

An illustration on a yellow background showing three stylized figures. On the left, a man in a blue suit points towards a large blue speech bubble. In the center, a woman in a red dress points towards a large red speech bubble. On the right, a man in a black suit and top hat points towards a large red speech bubble. The text 'Putting some engineering myths to rest' is overlaid on the scene.

Putting some engineering myths to rest

Despite a 91-year history of regulating the practice of engineering in Ontario, PEO still deals with misconceptions about how the *Professional Engineers Act* and regulations apply. It's time to re-examine some of these engineering myths.

By Michael Mastromatteo

One of the definitions of the word myth is the uncritical acceptance of the veracity of a story or series of anecdotes. While a myth is a useful concept in the development of legends and literature, it doesn't fit so well when applied to such a technically precise profession as engineering.

But when it comes to administering a public statute and establishing a framework for the self-regulation of a senior profession, it's almost inevitable that a few myths might creep into the picture.

PEO's discipline, enforcement and professional standards departments have uncovered areas of misconception that are problematic. Some of these myths can be described as assumptions that, if acted upon, could lead to a practitioner becoming the subject of complaints, investigation and possible disciplinary action.

This is why PEO has both a professional affairs function, and enforcement and compliance hotlines, to field questions about practice-related situations and dispel myths, rumours and other bits of misinformation disseminated by way of routine interaction among practitioners.

These are some of the most commonly held misconceptions among the public and practitioners alike.

MYTH: ONTARIO PROFESSIONAL ENGINEERS PAY HIGHER LICENCE FEES THAN OTHER CANADIAN ENGINEERS.

Ontario engineers pay \$220 (plus applicable taxes) annually for their licences, which is the lowest annual fee of all Canadian engineering regulators. And, this fee has remained unchanged for the past five years. The highest fees are paid by professional engineers in Prince Edward Island and Saskatchewan, who pay \$450 annually. Annual licence fees in the other provinces and territories range from \$240 to \$350.

Ontario engineers also pay much less to practise their professions than many other professionals who are self-regulated. The Law Society of Upper Canada charges its lawyer members over \$2,000 each year, while physicians in Ontario submit annual fees of \$1,550 to the College of Physicians and Surgeons of Ontario. The Institute of Chartered Accountants of Ontario charges its members more than \$1,000 a year.



MYTH: PEO'S ACADEMIC REQUIREMENTS FOR LICENCE APPLICANTS DISCRIMINATE IN FAVOUR OF CANADIAN ENGINEERING GRADUATES.

What may be contributing to this myth is that if an applicant received their degree by successfully completing an accredited Canadian university engineering program, the academic requirements for the P.Eng. licence are recognized by council as meeting the requirements for licensure.

If an applicant received a degree from an engineering program that has not been accredited by the Canadian Engineering Accreditation Board (CEAB), his or her bachelor's degree will be assessed against the CEAB criteria in the relevant engineering discipline by PEO's Academic Requirement's Committee, lengthening the time it takes to determine that they have met the academic requirements for licensing.

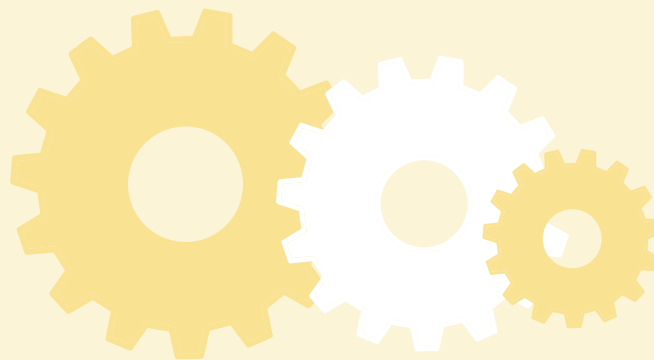
Barna Szabados, P.Eng., chair of PEO's Academic Requirements Committee, says many applicants think that a European degree, in particular, is automatically accepted as meeting the academic requirements for licensing. But it's not that simple. In general, applicants who do not hold a degree from a Canadian university engineering program accredited by the CEAB will be assigned an examination program. If they have more than five years of experience, they may be referred to a panel of volunteer engineers who are members of PEO's Experience Requirements Committee, who will, through an interview, determine if all or part of the examination program can be waived. Approximately two-thirds of internationally trained applicants satisfy PEO's academic requirements without having to write technical exams.

More information on PEO's licensing process requirements can be found in PEO's *Licensing Guide and Application for Licence*.

MYTH: APPLICANTS' ONE YEAR OF CANADIAN EXPERIENCE HAS TO BE OBTAINED IN ONTARIO (IF APPLYING TO PEO FOR A LICENCE).

PEO's Experience Requirements Committee volunteers indicate that many applicants are under the impression that the requirement for one year of Canadian experience for the P.Eng. must be obtained in Ontario. In fact, an applicant can get work experience in any Canadian province as long as it is under the supervision of a licensed professional engineer.

For more information, refer to the *Guide to the Required Experience for Licensing as a Professional Engineer in Ontario*, available at www.peo.on.ca/index.php/ci_id/22929/la_id/1.htm.



MYTH: THE GENERIC NATURE OF THE P.ENG. LICENCE ENABLES THE HOLDER TO UNDERTAKE ANY KIND OF ENGINEERING WORK.

Technically, this is true. But it is also professional misconduct for a practitioner to undertake "work the practitioner is not competent to perform by virtue of the practitioner's training and experience" (section 72(2)(h), Regulation 941). There is an element of self-policing here in that members are required to accept only work for which they have the required knowledge and experience, or for which they can acquire such knowledge in a reasonable amount of time.

MYTH: A TEMPORARY, LIMITED OR PROVISIONAL LICENCE CONFERS THE SAME RIGHT TO PRACTISE AS A FULL LICENCE.

A limited licence is normally issued to engineering technologists or scientists who are employees and who, by virtue of many years of specialized experience, have demonstrated competence in a specific aspect of professional engineering.

The professional engineering services the holder of a limited licence may perform are defined, described and restricted in terms of function, product and application. Restrictions to the scope of professional practice are imposed in terms of these three elements.

A provisional licence can be issued to an applicant who has met all the requirements for licensing as a professional engineer except the required 12 months' work experience under a Canadian (not just Ontario) professional engineer [section 14(7) of the *Professional Engineers Act* (PEA)]. A provisional licence holder may practise professional engineering only under the supervision of a licensed engineer, and may not issue a final drawing, specification, plan, report or other documentation unless the supervising engineer also signs it and affixes his or her seal.

PEO's temporary licence is issued on a project and discipline basis for a maximum of 12 months from approval. Temporary licences are generally issued to engineers licensed in the United States working on a project in Ontario. They may also be issued to internationally trained engineers who have wide recognition in the field of practice related to the work to be undertaken under the temporary licence. Such practitioners are often required to work in collaboration with an Ontario engineer.

Three sources of further information include licence application forms, the *Limited Licence Application Guide*, and the *Provisional Licence Guide*, which are available at www.peo.on.ca/index.php?ci_id=2072&la_id=1.

MYTH: AS LONG AS I DON'T SEAL ANYTHING I DON'T NEED PEO'S CERTIFICATE OF AUTHORIZATION (C OF A).

This is incorrect. A C of A is required by any engineering company or individual offering services to the public (i.e. anyone other than the engineer's employer), regardless of whether an engineer seals any documents related to a project.

The C of A was created in 1969 and extended to sole practitioners in 1984. Regulations to enable approved changes to make the C of A more transparent and affordable for sole-practitioner enterprises are working their way through the legislation-making process.

Part of the reason for the C of A being extended to sole practitioners was so PEO could enforce a government regulation requiring all those providing engineering services to the public to hold professional liability insurance.

Implementation of that requirement was postponed by government for several years and eventually amended to enable C of A holders not to carry insurance as long as they disclose their non-insured status to clients, and have the client affirm the disclosure.

As well, engineers often believe that if their competitor doesn't have a C of A, they don't need one either. Again, this is incorrect. A certificate is required to offer or provide professional engineering services to the public, period. If your competitor doesn't hold a C of A, they might be offering or providing services illegally.

MYTH: YOU HAVE TO BE A LICENSED ENGINEER TO OBTAIN A C OF A.

Brian MacEwen, P.Eng., PEO's manager, registration, says that while many know a P.Eng. licence is required to practise professional engineering, they often don't know a C of A is also required to offer professional engineering services to the public.

What may be surprising to some is that almost anyone can obtain a C of A to offer professional engineering services to the public—even if they themselves do not hold a P.Eng. licence—provided they have at least one professional engineer in the firm who agrees to assume responsibility for the engineering services offered.



MYTH: IF I DON'T SEAL ANYTHING, I'M NOT LIABLE FOR THE WORK.

Failure of an engineer to sign and seal an engineering document does not relieve the engineer of legal liability, since sealing documents has nothing to do with the question of liability for negligence. Engineers are liable because they prepared the documents, or because they approved them, not because they signed or sealed them.

As is indicated in PEO's *Use of the Professional Engineer's Seal* guideline, the seal is an indication of who is taking professional responsibility for the work. That engineer is the person who will be held accountable by the professional body if something goes wrong.

Also, use of the seal is not optional. Failing to seal a document or drawing provided as part of service to the public is a violation of the PEA and would be considered to be an act of professional misconduct.

The guideline for the use of the seal also clarifies the common misconception that only the holder of a C of A is entitled to seal documents. This is untrue. There is no connection between the C of A and a seal. The right and obligation to use a seal are conferred by the P.Eng. licence.

The rule of thumb is simple: Don't use the seal if you didn't have anything to do with the work itself.

PEO's guideline on the use of the seal is available from the PEO website at www.peo.on.ca/index.php/ci_id/22148/la_id/1.htm.



MYTH: I'M THE DESIGN ENGINEER FOR A BUILDING. THE CLIENT HAS TO LET ME DO THE GENERAL REVIEW.

General reviews of building projects are a generally misunderstood area of practice. Some members have suggested that as “design engineer,” they are automatically required to do a general review. On the other hand, some clients assume a design engineer is obliged to do a general review of a project. In fact, the design and general review are separate practice items and do not need to be subsumed into a single contract. It is the responsibility of the general review engineer to review the construction and to report on any observed breaches of the building permit documents or the building code. General review engineers are not responsible for quality assurance on behalf of either the client or the contractor.

Engineers taking on design projects should always ask clients how they intend to handle the general review of the building, to clarify whether they need to include this in their scope of services.

For more information, refer to *Professional Engineers Reviewing Work Prepared by Another Professional Engineer* (2011), available at www.peo.on.ca/index.php/ci_id/22122/la_id/1.htm.

MYTH: GENERAL REVIEW ENGINEERS HAVE TO REVIEW THE DESIGN OF A BUILDING.

The responsibilities of these two engineers are quite different. Design engineers retain responsibility for the design. Review engineers are responsible only for judging general conformity of a completed work with the design documents. A general review doesn't require a reviewing engineer to check the validity and accuracy of the plans. A general “conforming opinion” is a judgment by a reviewing engineer that the standard of work performed by the contractor fulfills the requirements of the plans that were the basis for issuing a building permit.

Unless they are also the designers of the work, general review engineers are not responsible for the engineering associated with the plans and specifications prepared for the work.

For more information, refer to *Professional Engineers Reviewing Work Prepared by Another Professional Engineer* (2011).

MYTH: GENERAL REVIEW ENGINEERS ARE RESPONSIBLE FOR CONTRACT ADMINISTRATION.

While the Ontario Building Code requires the owner to retain an engineer to perform general review, there is no legal requirement compelling an owner to hire one to provide contract administration. The owner can simply allow the contractor to

construct the building with little or no oversight. In this case, the owner will rely on the contractor to abide by the contract and to provide the building that the owner expected and the engineer designed. However, many engineers who are retained to perform general review immediately assume the role of the owner's agent on the project and take on all the responsibilities of contract administration, including resolving contract disputes, doing payment certifications, and attending job site meetings. Engineers should recognize the difference between general review and contract administration and assume only the role and responsibilities negotiated with the client.

For projects where a review engineer is doing both the general review of construction required by the Ontario Building Code and the site review, including contract administration, for the owner, the review engineer is responsible for making design changes, when necessary. In such cases, the review engineer takes responsibility for these design changes and any impact they have on the other components of the completed project.

MYTH: THE ENGINEER I HIRED LISTED CONTRACTORS' DEFICIENCIES AFTER COMPLETING THE GENERAL REVIEW. HE HAS TO COME BACK TO FIX THEM.

Deficiency reports also lead to confusion in understanding the responsibilities of engineers and PEO's jurisdiction over them. Some clients believe PEO can force a design engineer to come back to make sure deficiencies listed by the engineer doing general review of the work are corrected.

Design engineers retain responsibility for their designs. Review engineers are responsible only for making judgments and opinions regarding general conformity of the completed work with the design documents accepted by the building department. Essentially, the general review is a confirmation that the building being constructed is identical to the agreement between the owner and the municipality. Neither engineer is responsible for the work of contractors, fabricators or manufacturers.

Among the responsibilities of the review engineer is to report in writing to the chief building official, the client and the contractor on the progress of the work and on any observed non-conformance issues and how they are being rectified, after each site visit.

Since the review engineer is acting on behalf of the public, the client can't define the scope of work involved. An engineer's work is defined in O.Reg. 260/08. Where a client suggests limiting the number of site visits, the review engineer should inform the client it is the engineer's responsibility to determine how many visits are required to properly observe the work.

For more information, refer to *Professional Engineers Providing General Review of Construction as Required by the Ontario Building Code*, available at www.peo.on.ca/index.php/ci_id/16158/la_id/1.htm.



MYTH: I DON'T NEED INSURANCE TO PRACTISE ENGINEERING.

Although only 2 per cent of questions in PEO's practice advice database involve insurance matters, this issue can be considered a lingering myth area for the profession. Johnny Zuccon, P.Eng., PEO's deputy registrar, tribunals and regulatory affairs, says: "On the issue of insurance, many believe that C of A holders are not required to carry insurance. The truth is the opposite. The PEA at section 34 is specific and provides for regulations to set out the insurance requirements. It is clearly a statutory requirement to hold insurance, but through regulations, there is a limited option to declare to the recipient of the services that the holder does not carry insurance."

As well, section 74 of Regulation 941 provides in subsection (1) minimum coverage requirements for professional liability insurance for C of A holders. Insurers operating in Ontario will issue policies in accordance with the requirements.

MYTH: MY CLIENT CAN'T USE MY SEALED DRAWINGS BECAUSE THE CLIENT HASN'T PAID FOR THEM.

There is nothing in the PEA or regulations that address a client's non-payment for sealed drawings or documents. PEO recommends that practitioners get contracts from clients that clearly indicate the scope of projects and payment terms. The guideline for *Professional Engineering Practice*, one of the most comprehensive of PEO's publications, says written contracts should specify fees and expenses to be charged to the client, as well as provide a schedule for completion of various phases of the work, including deliverables and payment of all fees.

The guideline also suggests that conflicts and poor business relations can expose a practitioner to a complaint of professional misconduct. For more information, refer to the guideline at www.peo.on.ca/index.php/ci_id/22127/la_id/1.htm.

Engineers who haven't been paid for sealed drawings or other components of their work should look to the civil courts for redress.

More information can be found in the publication *Use of Agreements between Clients and Engineers for Professional Engineering Services*, available at www.peo.on.ca/index.php/ci_id/22146/la_id/1.htm.

MYTH: PEO WILL HELP ME IN A DISPUTE I HAVE WITH MY EMPLOYER OR CLIENT.

Bernard Ennis, P.Eng., PEO's director, policy and professional affairs, says some engineers call regarding employment or contractual disputes and assume that PEO offers legal advice or some kind of arbitration service as a benefit of membership. In reality, the annual membership fee allows practitioners to maintain their licences and for PEO to do its ongoing work of regulating professional engineering practice, licensing practitioners and enforcing the PEA's licensing and C of A requirements. It is not intended to provide members with services other than advice on complying with the PEA and its regulations.

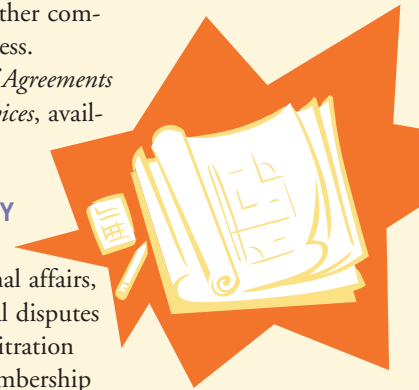
MYTH: WE'RE TAKING OVER A PROJECT FROM ANOTHER FIRM SO WE HAVE TO LET THEM KNOW WE'RE ON THE PROJECT NOW.

Essentially, this is simply a professional courtesy. The PEA imposes no duties or obligations on practitioners taking on projects after other practitioners have been terminated. There is also no requirement for the second practitioner to get permission from the first practitioner to take over a project. The PEA says the second practitioner need only obtain the client's assurance that the first practitioner has been let go. It is up to the client to advise the first party of termination.

An engineer is advised not to begin any work until advised that the first party has been terminated.

MYTH: I CAN'T TAKE OVER A PROJECT FROM ANOTHER FIRM IF MY CLIENT HASN'T PAID THE OTHER ENGINEERS.

Taking over a project for a client from another engineer has nothing to do with the previous engineer-client relationship and any contractual disputes they may have had. Furthermore, the PEA does not contain an obligation to ensure that the prior engineering firm was paid.



MYTH: ONLY CIVIL ENGINEERS ARE DISCIPLINED BY PEO.

This is one of the most persistent misconceptions, according to Linda Latham, P.Eng., PEO's deputy registrar, regulatory compliance. In fact, an engineer from any discipline is equally likely to be disciplined.



MYTH: THE INDUSTRIAL EXCEPTION APPLIES TO ALL MANUFACTURING.

Latham is also deeply concerned about the misunderstanding surrounding the so-called industrial exception and its "wide interpretation" within the industrial and manufacturing sectors.

Added to the PEA in 1984, the exception (section 12(3)(a) of the act) permits non-licensed employees to do professional engineering work in relation to machinery or equipment used to produce a product for their employer in their employer's facility. Ontario is the only province in Canada with a full machinery exception in its engineering act.

With the passage into law of the Ontario government's *Open for Business Act* in October 2010, section 12(3)(a) was repealed, with proclamation of the repeal into effect scheduled for a future date to

enable PEO to work with industry to ease the transition. Early this year, PEO was informed that the government had set a proclamation date of March 1 for the repeal. In late February, however, the government extended the proclamation date to September 1, and in June, the province cancelled the September 1 proclamation date and has yet to set a new date.

"It's a myth that the industrial exception applies to any and all acts of engineering in a manufacturing environment or industrial setting," Latham says. "The exception is narrow and applies only to engineering work that a business performs on its own production equipment."

MYTH: COMPLYING WITH THE PROFESSIONAL ENGINEERS ACT ONCE THE REPEAL COMES INTO FORCE WILL BE VERY COSTLY FOR MANUFACTURERS.

The manufacturing sector in Ontario generates \$270 billion in GDP. The cost of licensing the 4000 individuals that PEO estimates will need to be licensed will be \$1.6 million in the first year. PEO is offering a 42 per cent discount on the usual \$715 rate for new licences, thereby investing an estimated \$1.2 million in worker safety in Ontario.

MYTH: BUSINESSES WERE NOT SUFFICIENTLY CONSULTED ABOUT THE REPEAL OF THE INDUSTRIAL EXCEPTION.

Public consultations on the contents of the *Open for Business Act, 2010*, started in 2008. The Canadian Manufacturers and Exporters, the Canadian Federation of Independent Business, and the Ontario Forest Industries Association all participated in those consultations.

Between 2010 and 2013, PEO has been actively promoting tools for compliance, offering briefings for companies and industry associations, and providing assistance and flexibility with compliance. In total, PEO has:

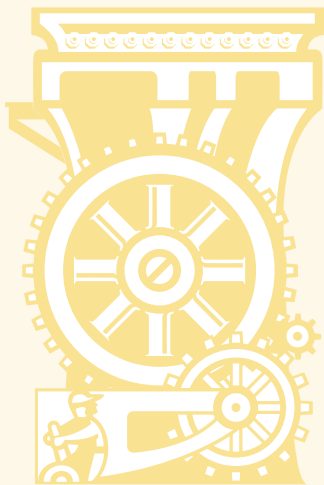
- made contact with 450 companies;
- held 35 workshops;
- held 19 open houses for manufacturers; and
- contacted 108 industry associations and labour groups.

In addition, numerous industry publications, including *Engineering Dimensions*, have published detailed articles on the subject for the past five years. For further information, visit PEO's repeal website page at www.peo.on.ca/index.php?ci_id=2259&la_id=1.

MYTH: ONTARIO MANUFACTURERS GAIN A COMPETITIVE ADVANTAGE AND SAVE MONEY BY HAVING THE EXCEPTION IN PLACE IN ONTARIO.

Reducing workplace injury is in the public interest and can save businesses money. According to the Ontario Workplace Safety and Insurance Board, the average cost of a workplace injury claim for 2010 was estimated at over \$19,000. The associated costs for a workplace injury could total three to 10 times that amount. The cost of licensing 4000 individuals to protect workers in Ontario is far less than the cost of a workplace injury or fatality. The accident and fatality rate, on a per capita basis, in the manufacturing sector is higher in Ontario than in other provinces.

For more information, consult *Repeal of Industrial Exception to Licence* (January 2013) on PEO's repeal page, www.peo.on.ca.



MYTH: PROFESSIONAL ENGINEERS ARE NOT ALLOWED TO JOIN UNIONS.

Another myth holds that engineers are not permitted to belong to unions (which once was the case but changed in 1971 with amendments to the *Ontario Labour Relations Act*), or that union membership absolves engineers from adhering to standards of the profession.

In reality, the PEA is silent on the effect of union membership on practitioners' professional obligations, meaning P.Engs in unions are expected to maintain their professional conduct. There are no exceptions to the requirements for licence holders to fulfill their professional obligations, regardless of the conditions under which they negotiate their remuneration.

MYTH: VIOLATIONS OF THE CODE OF ETHICS MUST BE PROFESSIONAL MISCONDUCT.

There is a perception that any violation of the Code of Ethics constitutes professional misconduct, and is subject to discipline. In fact, an act that is *solely* a breach of the Code of Ethics (section 77 of Regulation 941) is expressly excluded from the definition of professional misconduct in section 72 of Regulation 941.

However, many behaviours that breach the Code of Ethics have parallels in the definition of professional misconduct and so could be the subject of a complaint and eventually referral to a discipline hearing. And even breaches solely of the Code of Ethics may be found to have violated section 72(2)(j) of the regulation if they are egregious enough to "reasonably be regarded by the engineering profession as disgraceful, dishonourable, or unprofessional."

For example, an engineer communicating orally or in writing once in the heat of the moment in a disrespectful or inappropriate manner might not be considered to be misconduct, but a pattern of such communication or communication that constitutes harassment or violates human rights legislation could well be seen as professional misconduct.

As well, practitioners should not feel they are immune from PEO's complaints and discipline processes just because they are not practising professional engineering.

Two sources to consult regarding this issue are the guideline for *Professional Engineering Practice*, and *Making a Complaint*, which is available at www.peo.on.ca/index.php/ci_id/16523/la_id/1.htm.

MYTH: PEO WILL PROVIDE ME WITH TECHNICAL ADVICE.

Ennis says some practitioners expect PEO to provide them with technical advice. However, PEO's expertise is confined to matters of licencing, discipline and enforcement, so PEO can only make recommendations about the proper role of engineers.

"Some members expect PEO to give technical advice and make recommendations about design," Ennis says. "We do not. Instead, we publish practice standards and guidelines." The standards and guidelines relate to how engineers are expected to carry out their duties as professionals.

MYTH: PEO WRITES TECHNICAL STANDARDS.

Over the years, PEO has developed some 30 professional practice guidelines and fewer than a handful of practice standards, which some members assume are akin to technical standards developed by the Canadian Standards Association. PEO writes engineering practice standards, that is, standards describing the criteria for assessing the quality of a professional service.

Zuccon says that as administrator of a self-regulating profession, PEO is responsible for regulating the practice of professional engineering by ensuring practitioners conform to generally recognized norms of professional

practice. "It is universally recognized that adherence by practitioners to quality standards for professional services plays an important part in shaping both the role and the image of the profession in Ontario," Zuccon says. "To ensure this can be done, the *Professional Engineers Act* gives PEO council the authority to establish, develop and maintain standards of practice that must be adhered to by all competent practitioners under its jurisdiction."

MYTH: PEO SHOULD BE DOING SOMETHING ABOUT THE GARDINER EXPRESSWAY.

Sometimes PEO is asked what it is doing to remedy unsafe infrastructure, such as the crumbling Gardiner Expressway in Toronto. Unfortunately, there is little that PEO can do directly. The regulator has no authority to order remedial action by anyone, including democratically elected bodies, such as Toronto city council, which have their own responsibilities to safeguard public interests.

PEO can make policy position statements on any matter, indirectly. However, it must make these statements with discretion since membership in the association is not voluntary and members have many diverse opinions on how to deal with public policy matters. Individual members are able to voice their opinions on these matters through the Ontario Centre for Engineering and Public Policy. More information about the centre is available at members.peo.on.ca/index.cfm/ci_id/31427/la_id/1.html.



MYTH: PEO WILL HELP ME DECIDE WHICH ENGINEERING OPINION IS RIGHT.

Sometimes consumers come across two engineers with differing opinions on a specific matter. The consumer might turn to PEO to ask which engineer's opinion is the better one. However, PEO is not a technical or engineering organization, and does not have expertise in engineering. The PEO guideline *Professional Engineers Reviewing Work Prepared by Another Professional Engineer* says if two professionals disagree, a client can choose the option that is more acceptable to the client's requirements. It's akin, Ennis says, to getting a second opinion on a medical question, and then asking the College of Physicians and Surgeons of Ontario to determine which doctor's opinion is correct. The ultimate decision must be made by the consumer.

MYTH: PEO CAN TELL ME IF THE ENGINEER I'VE HIRED IS QUALIFIED IN A PARTICULAR AREA OF ENGINEERING.

PEO occasionally gets calls from clients or the general public about a practitioner's expertise in structural, electrical or some other branch of engineering. Other than referring these callers to the PEO membership directory so the person can confirm the engineer is licensed, the regulator has no authority to vouch for special expertise or the additional qualifications of any member. Callers are informed of the engineer's duty to provide only those services for which the engineer is competent. Callers are also reminded that, like all consumers, they can request references and should do research before selecting a professional who will meet their needs.

MYTH: I'M THE CLIENT AND I'M ENTITLED TO SEE THE CALCULATIONS AND PRELIMINARY DOCUMENTS OF MY PROJECT. AFTER ALL, I PAID FOR THEM.

Some consumers believe they should be able to view calculations, preliminary documents and even CAD files during the course of a project. The truth is that clients are entitled to see only final documents, and not fundamental or in-process work.

More information can be found in the publication *Use of Agreements between Clients and Engineers for Professional Engineering Services*.

MYTH: WE PAID THE ENGINEER AND THEY HAVEN'T DELIVERED THE WORK. PEO CAN GET OUR MONEY BACK.

Some clients of engineers assume PEO can help them get their money back if they believe an engineer hasn't done what was expected. Some also assume PEO can crack the whip on behalf of clients of slow-acting engineers who haven't produced documents, reports or other material in the agreed timeframe.

However, unless it's an issue of misconduct or malpractice, PEO does not get involved in such situations, leaving the courts to settle disputes between clients and practitioners.

PEO also cannot prosecute to recover money lost by clients.

The key is for both practitioner and client to opt for contracts that spell out responsibilities, timeframes, fees and the like.

For more information, refer to the publication *Use of Agreements between Clients and Engineers for Professional Engineering Services*.



MYTH: AS AN ENGINEER, I HAVE A DUTY TO REPORT ANYTHING I THINK IS DANGEROUS.

With a tradition of watching over civil, mechanical and electrical infrastructure, engineers are associated with a duty to public safety and protection.

However, according to the guideline for *Professional Engineering Practice*, "the duty to report isn't intended to make professional engineers full-time guardians of the public interest, responsible for pointing out all of society's faults. Instead, they are expected to report only on those issues that come to their attention during the course of their professional practice. And, unless engineers have the appropriate authority to make changes, or order work, their duty is only to report, not to solve the problem."

For more information, *A Professional Engineer's Duty to Report* is available at www.peo.on.ca/index.php/ci_id/16158/la_id/1.htm.

Although the professional duty to report is limited, engineers should not feel this limits their rights as a person, citizen or employee to expect dangerous conditions to be eliminated. An engineer employed in a manufacturing plant who notices an unsafe condition should follow the duty to report procedures identified by PEO. But if the management does not respond to the engineer's professional approach, the engineer should recognize that he or she is also an employee and can follow the same procedures available to any employee under the *Occupational Health and Safety Act*. Similarly, an engineer with knowledge of traffic engineering who is concerned about the safety of a crossing that his or her children use on the way to school does not need to deal with this as a duty to report issue. Instead, act as any citizen would and make it a political issue. Although your engineering knowledge makes you more aware of certain public safety issues, it isn't necessary to handle the problem as an engineering matter. We all have many roles and there are different responsibilities and actions available for each role.

MYTH: PEO HAS A DUTY TO PROTECT THE PUBLIC.

PEO's responsibility is only to regulate professional engineering practice and govern practitioners to serve and protect the public interest. This involves all of PEO's core functions: licensing, enforcement, professional practice, complaints and discipline.

"The issue of PEO directly protecting the public, in my view, is erroneous when you consider that PEO is a creature of the statute [the PEA] and, in that act, PEO does not have such broad authority," says Zuccon. "It may be a stretch to suggest that, in essence, PEO is in the business of public safety as it applies to the practice of professional engineering by licence holders. Since PEO cannot, in reality, practise professional engineering, it cannot protect the public's safety directly. Rather, PEO is charged with prudential regulation of its practitioners."

Zuccon suggests PEO, as an administrative body, self-regulates the practice through regulations or regulatory instruments, and governs its members. This, however, is not directly to protect the public, but rather to ensure the public interest is served and protected by ensuring unsuitable individuals do not get licensed.

Zuccon believes the myth about PEO protecting public safety is related to how the principal object of the association has been read or portrayed over the years. He also suggests a close reading of the PEA and its associated regulations would help clarify the issue of PEO and the public interest.

The act spells out the principal object of the regulator, which is simply to regulate the practice of professional engineering and govern its members... "in order that the public interest may be served and protected." As such, PEO does not have a mandate to protect the public, but rather has a mandate in carrying out its principal object to satisfy the Ontario government that the public interest is being served.

"It is the licence holders who practise professional engineering and, in carrying out their tasks, must keep paramount the public welfare first and foremost," he added.

"This obligation may sound very close to the notion of protecting the public, but it needs to be qualified to acts of engineering."

MYTH: AN IRON RING MAKES YOU AN ENGINEER.

Members of the public tend to believe that wearing an iron ring means the wearer is an engineer. In fact, it only means the wearer is a graduate of a Canadian engineering program. The iron ring, a symbolic part of the Ritual of the Calling of an Engineer, helps remind engineering graduates of the social significance of their profession and its role in safeguarding the public interest. Each of the 26 "camps" that conduct iron ring ceremonies through various Canadian universities make clear the ring itself does not designate a professional engineer. Only the provincial and territorial engineering regulatory bodies have that authority.

Adding to the confusion is that some professionals, such as architects, also wear a ring to demonstrate their graduation from an accredited program.

The iron ring is central to another long-standing myth, namely that the iron for the manufacture of the rings is taken from the twisted remains of the Quebec Bridge, which collapsed and fell into the St. Lawrence River in 1907. While the story is compelling, it just isn't true. For information on the iron ring, visit www.ironring.ca.



JUST ASK US

When in doubt about the accuracy of information about PEO or professional practice, it may be useful to review PEO's professional practice guidelines and standards, since many of them have been developed in response to questions and concerns brought forth by members in the course of their regular engineering practice.

What kinds of questions are fielded by PEO's practice advisory function? To get an understanding of where to devote resources to develop materials to guide practitioners and the public, PEO's professional affairs section has compiled questions received into a database. The numbers reveal that about one in five questions concerns the use of an engineer's seal, while 7 per cent of questions involve the C of A. The following accounts for 41 per cent. The remaining 32 per cent consist of miscellaneous questions:

- licensing—6 per cent;
- contracts—5 per cent;
- peer review—5 per cent;
- practice of engineering—5 per cent;
- jurisdiction—4 per cent;
- titles—4 per cent;
- duty to report—3 per cent;
- general review of construction—3 per cent;
- conflict of interest—2 per cent;
- enforcement—2 per cent; and
- insurance—2 per cent.

Besides a call to PEO, practitioners can consult other resources to get to the heart of practically every regulatory matter and, perhaps, to explode a few myths for themselves.

One of these is the annual *Questions and Answers on PEO Operations*, published each spring in time for the annual general meeting. This publication can offer valuable insights into the regulator's use of member fees and other resources.

Other resources are the Frequently Asked Questions pages of the Forms and Publications section of PEO's website at www.peo.on.ca/index.php?ci_id=1797&la_id=1.

Finally, there are the 30 professional practice guidelines and a handful of professional standards PEO has developed to help practitioners deal with the considerations of everyday practice. Often these publications have come about to fill a perceived information gap, or to address unusual or unprecedented situations encountered by practitioners in the field.

Ennis recommends that every engineer become especially familiar with two crucial guidelines: *Professional Engineering Practice*, and *Use of the Engineer's Seal*. PEO's professional practice guidelines (available at www.peo.on.ca) help engineers and the public become familiar with the roles, obligations, responsibilities and laws (external, as well as obligations under the *Professional Engineers Act* and regulations 941/90 and 260/08) imposed on practitioners.

For instance, the Ontario Building Code requires a professional engineer to provide general review of construction in certain situations, and Regulation 260 contains the practice standard, having force of law, for general review of construction by a professional engineer as required under the building code. Yet few practitioners appear to know what general review entails and tend to confuse it with contract administration and project management. As a result, practitioners may be providing some services to clients under a mistaken interpretation of what the law requires. Alternatively, practitioners may agree to provide a service without comprehending the liabilities that go with it.

PEO PRACTICE STANDARDS AND INFORMATION GUIDES

- *The Professional Engineers Act*, R.S.O. 1990, Chapter P.28
- *Ontario Regulation 941/90*
- *Ontario Regulation 260/08* (practice standards)
- *By-Law No.1*. A by-law relating to the administrative and domestic affairs of the Association of Professional Engineers of Ontario. (Rev. June 2013)
- *Guide to Required Experience for Licensing*
- *Limited Licence Application Guide*
- *Pregraduation Experience Record Guide*
- *A Professional Engineer's Duty to Report* (2007)
- *Reinstatement Requirements Guide* (2010)
- *Repeal of Industrial Exception to Licence* (2011)
- *Rights and Obligations as an Applicant* (registration hearing process)

PRACTICE GUIDELINES

General—Engineer

- *Professional Engineering Practice* (2012)
- *Guideline on Human Rights in Professional Practice* (2009)
- *Professional Engineers Guide to Running for Public Office*
- *Professional Engineers Reviewing Work Prepared by Another Professional Engineer* (2011)

Use of Seal

- *Use of Professional Engineer's Seal* (2008)

Legal/discipline

- *Making a Complaint: A Public Information Guide* (2011)
- *The Professional Engineer as an Expert Witness* (2011)

Fees/contractual

- *Guideline for Selection of Engineering Services* (1998)
- *Letter to Purchasers/Clients and Letter to Engineers*

- *Professional Engineers Acting as Independent Contractors* (2001)
- *Professional Engineers Acting as Contract Employees* (2001)
- *Professional Engineers Providing Project Management Services* (1991)
- *Use of Agreements between Clients and Engineers for Professional Engineering Services (including a sample agreement)*
- *Agreement for Professional Consulting Services—Between the Prime Consultant and the Subconsultant* (1993)

Communications

- *Professional Engineers Providing Communication Services* (1993)

Construction/building

- *Professional Engineers Providing General Review of Construction as Required by the Ontario Building Code*
- *Professional Engineers Providing Structural Engineering Services In Buildings* (Rev. 1998)
- *Professional Engineers Providing Commissioning Work in Buildings*
- *Professional Engineers Providing Land Development/ Redevelopment Engineering Services*
- *Professional Engineers Providing Mechanical and Electrical Engineering Services In Buildings*
- *Professional Engineers Providing Professional Services in Building Projects using Manufacturer-Designed Systems and Components*
- *Professional Engineers—Temporary Works* (1993)
- *Professional Engineers Providing Services for Demolition of Buildings and other Structures* (2011)

Transport/roads/municipal

- *Transportation and Traffic Engineering*
- *Professional Engineers Providing Services with Respect to Road, Bridges and Associated Facilities*
- *Engineering Services to Municipalities* (Rev. 1998)

Software/computers

- *The Use of Computer Software Tools by Professional Engineers and the Development of Computer Software Affecting Public Safety and Welfare* (1993)
- *Professional Engineers Using Software-Based Engineering Tools* (2011)

Mechanical/Electrical/Industrial

- *Professional Engineers Providing Reports for Pre-Start Health and Safety Reviews* (2001)

Geotechnical/Environmental

- *Professional Engineers Providing Services in Environmental Site Assessment, Remediation and Management* (1996)
- *Professional Engineers Providing Geotechnical Engineering Services*
- *Professional Engineers Providing Reports on Mineral Properties* (2002)
- *Services of the Engineer Acting Under the Drainage Act*
- *Professional Engineers Providing Services in Solid Waste Management*
- *Professional Engineers Providing Acoustical Engineering Services in Land-Use Planning*