relationships with students which recognize the importance of impartial and consistent respect for all students," as well as to respect confidential information and "base relationships with parents or guardians in their role as partners in the education of students, on respect, trust, and communication." Teachers are also to work with members of the college, parents and others to create a professional environment, act with integrity, honesty, fairness and dignity and comply with the acts and regulations.

Enforceability

Codes of ethics in self-regulatory associations typically begin on a voluntary basis and then become legislated as the organization matures, says York University's Ian Greene. "Because a voluntary code of ethics is subject to interpretation by individual practitioners," he says, "it does not work out to be satisfactory."

The Ontario engineering profession's Code of Ethics is meant to guide practitioners in their ethical behavior. Practitioners should look to the Code of Ethics to determine how they *ought* to conduct themselves. It outlines the standards of behavior that their profession *expects* of them.

Conversely, section 72 of Regulation 941/90 defines the yardsticks against which a practitioner's actions or conduct are measured to determine if the member is guilty of professional misconduct. Practitioners should look to section 72 to determine if their own actions or the actions of others constitute professional misconduct. It draws the line that their behaviour must not cross, thereby defining a minimum standard of acceptable practice.

The relationship between professional misconduct and the Code of Ethics is that the Code of Ethics is intended to promote *desirable conduct* by providing “*here’s-what-you-should-aim-for*” information on such issues as public safety and welfare, proper credit for engineering work, duty to report and conflicts of interest. Section 72, on the other hand, sets out minimum legal standards on most of the same issues, against which actions and conduct are measured.

How does a practitioner know if a situation is likely to be a breach of the Code of Ethics or of section 72? A good guide is to ask the question: “Does the action or conduct represent a threat to public safety or welfare?” If the answer is “yes,” the situation is likely a breach of Section 72. Breaches of the Code of Ethics can be considered to be professional misconduct if, in accordance with section 72(2)(j), they are considered to be “disgraceful, dishonourable or unprofessional.”

In section 72 of Regulation 941/90, negligence is defined as “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.” Examples of actions defined as professional misconduct include: 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 [section 72(2)(b)]; failure to act to correct or report a situation that the practitioner believes may endanger the safety or the welfare of the public [72(2)(c)]; and harassment [72(2)(n)]. Harassment is defined as “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” [72(1)].

Additionally, professional misconduct includes “undertaking work the practitioner is not competent to perform by virtue of the practitioner’s training and experience [72(2)(h)].

Professional misconduct for regulated health professionals is defined in section 51(1) of the *Regulated Health Professions Act* (RHPA), and includes the acts of doing something (commission) or failing to do something (omission) that is a breach of accepted ethical and professional standards of behaviour, or that is contrary to the public interest. Areas of professional misconduct under the RHPA include: failure to maintain the standards of practice; working while impaired/substance abuse; abusive conduct, which the College of Nurses of Ontario (CNO) defines as physical, verbal and emotional abuse; failure to obtain informed consent, breach of confidentiality or failure to share specified information with a client; inappropriate business practices; and sexual abuse.

For Ontario lawyers, section 1.03 of the LSUC’s Rules of Professional Conduct states clearly the rules are intended to be interpreted as not only an expression of ideals for the profession, but also a definition of “the bases on which lawyers may be disciplined” [section 1.03(1)(d), (e)]. In section 1.02 of the rules, professional misconduct is defined as violating or attempting to violate the Rules of Professional Conduct, the *Law Society Act*, its regulations or by-laws, or assisting another lawyer, partner or associate in a multidisciplinary practice, judge or judicial officer to do so. The definition of professional misconduct for lawyers also includes dealing dishonestly with a client’s or third party’s money or property, conduct prejudicial to the administration of justice, and stating or implying an ability to influence improperly a government agency or official.

The Ontario Schools Code of Conduct, established by the Ministry of Education, “sets clear provincial standards of behavior... to all individuals involved in the publicly funded school system—parents or guardians, volunteers, teachers and other staff members.” Under the Code of Conduct, “Teachers and school staff, under the leadership of their principals, maintain order in the school and are expected to hold everyone to the highest standard of respectful and responsible behavior.” The code has mandatory consequences for a wide range of violations, although these have not yet been proclaimed in force through legislation.

Professional regulators have also implemented or will shortly implement—either on their own initiative or as directed by government—mandatory competence-related initiatives for their professions, to provide enforceability to practitioners’ ethical obligations to practise only in areas of competence.

Members attending the Annual Meeting of APEGGA, for example, recently approved making compliance with its continuing competence program a requirement for continuing licensure.

All registered nurses and registered practical nurses in Ontario, meanwhile, are required to participate in the college’s Quality Assurance (QA) Program, which helps nurses maintain and continuously improve their competence through a commitment to reflection on lifelong learning.

In the legal profession, the Law Society of Upper Canada approved a new Competence Mandate for itself in March 2000. A plan to implement this mandate was approved by the LSUC’s convocation (council) in March 2001. The competence approach

Ethics on the web

Canadian Council of Professional Engineers (CCPE)

www.ccpe.ca

National guidelines and a model Code of Ethics are available under Publications. Click on the members link to the associations to view your chosen province or territory’s professional practice guidelines, which include *Codes of Ethics*, and case studies.

Professional Engineers Ontario (PEO)

www.peo.on.ca

Provides comprehensive standards of practice guidelines for engineers, and public information guides including: the *Code of Ethics*; *Human Rights in Professional Practice*; *Making a Complaint: A Public Information Guide*; and *The Professional Engineer’s Duty to Report*.

The American Society of Civil Engineers (ASCE)

www.asce.org/ethics

Categories include ethics discussion groups; policy statements; related articles; resources; enforcement; education; and links to an online ethics course.

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