

PEO turns 100

In celebration of PEO's 100th year on June 14, we're taking you down memory lane to share how the regulation of engineering in Ontario—and PEO itself—has evolved to what it is today.

By Marika Bigongiari & Adam Sidsworth



IT WAS THE 1920s,

a postwar era of burgeoning development and economic prosperity, when the Association of Professional Engineers of Ontario (APEO) (now known as Professional Engineers Ontario, or PEO) was created. Indeed, it was a lively decade for Canadian engineering that saw unprecedented development in construction, manufacturing and technology; a years-long boom, when innovation was the spirit of the day. There was explosive growth in the production of automobiles, as well as buses, trucks, tractors and equipment that were now self-propelled, courtesy of the internal combustion engine. More cars meant increased demand for somewhere to drive them, which led to a road boom and the beginning of Ontario's highway system, as well as bridges and infrastructure to support them. Major developments in electricity, including the construction of new hydro-electric plants, fed a growing appetite for power by the mining and pulp and paper industries and other large-scale factories. New power sources served a sprawling mass communications infrastructure, with the proliferation of radio and telephones. The railway system spread out. The aircraft industry took off. And cities grew outwards and upwards.

With these opportunities came a growing sense of responsibility. In the wake of two deadly engineering disasters—the collapse of the Quebec Bridge during its construction in 1907, killing 75 workers, and again in 1916, killing 13 more—the need for official engineering oversight was becoming increasingly recognized. Although some who worked as engineers had formal university training, it was not uncommon for many to learn on the job—including during the First World War, where thousands served as military engineers. And there was a lack of official oversight for projects, big and small. In addition, frustration was brewing with the realization that unskilled workers often out-earned engineers, as well as a growing rivalry between civil engineers and surveyors, who obtained licensing in Ontario in 1892 and generally earned a higher salary because of their professional status.

Increasingly, there was a desire among engineers for professional recognition. This wasn't a new concept—it dates to 1887, when a group of civil engineers formed the Canadian Society of Civil Engineers (CSCE) (now known as the Engineering Institute of Canada). Although the CSCE was granted a federal charter, it did not have licensing powers, since licensing was a provincial responsibility under the 1867 *British North America Act*. Although many attempts were made to draft licensing legislation in the decades that followed, these efforts were met with strong resistance.

Finally, after a period of intense political pressure, PEO was established with the passage of the first act related to professional engineering in Ontario in 1922, allowing for the creation of a voluntary association to oversee registration of engineers. At that time, PEO membership was not mandatory for those practising engineering. It wasn't until the act was amended in 1937 that the profession became closed, granting PEO the more robust regulatory powers we know today. What began more than 100 years ago as a desire among engineers to gain professional recognition grew into a symbol of professional qualification and trust through the professional engineering licence.

A BRIEF TIMELINE

1922—APEO is established with the passing of the first version of the *Professional Engineers Act* (PEA); APEO is granted the right to control use of the term “registered professional engineer” and its abbreviations but lacks licensing powers.

1937—A revised act gives APEO licensing powers and restricts the profession to qualified practitioners who are given an exclusive scope of practice, right to practise and licence. However, mining and chemical engineers are exempt from requiring licensure until 1968.

1944—The P.Eng. designation is introduced by APEO's Executive Committee.

1957—APEO introduces a program for accrediting and certifying engineering technicians and technologists.

1961—Council decides to spin out the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) as an offshoot of PEO after engineering technicians and technologists express a desire for their own organization. OACETT is incorporated a year later, but PEO retains certification authority until 1984.



The 1907 collapse of the Quebec Bridge saw 75 workers lose their lives. The tragic accident, and a second collapse in 1918 that killed 13 more, fuelled a growing recognition among engineers for the need for more official oversight.

Photo: Frères Neurdein

CLASS NO	1B-44
NEGATIVE NO	22998
SIZE	
SUBJECT	Trans-Canada Highway
PLACE	Sea Lake
TITLE	Loading stone - boat
	O.A. copy reg. no. 110.354

Construction underway on the Trans-Canada Highway in Simcoe, ON, 1925, a massive project stemming from the 1920s road boom in the province. The 7,821-kilometre highway allows continuous travel across Canada and is the second-longest national highway in the world.

Photo: Archives of Ontario

1969—The PEA gives APEO control of titles such as consulting engineer and its variations.

1984—A new act substantially changes the definition of professional engineering, establishing new classes of licences and expanding the definitions of others, including the temporary licence, provisional licence, limited licence and certificate of authorization.

1993—APEO adopts a simplified common name, dropping the “A” to become Professional Engineers Ontario, and unveils a new logo.

2000—Ontario Society of Professional Engineers is founded, officially separating PEO’s regulatory activities from the newly formed organization’s member-advocacy focus.

2010—Engineer-in-training (now called engineering intern) program is introduced to assist engineering graduates with licensure.

2015—A licensed engineering technologist class of PEO’s limited licence becomes active after an amendment to the act.

2022—Regulations under the PEA are amended to allow PEO to implement a mandatory continuing professional development program for professional engineers to maintain their licence.

THE CREATION OF ENGINEERING LICENCES

PEO ensures every person licensed as a professional engineer in Ontario meets stringent academic, experience and professional standards. Since PEO's inception, the types of engineering licences and designations it issues has grown to include:

Professional engineer: The professional engineer (P.Eng.) licence represents the highest standard of engineering knowledge, experience and professionalism, and only those who are licensed by PEO can call themselves a "professional engineer" or "P.Eng."—which is individualized to each province and territory in Canada. Requirements for licensure have changed widely since PEO was given licensing powers in 1937. Today, it requires meeting academic and experience requirements and passing the National Professional Practice Exam.

Temporary licence: PEO offers temporary licences that can be issued on a project and discipline basis for up to 12 months to professionals from outside the country who are not licensed by PEO, for the purposes of carrying out engineering work in Ontario on a temporary basis. Holders must possess qualifications equal to those required for a P.Eng., or wide recognition in a specific field of engineering. Collaboration with a PEO licence holder is required.

Provisional licence: A provisional licence may be issued to a P.Eng. applicant who has satisfied all PEO's licensing requirements except for the minimum 12 months of Canadian engineering experience. A provisional licence authorizes the holder to practise professional engineering in Ontario only under the supervision of a PEO-licensed P.Eng.

Limited licence: A limited licence (LEL) is issued to an individual who has at least eight years of specialized experience and has developed competence in a certain area of engineering. The practice of professional engineering is limited to the services specified in the limited licence.

Licensed engineering technologist: This class of PEO's limited licence permits a limited licence holder who is also a certified engineering technologist and member of OACETT to use the protected title of licensed engineering technologist and the LET designation.

Certificate of authorization: All entities in the business of offering or providing professional engineering services directly to the public (sole practitioners, partnerships and incorporated companies) in Ontario are required to hold a certificate of authorization (C of A).

Consulting engineer: This designation is not a licence but rather a protected title under the PEA that can only be used by individuals designated by PEO.

Civil Provisional

File No. _____

Application No. _____

THE ASSOCIATION OF
PROFESSIONAL ENGINEERS
OF THE PROVINCE OF ONTARIO

Application for Registration

I, Charles Hamilton Mitchell
Full Christian Name and Surname of Applicant

residing at Toronto Ontario being
City or Town. County. Province or Country.

desirous of being Registered as a Professional Engineer of the Province of Ontario, under "The Professional Engineers' Act" (59 George V, 1922), submit the following as my professional record:

I was born at Petrolia, Ontario
Place of Birth

on 18th February 1872.
Date of Birth

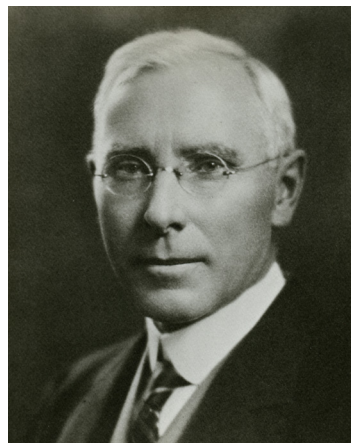
The following statement must embody a concise narrative, with dates, of the applicant's technical education, with degrees conferred, and subsequent professional career, specifying the positions he has held, the nature and extent of the works in or upon which he has been engaged, giving an idea of their magnitude and importance. All proper names, names of colleges, universities, companies, firms, railways, etc., must be written without abbreviation.

Preliminary Education Public and High Schools in Several Towns in Province of Ontario.

Technical Education University of Toronto, Faculty of App. Science (previously SPS) 1889-1892 & 1894
Degree or Diploma, College or University
Dates of entrance, etc. Date of graduation

Educational qualifications other than the above Deques of B.A.Sc and C.E.

DO NOT WRITE OUTSIDE THIS LINE



Charles Hamilton Mitchell was PEO's first president, as well as its first registrant, in 1922. Mitchell, a civil engineer and Brigadier General in the Canadian Forces during the First World War, was also a long-time dean of engineering at the University of Toronto.

When PEO was formed in 1922, annual fees were set at \$5, with a \$10 initiation fee. That year, \$5 would buy a wooden rocking chair, table lamp or lady's dress hat from the Eaton's spring/summer catalogue.

THE EVOLUTION OF THE *PROFESSIONAL ENGINEERS ACT*

Ontario's engineers were not a regulated profession during the first two decades of the 20th century, yet by the early 1920s, the momentum had begun to shift. The Quebec bridge collapses proved to be the impetus for the establishment of engineering regulation in many of Canada's provinces. But it may not have been the only seed. With the end of the First World War in 1918, Canada's soldiers, sailors and airmen began to demobilize, and among them were 40,000 military engineers. Indeed, when PEO Council began meeting on August 9, 1922, many early PEO councillors and members bore military titles.

That is no surprise, for the original 1922 PEA made it relatively easy for military engineers to get their engineering licence. Section 10(1) of the PEA stated that any Ontario resident practising engineering for at least five years could get their PEO licence without any examination, so long as they applied within one year of the passage of the act; and section 22 stated that anyone employed as an engineer in Ontario and who served overseas during the First World War for Great Britain or any of its allies could get the privileges of PEO membership upon return to Canada. Other Ontario residents could receive a PEO licence should they pass prescribed exams.

Under the act, PEO Council remained the core decision-making body of who would receive their licence, with councillors representing the five engineering disciplines (chemical, mining, civil, electrical and mechanical) making the decisions on who would be admitted to that particular branch of engineering. Provisions were made to award licensure to graduates of university engineering programs without having to write an exam. (However, a formal education was not required.) Additionally, those already registered as an engineer in another province could have their licence transferred to PEO, yet people from outside Canada had to have at least 10 years' experience or equivalent qualifications and could be designated only as a "consulting specialist."

Council was also the judicial authority that convicted members of breaching the act. "The Council may, in its discretion, reprimand or censure or suspend or expel any member guilty of unprofessional conduct or of gross negligence or of continued breach of the bylaws of the association, or any member convicted of a serious criminal offence by a court of competent jurisdiction," the 1922 act read. Yet what accounted as unprofessional conduct, gross negligence or a serious criminal offence remained undefined until 1948.

The 1922 act also defined engineering as a long list of specific activities that included, among other things, the construction of public utilities, railways, cranes, drainage works, machinery, steam engines and sewage work. But there was an overriding limitation with the original act: It did not provide an exclusive right to practise engineering to PEO licence holders. It merely granted licence holders the right to call themselves "registered professional engineers" or any abbreviation thereof.

AN ATTEMPT TO CLOSE THE ACT

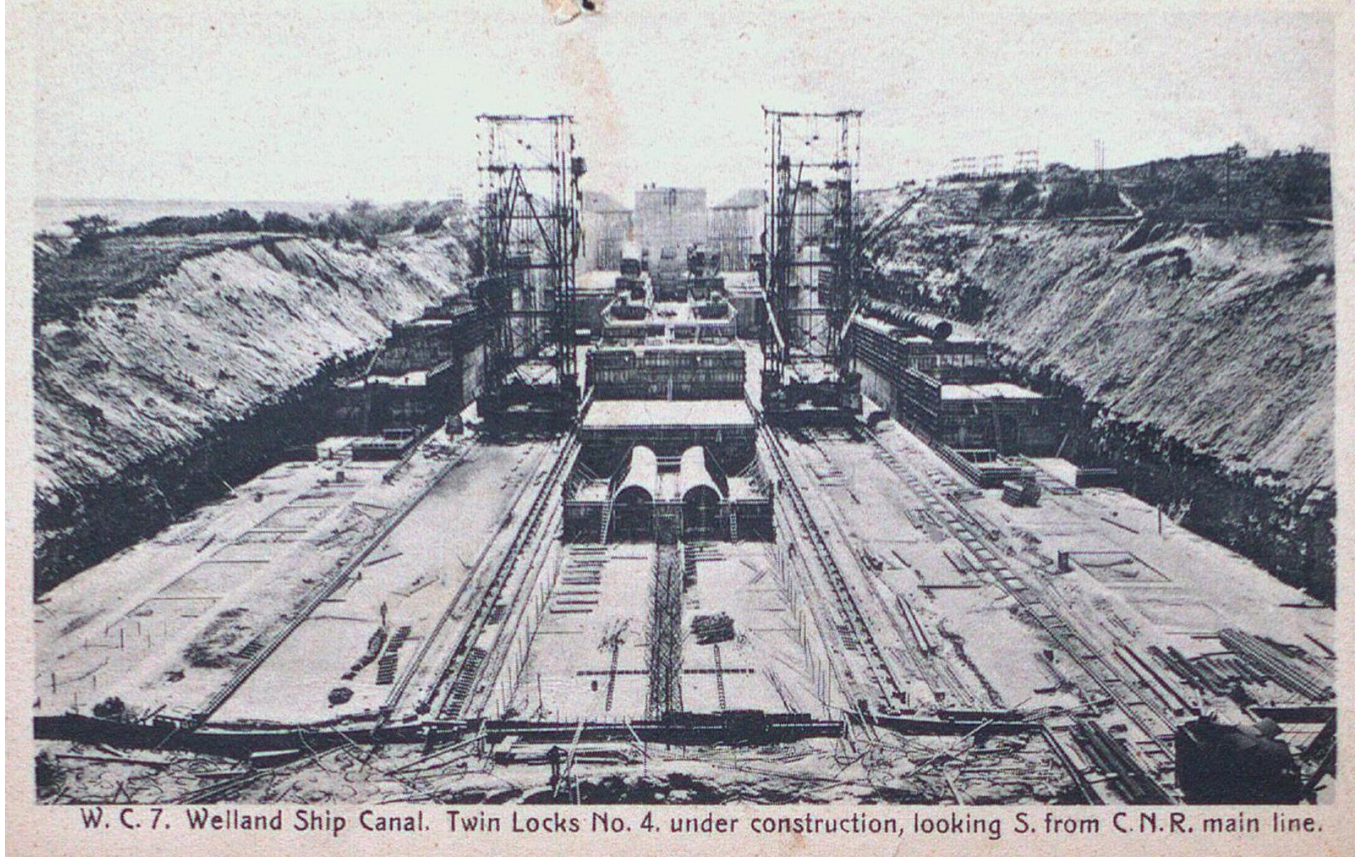
Attempts to limit the right to practise engineering to PEO licence holders proved a 15-year process. As early as the January 1932 Council meeting, Council read into its minutes a proposed amendment to the PEA to limit the right to practise engineering to PEO licence holders. What followed were five years of meetings between PEO and various provincial cabinet ministers, including the premier; the attorney general, who advised PEO to have an MPP sponsor a private member's bill; and the minister of mines, who became involved because of the objections of the Ontario Mining Association over mining engineers needing to be licensed to practise.

The act was finally amended on March 25, 1937, giving licensed engineers an exclusive right to practise—almost. Mining engineers, along with chemical engineers and anyone assisting an engineer, were exempt from needing a licence. Military engineers were also exempt from licensure.

THE CODE OF ETHICS IS FORMALIZED

The 1946 amendments to the PEA introduced a few significant changes. Notably, PEO now had the power to include a Code of Ethics in its bylaws, along with definitions of, among other things, professional misconduct and gross negligence in the act; these had previously been noticeably absent. Additionally, Council now had to step back from the Board of Examiners, a PEO committee tasked with providing and marking exams for those whose lack of appropriate engineering experience required examination.

H.D. Anger, a former PEO attorney who had played a pivotal role in getting the 1937 amendment introduced and passed in the legislature, told PEO's then-registrar, W. McKay, P.Eng., that "Council has no power to direct the Board of Examiners as to the scope and method of examination, that any examination must be by the Board of Examiners or deputed members thereof and that neither Council nor the Executive Committee has any power to conduct examinations." The act was also now moving closer to recognizing engineering as a profession and not a trade, with Anger arguing in the same letter that it was clearly no longer enough to be a chemist or geologist to become an engineer. A combination of experience and education makes one an engineer.



The extension of the Welland Ship Canal in Ontario, completed in 1932, was one of the biggest engineering jobs in Canada. The canal connects Lake Ontario and Lake Erie and forms a key section of the St. Lawrence Seaway and Great Lakes Waterway. Shown here is twin lock No. 4 under construction, looking south from the Canadian National Railway main line, in Thorold, ON. Photo: F.H. Leslie Limited

MINING AND CHEMICAL ENGINEERS REQUIRE LICENCES

Although some minor act amendments were passed by the legislature in the early 1950s and early 1960s, the next substantial change wasn't until 1968 and 1969, when mining and chemical engineers were finally required to have licences to practise. Additionally, Council's structure changed with the introduction of regional councillors, a result of PEO's introduction of the chapter system in the 1950s. And notably, licensing requirements opened up, with non-residents of Ontario now allowed to apply for PEO licensure with the same qualifications as Ontario residents. However, six years of engineering work experience were now needed (up from five), and a PEO-licensed engineer now had to be a minimum 21 years of age. And, notably, PEO's role in discipline was further defined.

- Allowing engineering work to be done by non-licence holders under the supervision of a practitioner;
- Updated regulations that allowed for an expanded definition of professional misconduct;
- A restructured Council;
- Statutory committees that took over some Council activities, such as discipline; and
- The introduction of limited licences to allow non-engineering graduates to practise engineering with a limited scope that matches their work experience and skillsets.

NEW CLASSES OF LICENCES ARE INTRODUCED

In 1976, the province's Law Reform Commission reviewed the statutes governing self-regulation of some professions, including engineering, with an eye to simplifying professional regulation. PEO established the Professional Organizations Committee, which made dozens of recommendations related to the protection of vulnerable interests, fairness of regulation, the feasibility of implementation and public accountability of regulatory bodies. They included:

- An updated definition of engineering that moved away from listing specific activities to "any act of designing, composing, evaluating, advising, reporting, directing or supervising" that safeguards life, health, property or public welfare;

However, a controversial legacy of the 1984 amendment is the industrial exception, which allows some engineering work to be done on production machinery in some industrial facilities. The 2010 amendments to the PEA were included in the *Open for Business Act*, and within it was a clause to close the industrial exception. Although the legislation passed the legislature, the government withheld royal assent for the specific clause to close the exception, and in 2016 the province announced that the industrial exception would not be closed.



They Also Serve - 1943
 1943 Council of the Association of Professional Engineers Ontario. Contributions by APEO members during World War II included the invention of the anti-gravity suit, to prevent Air Force pilot blackouts, and the development of synthetic rubber.

An image of PEO’s Council, complete with an original caption boasting of Ontario’s engineers’ contributions to the Second World War.

MEMBERSHIP OVER THE YEARS

1923	1033
1938	2371
1947	6177
1954	11,772
1961	20,010
1979	44,770
1989	56,805
1993	59,240
2000	68,712
2008	76,008
2014	83,752
2022	92,755

THE CHANGING STRUCTURE OF COUNCIL

Council is the decision-making governance body of PEO. Its duties have evolved over the years—from approving applications for licensure and hearing discipline cases to approving regulations and bylaws—yet it has been setting the agenda for PEO for 100 years.

Because engineering is a self-regulated profession in Ontario, licence holders are granted the privilege of choosing the majority of councillors on Council. Today’s Council structure has been stable since 1984, when the last major amendment to the PEA was introduced.

During PEO’s annual Council elections, licence holders vote for:

- One president-elect, who assumes the presidency in their second year and past president in their third year of service;
- One elected vice president;
- Three councillors-at-large; and
- 10 regional councillors, consisting of two councillors from specific geographic regions from across Ontario.

Additionally, Council has several non-elected positions:

- Up to five lieutenant governor appointees who are licensed engineers;
- Up to three lieutenant governor appointees who are not PEO licence holders and represent the public; and
- One appointed vice president, who is a current councillor named as vice president by their fellow councillors.

The current structure differs dramatically from the original Council structure, which was based on the traditional engineering disciplines. The 1922 PEA specifically stated that Council would consist of:

- One president and one vice president, both of whom are elected; and a past president, who transitions from the presidency in their second year; and
- Three councillors for each of the five engineering disciplines (electrical, mechanical, mining, chemical and civil), two of whom are elected and the third who is appointed by the lieutenant governor.

The focus on the five engineering disciplines was practical: Council made decisions about licence applicants who could qualify for licensure, and it was the three councillors in each discipline who decided who qualified for licensure and who needed to write technical exams. Licence holders at the time would enlist in one discipline, although they could list a secondary discipline so long as they had the experience. However, during elections, licence holders could only vote for one councillor representing a single discipline.

COUNCIL STRUCTURE REFLECTS CHAPTERS

By the 1950s PEO had developed the chapter system to allow PEO to better communicate with licence holders. The chapters developed gradually, and by the 1968 and 1969 PEA amendments, the Council structure was expanded to reflect chapters’ role. Specifically, Council now had 10 regional councillors; two elected from each of the province’s five geographic regions. Additionally, two councillors-at-large were now elected for a two-year term. And Council had two additional members appointed by the lieutenant governor—a lay member of the

The *Professional Engineer* started as a quarterly bulletin before increasing to a monthly frequency. It was first published in May 1934 with a message from Council, who felt that "the whole membership should be aware of the decisions of the Council and Executive [Committee], as well as of any events affecting engineering interests." In 1984, the requirement for an official publication was emblazoned into the *Professional Engineers Act*.

public and a barrister or solicitor with at least 10 years of standing at the Ontario bar.

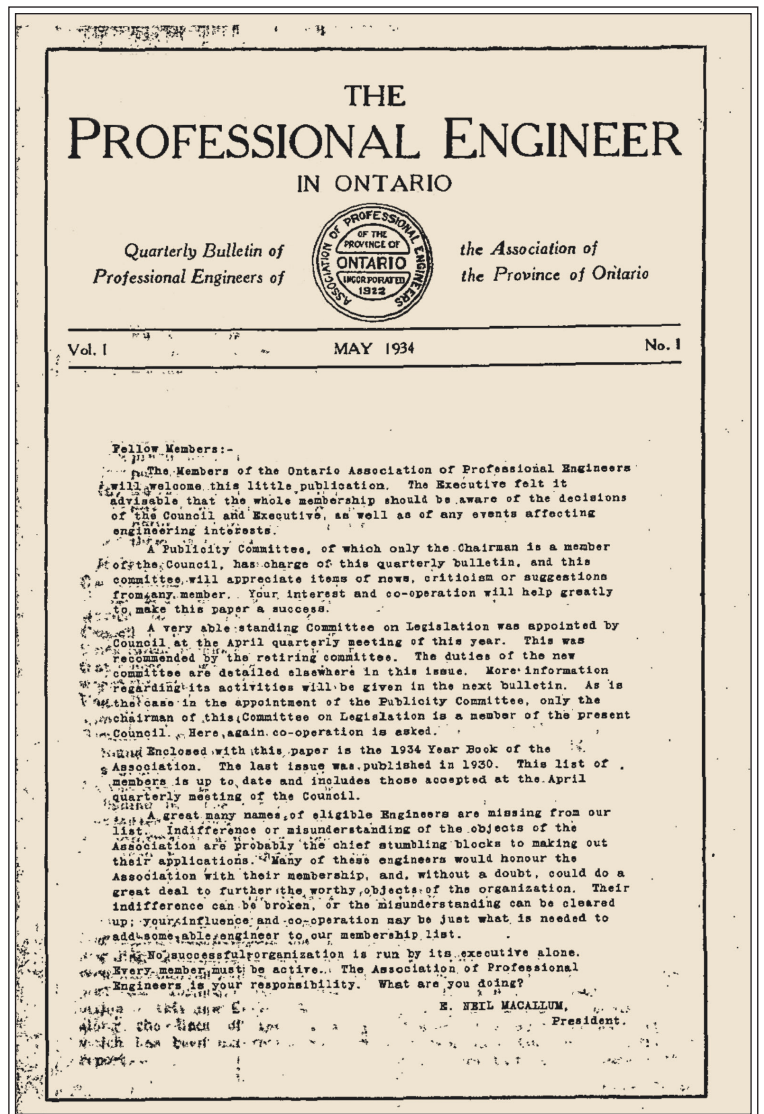
Although Council now included regional councillors, the role of the discipline-based councillors in approving licences for applicants remained in place until the 1984 act, when regulation changes introduced the statutory committees that took over many of Council's previous responsibilities, such as approving applicants for licensure.

PEO COMMITTEES PLAY KEY ROLES

For the first few decades of PEO's existence, many of PEO's committees were advocacy focused because PEO did not formally devolve its advocacy role until 2000. By the January 1926 Council meeting, Council had formed many committees, such as Membership, which encouraged unlicensed engineers to join (a licence to practise engineering in Ontario wasn't mandatory until 1937); Information, which researched the engineering profession; Liaison, which maintained relationships with external engineering organizations; and Regional Organization, an early version of the chapter system that organized members into the four geographic districts (Toronto, Northern, Lakes and Central). In subsequent decades, committees were struck to explore publicity, medals for licence holders, employment opportunities for recent engineering graduates and providing insurance to engineers.

The passage of the 1984 amendments to PEA introduced PEO's statutory committees:

- Executive Committee (EXE), composed of senior members of Council, which had tasks by Council to exercise power or perform any duty of Council with the exception of amending or revoking a bylaw or regulation (the EXE has existed for most of PEO's history);
- Academic Requirements Committee (ARC), which assesses the academic qualifications of applicants for licensure referred to the committee;
- Experience Requirements Committee (ERC), which principally determines if applicants for licensure meet the necessary engineering work experience and recommends to the ARC how to assign examinations;



- Registration Committee (REC), which holds hearings between the registrar and applicants for licensure who have been refused a PEO licence;
- Complaints Committee (COC), which does the initial review of complaints against licence holders;
- Discipline Committee (DIC), which determines cases of possible professional misconduct or incompetence against licence or C of A holders; and
- Fees Mediation Committee (FMC), which mediates disputes regarding fees between engineers or engineering firms and their clients.

The creation of these committees devolved many of Council's hands-on functions and expanded the role of engineer volunteers not on Council. Take the case of discipline: Prior to 1984, a licence holder accused of wrongdoing would first face the Practice and Ethics Committee, which had been originally appointed by Council in the mid-1940s as the Special Committee on Ethics as PEO investigated the right to define, among other things, professional misconduct, gross negligence and the Code of Ethics. Depending on what the committee decided, the licence holder could then face Council, which could convict the engineer. The creation of the COC and DIC introduced

a formalized tribunal process outside of Council. Likewise, prescribing examinations to licence applicants previously fell under the Board of Examiners, who had the authority to design the testing, but once the applicant successfully passed the exams, their name was forwarded to Council for licence approval.

Until recently, Council didn't completely devolve from regulatory activities, with many of the statutory committees having a current PEO councillor mandated to serve on them. This became an issue for PEO in 2019, when PEO voluntarily undertook an external audit of its performance as Ontario's engineering regulator. The auditors wrote: "Members of the COC and DIC should not be drawn from members of Council. The members of these committees must be able to make judgments independent of the interests of PEO Council." As part of PEO's Governance Roadmap to enhance Council's governance effectiveness, as of the 2022 Annual General Meeting councillors no longer serve on non-governance committees unless required by the PEA. PEO will work with the province to update the PEA to reflect Council's governance directions.

CPD A LONG-TIME FOCUS OF PEO COMMITTEES

By the 1960s, PEO had begun to view engineering as a profession akin to law and medicine. Indeed, by then, Council had begun actively investigating Ontario undergraduate engineering programs' curricula, with the Accreditation Committee reporting at the April 1960 Council meeting that it would ideally like to see 1958 and 1959 engineering graduates of the then-named University of Western Ontario register with PEO after obtaining four years of engineering work experience.

By the end of the decade, PEO had formed the Professional Development Committee (PDC), which had a mandate to explore minimum standards and knowledge needed by engineers. A May 1969 report by its subcommittee on professional attitudes noted that a professional engineer needs an ability to handle math and science and an ability to find solutions. The PDC wrote another report in May 1969 entitled "Survey on Programs of Professional Education for Professional Engineers in Ontario," in which it reported on its 1965 survey of 150 industrial employers, with 11 companies responding that they had internal continuing education requirements for their engineers. Additionally, it surveyed consulting firms in 1968 and found that over 75 per cent of respondents were not participating in continuing education, despite the fact that over 71 per cent had access to educational development

and 75 per cent felt that PEO should assist them with accessing continuing education. The report recommended that PEO's publication, then titled *Digest*, run a regular column outlining continuing education opportunities available to engineers in their region. "The service should be free of charge and available to all, providing the subject matter is relevant to engineers," the report recommended.

Continuing professional development remained a topic of discussion at PEO throughout the subsequent decades, but it wasn't until 2017 that the voluntary Practice Evaluation and Knowledge (PEAK) program became available to licence holders. However, participation rates remain low, and PEO is currently in the process of developing a mandatory program based on PEAK for all licence holders that will launch in January 2023.

FORMING PEO CHAPTERS

Born out of a desire to improve intra-association communication, particularly between licence holders and Council, PEO's chapters have a long history that can be traced almost all the way back to PEO's beginnings. Although organized groups of professional engineers existed in various forms for decades, and despite close co-operation between these groups and PEO Council, no official recognition was possible until 1960, when licence holders approved the formation of chapters via referendum.

But as early as 1925, PEO appointed chairpersons to represent four geographical districts and 36 regional advisors throughout the province to represent the district in which they resided. At its April 1954 meeting, the Professional Status Committee reported to Council recommendations concerning the geographical groups of licence holders—groups that Council had previously approved. The committee stated that, under the appropriate circumstances, such groups could serve a useful purpose and proposed a policy that included the type of assistance the organization should provide, general conditions for the groups' establishment and continued recognition and the adoption by the groups of a constitution that included, among other things, furthering the objectives of PEO.

It became increasingly evident that there was an appetite among licence holders to participate more fully in PEO's affairs. This was highlighted by a brief submitted to Council by the Niagara Group of Professional Engineers in 1959 recommending that representation on Council be based on geographical area rather than by branch. The Area Groups Committee was formed to determine steps to improve communication between licence holders and Council; its April 1960 report recommended that chapters be formed, resulting in a 1960 referendum. PEO then embarked on an active program of chapter formation, and 31 chapters were founded by 1961. By the end of 1962 there were 39 chapters with facilities available to almost every licence holder in the province.

When 28 chapter chairpersons sat with Council and took an active part in its deliberations at its meeting on October 20, 1961, *The Professional Engineer* (PEO's official journal at the time) touted the event as a historic milestone, describing it as the development of a new communications link. The meeting was viewed as a practical working example of the function of the chapters in relation to Council.



Before settling into its current home at 40 Sheppard Avenue West in 2009, PEO was headquartered at several different locations over the decades, including this one from 1950 to 1974 at 236 Avenue Road in Toronto.

Although chapter chairpersons were not permitted to vote at Council meetings, they were invited to take part in Council discussions and encouraged to express their opinions; they were also free to place items on the Council meeting agenda and make written submissions to Council.

The first major assignment to the chapters by Council was a study of the existing PEA with a view to recommending any revisions and/or additions the chapter membership considered necessary. Consideration of the chapter system's future led to the inclusion of a provision for the election of councillors on a regional basis in the 1968 and 1969 version of the PEA. Consequently, in 1969, the chapters were grouped into five regions and meetings of a regional congress committee for each region that included regional councillors was put in place to facilitate sharing the views of licence holders at regular Council meetings.

The 1964 Chapter Manual distributed to chapter officers describes the basic purpose of chapters as being "the maintenance of good communications between the Council of the association and its members." Chapters were seen early on as a medium through which licensees could make their voices heard in the administration of the profession, as well as providing a forum where professional matters could be discussed. However, it was understood that chapters did not speak for the profession in an official capacity.

Each PEO licence holder who resided in Ontario was assigned to a chapter based on their residential address, and a portion of their annual fees was assigned to chapter operations. Members received

notices of all meetings of their chapter and, once per year, a set of three-inch by five-inch index cards with the name and address of each chapter member was forwarded to the chapter secretary for the purpose of keeping an up-to-date chapter membership list.

Today, 36 chapters represent the local presence for PEO in five regions across the province. They continue to promote the value of engineering to local communities, provide a link between licence holders and Council and encourage licence holders to participate in PEO governance and regulatory activities. Chapters also organize licence certificate ceremonies, host technical seminars and social events and offer professional networking opportunities. However, Council recently evaluated the role of chapters as part of PEO's ongoing enterprise-wide transformation and is currently applying a risk assessment to determine which chapter activities should be eliminated or operationalized based on their legal, financial or reputational risk to PEO.



Claudette MacKay-Lassonde, P.Eng., became PEO's first woman president in 1986, at a time when the number of women licensed engineers was far fewer than it is today. She is remembered as a change maker and champion of women in engineering.

1986: PEO'S FIRST WOMAN PRESIDENT TAKES OFFICE

Claudette MacKay-Lassonde, P.Eng., became PEO's first woman president in 1986, when the percentage of women licensed engineers was far fewer than it is today. Her presidential mandate included increasing public awareness of the contributions of engineers and the role of PEO, an initiative begun by her predecessor, Nicholas Monsour, P.Eng., FEC, and mandated by the PEA as one of the regulator's objectives. MacKay-Lassonde thought that it was clear the public was unaware of the myriad ways the work of engineers touched people's lives and that it was important to bring visibility to the profession. She also hoped to instill pride in engineers about their work and their role in society. During her presidency, MacKay-Lassonde was manager of Ontario Hydro's load forecast department. She was named an Officer of PEO's Order of Honour in 1995.

MacKay-Lassonde, who passed away in 2000 after a battle with cancer, is remembered as a staunch defender of women in engineering and as someone who, in the wake of the tragic events that saw 14 women murdered at L'École Polytechnique in Montreal in 1989, held the profession to a higher standard; she was an unfaltering believer in change.

After receiving an undergraduate degree in chemical engineering from L'École Polytechnique in 1971, and despite earning a master's in nuclear engineering in 1973, MacKay-Lassonde watched her male counterparts get job offers while she struggled to gain interviews.

She finally broke into the field with a position at Bechtel Power Corporation in San Francisco, a company that had an affirmative action program in place to address the lack of women in the field. MacKay-Lassonde worked tirelessly to remove such barriers and, in so doing, opened the door for women engineers to become Council president in the years that followed her tenure, including:

M. Jane Phillips, PhD, P.Eng., FEC, 1993
Christine A. Bell, P.Eng., FEC, 1997
Catherine Karakatsanis, P.Eng., FEC, 2009
Diane L. Freeman, P.Eng., FEC, 2010
Annette Bergeron, P.Eng., FEC, 2013
Nancy Hill, LLB, P.Eng., FEC, 2019
Marisa Sterling, P.Eng., FEC, 2020

THE CREATION OF A DISCIPLINE TRIBUNAL

Most PEO licence holders today likely have a good understanding of the discipline process: PEO receives an allegation that a licence holder committed professional misconduct as defined in Regulation 941 of the PEA or incompetence as defined in section 28(3) of the PEA. PEO staff investigate the complaint and report to the COC, who then deliberate before possibly forwarding the matter to the DIC, a tribunal that has the power to find the licence holder innocent or guilty and possibly levy a sentence. However, this process is relatively new in PEO's history, having been established in the 1984 act amendment. Prior to 1984, Council itself heard discipline cases.

Section 33 of the original 1922 version of the PEA allowed:

- Council to reprimand, suspend, censure or expel any licence holder found guilty of professional misconduct, gross negligence, breach of PEO's bylaws or conviction of a serious criminal offence;
- The accused licence holder to provide evidence to Council in their defense once PEO's registrar or secretary received a formal complaint and to not be suspended or expelled until Council has heard both the complaint and evidence from the licence holder;
- Council powers under the *The Public Enquiries Act* to compel witnesses to give evidence under oath; and
- Any licence holder found guilty to appeal to the Supreme Court of Ontario and continue to practise pending the appeal.

The 1922 PEA also provided a clause allowing for financial penalties of a few hundred dollars for non-licensed members of the public who called themselves an engineer. (They could still practise—a limitation of the original act.) But it is difficult to ascertain if every case of professional misconduct, gross negligence or other offence by a PEO licence holder made it into the Council records. The records of cases tried by Council omit many details about the complaints. Take the accusation of professional misconduct against one member in 1935: Council agreed to withdraw the charge against the engineer, but the details were not written into the Council minutes. One thing seems to be clear though: the original PEA lacked definitions of professional misconduct, gross negligence and a serious criminal conviction.

1947 ACT AMENDMENTS

It was the 1947 amendment to the PEA that allowed PEO to prescribe a Code of Ethics within its bylaws and to define professional misconduct, gross negligence and serious criminal offence. Throughout 1947, the Practice and Ethics Committee developed definitions, which required approval by Council. Indeed, the October 1950 Council minutes relate the prosecution by Council of a licence holder under the new definitions.

The process of the discipline hearing remained unchanged until the 1968 and 1969 act amendments, when the revised act formalized how Council could hear a discipline case. A Discipline Committee was drawn from Council, had to be headed by either the president or vice president and was mandated to hear the case in a spelled-out format. And this remained the discipline process until the 1984 act change.

THE DISCIPLINE PROCESS IS FORMALIZED

With the amendments to the PEA in 1984, discipline was largely taken away from Council's domain. The 1984 act changes were in part brought in to simplify and democratize PEO's administration, and with it the statutory committees were drawn, including the COC and DIC. The COC can be viewed akin to the police because it is the first step in investigating a matter; and the DIC, a formalized tribunal, can be seen as analogous to a court of law in a criminal case because it prosecutes licence holders within a tribunal setting. Both committees draw their members largely from volunteer licence holders, although provisions to allow for current councillors to serve on them remained in place—a source of criticism in later years, particularly when PEO underwent its 2019 external regulatory review. However, at this year's annual general meeting in April, councillors were only named to non-governance committees if required by the PEA.

THE CREATION OF PEO'S CODE OF ETHICS

PEO's Code of Ethics is an eight-point guideline to which Ontario's engineers must conduct themselves. Located in section 77 of the PEA, the code states, among other things, that engineers must act fairly and with devotion to professional honour and integrity, regard their duty to public welfare as paramount, co-operate with other professionals on a project and interact with other licence holders with courtesy and good faith. However, a code of ethics was missing from the original 1922 act.

The first attempt to add a code of ethics for licence holders was in 1923, when, in July of that year, Council formed a special committee to develop a code. By September of that year, the committee had tentatively approved a 13-point Code of Ethics. Among the 13 points are:

- Carry on their professional work "in a spirit of fairness to employees and contractors, fidelity to clients and employers, loyalty to country and devotion to high ideals of courtesy and personal honour";
- Advertise their services in a dignified and honest manner;
- Refrain from questionable methods to solicit professional work, including not bribing for work;

Code of Ethics

Adopted by the Council, 13 October, 1923

- 1.—The engineer shall carry on his professional work in a spirit of fairness to employees and contractors, fidelity to clients and employers, loyalty to his Country and devotion to high ideals of courtesy and personal honour.
- 2.—He shall refrain from associating himself with or allowing the use of his name by an enterprise of questionable character.
- 3.—He shall advertise only in a dignified manner, being careful to avoid misleading statements.
- 4.—He shall regard as confidential any information obtained by him as to the business affairs and technical methods or processes of a client or employer.
- 5.—He shall have no interest, direct or indirect, in any materials, supplies or equipment used in the construction work of his client or in any firms receiving contracts for his client's work, without in advance informing his client of the nature of such interest and obtaining his written consent.
- 6.—He shall refrain from using any improper or questionable methods of soliciting professional work and decline to pay or to accept commission for securing such work.
- 7.—He shall not compete with another engineer for employment on the basis of professional charges by reducing his usual charges and attempting to underbid after being informed of the charges named by the other engineer.
- 8.—He shall not accept compensation, financial or otherwise, for a particular service, from more than one source, except with the full knowledge and written consent of all interested parties.
- 9.—He shall not use unfair means to win professional advancement for himself, nor to injure the prospects of another engineer to secure or hold employment.
- 10.—He shall not tender on competitive work upon which he may be professionally acting as engineer, nor as consulting engineer in connection with any work upon which he may be the contractor without the written consent of his client.
- 11.—He shall discourage the practice of consulting engineering by manufacturers and contractors, and endeavor to have all engineering plans and other documents signed by the engineer directly responsible for them.
- 12.—He shall not accept any engagement to review the work of a fellow professional engineer for the same client except with the knowledge of such engineer, or unless the connection of such engineer with the work has been terminated.
- 13.—He should co-operate in upbuilding the engineering profession by exchanging general information and experience with his fellow engineers and students of engineering and also by contributing to the work of engineering societies, schools of applied science and to the technical press. He should interest himself in the public welfare.

- Not underbid another engineer on a project after being informed of the other engineer's bid; and
- Not review another engineer's work without the knowledge of that engineer.

Council ultimately approved those 13 points, which became PEO's Code of Ethics that October.

Two years later, the Code of Ethics had grown to 15 points when, on the advice of PEO's solicitor, Council added: "He shall not in any other respect act in a manner unbecoming to a professional engineer." Surprisingly, no engineer had been prosecuted for breaking the code in 1939. However, a report included in the January 1940 Council meeting minutes noted that "our Code of Ethics is not covered in our act or bylaws and is strictly not enforceable by law but may be used as a guide in disciplining or suspending members."

By 1947, the Code of Ethics became embedded within the PEA, with the April 1947 Council minutes reporting that the attorney general had added an amendment to the PEA allowing PEO to include a code of ethics within its bylaws. PEO developed a Code of Ethics that was drafted and approved by licence holders in a referendum

PEO introduced its first version of the Code of Ethics in 1923; however, the original code was unenforceable until the 1946 amendment to the *Professional Engineers Act*, which incorporated the code into PEO's bylaws. The updated Code of Ethics was approved by licence holders in a referendum and formally adopted in 1948.

that same year. The Code of Ethics, adopted in 1948, was similar to the 1923 code, although it was organized into six points in five broad categories: "general," "duty of the professional engineer to the public," "duty of the professional engineer to employer," "duty of the professional engineer to other professional engineers" and "duty of the professional engineer to himself." And, notably, some of the points in the 1948 Code of Ethics are still found in the modern Code of Ethics, including engineers being told not to testify at a tribunal or court case if they do not have sufficient expertise, to hold public welfare as paramount and treat other professional engineers with courtesy.

THE CODE OF ETHICS IS MODIFIED IN 1984

By the mid-1970s, the Ministry of the Attorney General was working with some regulators, including PEO, to simplify professional self-regulation. The resulting amendment to the PEA in 1984 allowed for a regulation change that simplified PEO's Code of Ethics. Specifically, some parts of what had been listed in the 1948 code were incorporated into the amended 1984 definition of professional misconduct, an offence for which a licence holder could potentially face discipline. Additionally, a definition of incompetence, another potentially disciplinary offence, had also been added. As PEO's then-manager of legal affairs, Eric Newton, noted in *Engineering Dimensions* in 1985: "The definition of professional misconduct had been expanded to include many of the items which were formerly in the Code of Ethics, such as conflict of interest matters and advertising. It should be noted that the Code of Ethics as amended is also included in the regulation, but a breach of such would not result in a charge of professional misconduct."

In 1993, APEO dropped the “A” from its name and began using the simplified business name Professional Engineers Ontario (PEO)

ONTARIO'S ENGINEERING ADVOCACY BODY IS BORN

PEO regulates the profession of engineering, while the Ontario Society of Professional Engineers (OSPE) advocates for it—two important but distinctly different roles. But for the first eight decades of PEO's existence, the regulator did both. In fact, right up until OSPE's founding in 2000, advocacy-related activities were thoroughly enmeshed in PEO's operations. A browse through any 20th-century issue of the regulator's publications, including *Engineering Dimensions* and its previous incarnations, reveals pages rife with professional advice, like how to write a resume or negotiate a better salary, as well as job postings, endless advancement announcements and a multitude of social events.

Increasingly, it was viewed as a conflict of interest for Ontario's engineering regulator to be responsible for protecting the public interest while also lobbying for the interests of engineers. As with the case for other professions, such as medicine and law, there was a demonstrated need to have not only a body that would ensure the highest standards of practice for the profession but one that could also represent the interests of its members. OSPE's creation stemmed from the need to separate the two, so it could become the voice for the profession. Although it took some time to get there, as far back as PEO's beginnings there was discussion about the need for an organization exclusively devoted to member services. However, debate intensified in the 1960s and 1970s with the amendment of the *Ontario Labour Relations Act* to permit collective bargaining for engineers, as well as the creation of the PEO chapter system in 1961.

Matters were further complicated by PEO's responsibility under the PEA for disciplining members guilty of professional misconduct. In recognition of the incongruity of trying to reconcile regulatory activities like this with advocacy, PEO moved to separate some of its special interest divisions into discrete entities in the 1970s, with the aim of eventually spinning them into separate organizations: Consulting Engineers of Ontario (now the Association of Consulting Engineering Companies–Ontario) in 1975 and PEO's Salaried Engineers Division (now the Canadian Society of Professional Engineers) in 1979.

After prompting from then-Ontario Attorney General Ian Scott and decades of debate that came to a head in the 1990s, PEO moved forward with a plan to create a separate body that would be responsible for working in the interest of engineers. However, not all licence holders were onboard with the idea. A 1993 survey of members conducted as part of a fundamental review of the organization found that 56 per cent of engineers did not see the need for a separate member services organization. Notwithstanding, in 1993, the regulator changed its working name from APEO to PEO,

emphasizing its role as a licensing body rather than an association of member engineers.

Despite seemingly lukewarm uptake for creating a separate advocacy body, PEO formed the Advocacy Member Services Task Group in 1997 to further investigate the concept. Later that year, the task group presented its report to Council, who approved in principle the idea of creating an independent advocacy organization subject to confirmation by PEO licence holders. Consequently, PEO conducted two referenda: The first, in 1998, showed 72 per cent of licensees supported the idea of creating a separate advocacy body; the second, in 2000, showed 81 per cent in favour—paving the way for the bylaw amendments that would make the new member-interest advocacy body a reality. Although the consensus was not unanimous, most licence holders wanted to see an advocacy body that would lobby the government to promote their interests and defend their professional rights.

OSPE was created jointly by PEO and the Canadian Society of Professional Engineers, the national advocacy group, and it became a legal entity in April 2000. The 2000 referendum also saw licence holders vote to allow PEO to raise its annual fees and pass a portion of the increase to OSPE to start its operations. Between January 2001 and December 2003, OSPE received \$30 per active licensed engineer annually to fund its work, plus a one-time transfer of \$933,277, which represented the cost of running immediately transferred programs for the first three years. At the time of its creation, programs such as Employment Advisory Service, Ontario Engineering Competition, National Engineering Week (now National Engineering Month), and Women in Engineering Advisory Committee were transferred from PEO to OSPE. After the first three years, the funding relationship ended as specified in the PEA schedule. PEO does not currently financially support OSPE, and the organizations are separate legal entities with distinct mandates.

The founding of OSPE was a milestone event for the profession; with its creation, professional engineers now had two sources of support. PEO remained the delegated authority from the government to protect the public interest, safety and well-being through licensing and regulation of the practice of engineering. And OSPE was born as a member-interest professional society to act as a voice for the profession; a separate body with the ability to advocate for its members to a much freer degree than Ontario's engineering regulator.



In its first few decades, PEO was as much an advocacy body and social club as it was a regulatory body. On September 22, 1961, the Professional Engineers' Wives Association hosted multiple events, including sponsoring this Eaton's Spring Fashion Presentation at the Eaton Auditorium in Toronto.

In February 1954, PEO hosted the Professional Engineers' Art Exhibit at the Odeon Toronto movie theatre, where 65 works of art by over 40 licence holders were presented. In some years, licence holders' art was exhibited at PEO's annual general meeting.



PEO EVENTS THROUGH HISTORY

Until PEO's devolution of advocacy responsibility to OSPE in 2000, PEO simultaneously hosted events to celebrate both the accomplishments of licence holders and PEO's regulatory responsibilities. Throughout the decades, PEO hosted many eclectic events, such as:

- The February 1954 Professional Engineers' Art Exhibit, which happened at the Odeon Toronto Theatre and featured 65 works of art by over 40 licence holders;
- The two-night engagement of Guy Lombardo and His Royal Canadians in October 1956 for PEO-held dances. On October 29, the band played at the Royal York Hotel in Toronto and October 30 at the Chateau Laurier in Ottawa, ON;
- The Professional Engineers' Wives Association hosted two events in March 1960, including co-sponsoring the Eaton's Spring Fashion Presentation at the Eaton Auditorium in Toronto and a talk by Professor J. Tuzo Wilson at the Unitarian Church in Toronto about his visits to the Arctic and Antarctic, as well as China, Russia and other Iron Curtain countries;
- PEO's production of *The Truesteel Affair*, an ethics training video that premiered at PEO's 1983 Annual General Meeting. The movie was circulated to chapters and won the Gold Camera award at the US Industrial Film Festival; and
- Council workshops were once held in the hometown of the presiding PEO president and included extracurricular activities in addition to workshop activities for councillors. The 1985 workshop, in Sarnia, ON, included a buffet dinner and a bus tour for councillors' spouses in nearby Michigan.

PEO's ANNUAL GENERAL MEETINGS

From its inception, PEO has held its annual general meeting (AGM) to swear in the incoming Council and report on PEO's activities throughout the previous year. In modern times, the date of the AGM has fluctuated between late April and early May. However, for the first few decades, the AGM occurred in late January. (The switch to an AGM later in the year happened in the late 1950s.) Indeed, at PEO's third AGM, which was held at PEO's then-headquarters on King Street West in Toronto, a little over 70 delegates attended, where the focus of many of the speeches were on changing the PEA to allow for more protection for the engineering profession (the original version of the PEA did not make an engineering licence mandatory to practise) while protecting the public interest.

But throughout the years, the AGM became a more lavish affair; in its early years, it was most often held at Toronto's Royal York Hotel. Take the case of the 1953 AGM, held on January 24 of that year. PEO's then-publication, *The Professional Engineer*, reported on the event in its February 1953 issue. "Annual Meeting – Record Attendance" read the headline on the front page. Attendees included presidents from the other provincial engineering

regulators and the Dominion Council of Professional Engineers (now Engineers Canada), and the keynote speaker was British engineer Sir Robert Watson-Watt, a pioneer of radio direct finding and radar technology. Watson gave a speech titled "Is the customer always right?" which focused on the engineer's role as an advisor and consultant. Additionally, in an apparent aim to foster a sense of community among licensed engineers, the AGM included an exhibition of art by PEO licence holders. The exhibit "attracted much interest and evoked highly complementary reports from art critics of the press who reviewed the exhibition," reported *The Professional Engineer*.

By the 2010s, the AGM had evolved into a two-day event, as evidenced in PEO's last in-person AGM in 2019, which witnessed an all-day Volunteer Leadership Conference on Friday and the Order of Honour gala on Friday evening; followed by the Saturday-morning AGM, a strictly business event which swore in the next term's Council, reported on the previous year's accomplishments to licence holders and the public and allowed licence holders to introduce motions that could be considered by Council. And immediately following the AGM was the luncheon, which featured keynote speaker CBC host Nora Young, who spoke about the effects of ethical concerns in the data boom; and the presentation of the S.E. Wolfe and V.G. Smith Awards to two incoming licence holders who earned the highest marks for reports and technical exams written as part of the licensing process.

For the last three years, PEO has transitioned the AGM to a virtual event minus the luncheon, keynote speakers and awards gala. The scaling down of the annual event is due, in part, to the COVID-19 pandemic that shut down in-person events for a time and the refocusing of PEO operations to strictly regulatory activities.

AWARDS PROGRAMS

PEO has recognized licence holders throughout the years with award presentations, many of them granted on a nearly yearly basis. Perhaps the most prestigious of PEO's award programs is the Order of Honour, which recognizes professional engineers and others who have rendered conspicuous service to the profession by volunteering their time with PEO. It is a three-tiered program, with award winners being named as a member, officer or companion. The middle rank of officer was first awarded to licence holders in 1964, while the lower rank of member and higher rank of companion were introduced in 1980. A fourth category, honorary, also first awarded in 1980, is given to non-licence holders who have contributed to the engineering profession.

Normally held during the weekend of the AGM, the 2020 and 2021 Order of Honour awards transitioned to an online event due to the COVID-19

pandemic, when it was presented with the G. Gordon M. Sterling Award, granted to an engineering intern who volunteers in a leadership capacity. Also recognized at the event were the recipient of the President's Award, given to a non-engineer who increases public recognition of the engineering profession; and the S.E. Wolfe and V.G. Smith Awards, which had transitioned away from the AGM luncheon.

Another awards program is the Ontario Professional Engineers Award (OPEA), which was first granted in 1947 to C.D. Howe, P.Eng., a one-time PEO member who served in the wartime cabinet of Prime Minister William Lyon MacKenzie King. Throughout the years, many PEO licence holders were recognized through the OPEA for their outstanding engineering achievements, including, in 1979, Elsie MacGill, P.Eng., the first woman licensed as an engineer in Ontario. However, as a result of the 2019 and 2020 activity filter conducted by PEO, the OPEA came to be seen as more of an advocacy activity. Indeed, for the last two decades, the OPEA was co-sponsored with OSPE. By 2021, PEO bowed out, with the last OPEA presentation co-hosted by PEO in November 2020. The OPEA will continue to be presented to Ontario's engineers exclusively by OSPE.

TODAY'S TRANSFORMATION EFFORTS

A lot has happened in the past 100 years. For Ontario's engineering regulator, and indeed, the world, change has been the constant. The province has seen dizzying periods of development and economic booms, but it has also been touched by war, economic depression and global pandemics. Throughout it all, PEO's commitment to regulate professional engineering to safeguard the public has remained steadfast. Changing times demand flexibility and agility, and PEO has risen to the challenge. Today, PEO is engaged in a multi-year, enterprise-wide transformation—considered the biggest change initiative in its 100-year history.

In 2018, PEO voluntarily commissioned an extensive and independent external regulatory performance review to identify how it could be more efficient, transparent and objective in making regulatory determinations; and in 2019, an action plan was put in place to address the review's recommendations. The regulator's resulting transformation strategy is built on three critical pillars: operational effectiveness, organizational alignment and governance renewal.

Since then, significant improvements have been made in licensure, digitization and organizational alignment, and Council has nearly completed a four-phase Governance Roadmap to achieve meaningful governance renewal. Other notable highlights include operationalizing the work of the 30 by 30 Task Force put in place in 2018 to support Engineers Canada's goal to raise the percentage of newly licensed engineers who are women to 30 per cent by 2030; and forming an Anti-Racism and Anti-Discrimination Exploratory Working Group to recommend how to best prevent issues of racism and discrimination in all aspects of PEO's work as a regulator, organization and employer. Additionally, a mandatory continuing professional development program for licence holders, based on its current voluntary program, will be implemented in early 2023 to further PEO's mandate by ensuring licence holders meet standards of learning and professional competence and conduct.

With change comes growth, and on its 100th birthday, PEO is doubling down on its commitment to achieve its change vision of becoming a professional, modern regulator that delivers on its statutory mandate to serve and protect the public interest. **e**