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ENGINEERING DIMENSIONS



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30 ENGINEERS STILL AMONG LEADERS IN MEETING DIVERSITY CHALLENGE

By Michael Mastromatteo

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A DIFFERENT KIND OF DIVERSITY

By Nicole Axworthy

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By now you may have noticed we've freshened up our look, beginning with the prominent title on the cover, new fonts, bolder colours and an overall

more streamlined design. You'll notice we moved the contents page to the beginning, so you'll know exactly what you're getting as soon as you open the magazine, and consolidated staff contacts on page 4.

This is all part of a long-planned redesign to improve the appeal of *Engineering Dimensions*. It's like getting a fresh haircut and stylish new clothes. Thanks to our graphics team, Stephanie and Cindy, for making us look so amazing.

We're also starting the new year with a new face on this page, but I've been quietly working behind the scenes on *Engineering Dimensions* since 2004.

Back then, the issue of internationally trained professionals seeking licensure in Canada was a hot topic, as rising immigration numbers meant more engineers with international education and experience were seeking to establish their careers in Canada. PEO was one of the first regulators in the country to respond to the needs of international applicants seeking guidance through the profession's complex licensing process, starting with the development of bridging programs to help them overcome education-related gaps in their credentials, and even mentoring efforts.

Shortly thereafter, the Ontario government's *Fair Access to Regulated*

Professions Act and creation of a fairness commissioner marked a major shift in public policy, too, and shed light on the challenges internationally trained individuals face in getting licensed in many regulated professions—not just in engineering.

This issue, Associate Editor Michael Mastromatteo examines PEO's impetus and ongoing efforts to accommodate international engineering graduates, and how it has brought a greater appreciation for diversity and inclusiveness in PEO's operations (page 30). After all, new Canadians are the talent pool for building a skilled and diverse country. And, in the years ahead, as we face seemingly tougher economic, social and environmental challenges, the need for a larger and more diverse population of engineers—with diverse skills and perspectives—is required.

We're also sharing an important update on PEO's new Practice Evaluation and Knowledge (PEAK) program, developed in response to a directive by council in March 2014 "to prepare a plan for a comprehensive program of continuing professional development and quality assurance." At council's meeting last November, it officially approved implementation of the program beginning March 31, 2017. Find out more on page 8, and look for full coverage of the program in the next issue of *Engineering Dimensions*.

Lastly, don't forget to check out who's running for available positions on PEO council for 2017. Candidate statements can be found in this issue's insert. Voting opens on January 20, so don't delay getting in yours.

Happy 2017, everyone! 

THIS ISSUE Since 1995, PEO has expended a great deal of effort to accommodate the needs of internationally educated applicants for licensure. While the flow of internationally educated professionals has slowed in recent years, the accommodation experience has taught PEO and other engineering regulators a few important things about diversity and overcoming barriers for under-represented communities.

INVESTING IN OUR PROFESSION'S LEADERSHIP

By George Comrie, MEng, P.Eng., CMC, FEC



History has shown repeatedly that organizations that are not intentional about leadership succession and development suffer periods of weakness, ineffectiveness and strife—be they local governments, corporations, charities, trade unions, associations or political parties. I'm sure you can think of several examples of this phenomenon in various

sectors of public and corporate life.

It is now a generally accepted principle of good governance that organizations should have formal processes in place to ensure a continuous, uninterrupted supply of competent and responsible leaders at all levels, from their boards of directors to their middle management. PEO is no exception—especially given its heavy dependence on volunteers to assume leadership roles within its chapters, committees and task forces, and on its governing council.

As the embodiment of our self-regulating profession, PEO is committed to democratic principles of governance and election to office. That does not mean, however, that we should leave our leadership to chance, or that we should be dependent on whomever shows up and volunteers for election or appointment at any given point in time. There are things we can do proactively to increase the likelihood that those who seek leadership positions understand and are committed to the goals of the organization and are capable of exercising effective leadership.

LEADERSHIP SUCCESSION

One such measure is to ensure a healthy turnover within our leadership positions. Recently, council mandated all PEO committees to address leadership succession in their human resources plans. By March 2017, every committee should have incorporated term limits into its terms of reference. That doesn't mean that every committee will have the same turnover policy. By the very nature of their composition and mandate, some committees will turn over more slowly than others. But the intent is to ensure that the membership of each committee is continually being renewed to achieve an appropriate diversity of new and experienced members and of different backgrounds and experiences.

PEO's chapters are also being encouraged to consider their turnover and leadership succession in like manner. I expect chapters will continue to be one of our main organizational vehicles for the recruitment and development of new volunteer leaders, so it is important that they are structured in such a way as to encourage entry-level volunteer participation and to provide leadership development opportunities. I am encouraged by the excellent job some of our chapters are already doing in this regard.

Finally, the task force charged with recommending term limits for councillors will be reporting its findings to council in a few months. Their recommendations will, no doubt, be widely (and perhaps hotly) debated, and any resulting policy changes will require amendments to regulations, which can sometimes be a lengthy process. But hopefully, with these efforts, we will succeed in incorporating a more deliberate approach to leadership succession into all aspects of PEO volunteer life.

LEADERSHIP DEVELOPMENT

While I recognize that some individuals have a greater natural affinity for leadership than others, I believe leadership skills can be taught and learned, and that anyone who aspires to a leadership role can develop the necessary skills if he or she so chooses. I think it is a mistake to assume that leaders are born, not made, or to rely simply on "natural selection" for them.

I further believe volunteer organizations like PEO provide an ideal environment for the incubation of leadership. The first reason for this is that they are "safe" environments in which to practise and perfect new skills and try new initiatives—and perhaps even fail at them the first time—because other volunteer leaders with more skill and experience are generally available to act as coaches and mentors. The second reason is that positional authority is limited, which encourages the development of true leadership. In a volunteer organization, those who are following the leaders are doing so willingly because they share the vision of the organization and respect the leader(s), not because they can't afford to lose a paying position.

For PEO to invest in the development of its leaders seems to me to be a win-win-win proposition. It's a win for PEO if our volunteer leaders have a better understanding of the role and mandate of the organization, its governance and how it regulates the profession, and have had opportunities to develop their soft leadership skills. It's a win for our volunteers, who are acquiring leadership skills and experience they can use in their work and in other aspects of their daily lives. And it's a win for their employers or clients, and for any other organizations for which they may volunteer.

PEO's Human Resources Committee has been developing a framework for leadership development that provides content in two main areas. The first area is PEO-specific domain knowledge organized under the following five main headings:

- PEO's mandate, powers and responsibilities;
- How PEO regulates the profession;
- PEO's functions and organization;
- PEO's volunteer leadership; and
- PEO's governance.

This knowledge will, for the most part, be delivered through a series of online learning modules, each of which can be completed by a volunteer in approximately an hour and concludes with a short quiz on the material presented. The goal is to ensure that individuals assuming leadership roles in PEO have a common understanding of why PEO exists, what it does and how.

The second area of content is that of the softer leadership skills, such as:

- Emotional intelligence;
- Team leadership;
- Group facilitation and problem solving;
- Communication; and
- Mediation and conflict resolution.

This knowledge will be delivered through a combination of online learning modules and hands-on workshop sessions. We are already taking advantage of our three annual “workshop” days (the Committee Chairs Workshop in October, the Chapter Leaders Conference in November and the Volunteer Leaders Conference in April) to incorporate leadership development opportunities.

“ WE ARE SEEKING INDIVIDUALS WHO CARE ENOUGH ABOUT THEIR PROFESSION TO VOLUNTEER SOME OF THEIR TIME TO IT, WHO ARE WILLING TO WORK AS PART OF A TEAM, AND WHO HAVE A DEMONSTRATED TRACK RECORD OF FOLLOWING THROUGH ON THEIR COMMITMENTS.

VOLUNTEER RECRUITMENT

So how should PEO go about recruiting its volunteer leaders? I am a firm believer in active recruitment (i.e. leaders personally asking individuals to accept specific volunteer assignments). I became involved as a volunteer at PEO because, 40+ years ago, I was approached by a regional councillor and asked to undertake a specific task—involving educational outreach to GTA secondary schools—for which he believed I had specific knowledge and skills. Although I have always taken my responsibilities to my profession seriously (e.g. to vote in council elections), it’s not clear to me that I would have become involved as a volunteer without his specific ask.

In my experience, one of the best pools of new volunteer recruits PEO has is its engineering interns and new licence holders. A personal touch from a volunteer leader is often necessary to get them to take the first step. But I am encouraged by the number of interns and new licence holders who are participating on our chapter executives. Clearly, they are the future leadership of our profession.

The next question is: Who do we approach? In some cases, we may want to pre-identify individuals with specific domain knowledge relevant to a particular task. Some of PEO’s standing committees, such as the Experience Requirements Committee and the Professional Standards Committee, are constantly seeking licence holders with specific technical expertise and scopes of practice to sit on interview panels or to work on professional guidelines and standards.

In all cases, we are seeking individuals who care enough about their profession to volunteer some of their time to it, who are willing to work as part of a team, and who have a demonstrated track record of following through on their commitments. Anything else they need to be effective leaders they can learn “on the job” if we provide the right development opportunities for them.

At this point I would be remiss if I did not touch on the subject of diversity and inclusion. Let me start by saying I’m proud of PEO’s record of integrating engineers from all corners of the world into the profession. Today, roughly one-third of the licences we issue are to internationally educated professionals. And I am proud of the way they have embraced our Canadian model of professional self-regulation by assuming leadership positions in our chapters and committees and on council.

But after more than 40 years of promoting engineering as a suitable profession for young women, women continue to be significantly under-represented in our profession. To address this gender imbalance, both PEO and the Ontario Society of Professional Engineers have accepted the national challenge of 30 by 30—that is, having over 30 per cent of new licence holders be women by the year 2030. The 30 per cent figure represents a kind of critical mass or tipping point, above which it is believed young women will accept that engineering is an appropriate education and career choice for them without second thought. In my estimation, the women in our profession have contributed more than their fair share in terms of volunteer leadership. But I believe we need to be particularly proactive in recruiting even more of them into visible positions of leadership where they can serve as role models for young engineers.

Another demographic group that is seriously under-represented in engineering and in other science and technology based professions is Canada’s aboriginal peoples. One of our best hopes to improve the quality of life of our aboriginal communities is to assist their young people to prepare for careers that require grounding in science, technology, engineering and mathematics beginning in elementary school. And once again, we need to encourage the development of competent leaders and role models for them.

In conclusion, I want to encourage us to invest consciously and consistently in our leadership as a profession, and not to take it for granted. I am convinced that nothing else we can do will have as much positive impact on its strength, vitality, influence and relevance. **e**

COUNCIL MOVES FORWARD ON PEAK IMPLEMENTATION

By Michael Mastromatteo

At its meeting on November 18, 2016, PEO council approved implementation of the Practice Evaluation and Knowledge (PEAK) program beginning March 31, 2017. At that time, renewal notices to all licence holders, including limited licence holders, will contain a request encouraging participation in the program to provide the association with an accurate and ongoing regulatory profile of its licence holders.

Under the program, practising licence holders will be asked to complete both a practice evaluation questionnaire and an online ethics module prior to their licence renewal date. Upon completion of the questionnaire, they will be provided with an individual continuing knowledge target (in hours) to voluntarily complete and report to PEO prior to their next renewal date.

Those who self-identify as non-practising will only be asked to declare that they are not practising professional engineering and complete the online ethics module prior to the date of their licence renewal.

For example, a practising licence holder whose renewal date is June 30, 2017, will be requested in advance via their renewal notice to complete the practice evaluation questionnaire and ethics module before this date. They would then be asked to complete the recommended continuing knowledge target and report this to PEO before their next licence renewal comes due on June 30, 2018.

While completion of the PEAK program is not mandatory to renew or maintain a licence, should a licence holder not complete any element of the program in the allotted time, this information will be publicly noted on PEO's online directory of practitioners.

Council directed the registrar to provide a one-year progress report on the program, along with the recommended next steps, at council's June 2018 meeting.

As part of the program, practising licence holders will be able to design their own knowledge plan by choosing opportunities that align with their specific area of practice. Professional knowledge activities taken to meet the program requirements of another provincial association (including OACETT), technical association or company will be eligible under the PEAK program. Similarly, attendance at manufacturer's workshops and training sessions on new products or technologies, as well as online courses, will also count as acceptable professional knowledge activities.

Until the official launch of the program on March 31, the beta version of the practice evaluation questionnaire will remain available for licence holders to review and test. There is no pass requirement to the questionnaire. It is merely a survey of the practising licence holder's practice environment. The beta questionnaire can be accessed via PEO's online member portal at www.peo.on.ca or via www.peopeak.ca. Licence holders can also view the sample reporting mechanism by clicking on the My Peak Activities link under the PEAK tab in the member portal.

The ethics module, which will be available when the PEAK program is officially launched, is intended to serve as a refresher on an engineer's professional and ethical obligations.

Engineering interns (EITs) will not be asked to complete the program but are encouraged to familiarize themselves with the program.

For a complete overview of the PEAK program, including a detailed FAQ section, visit www.peopeak.ca.

NEW DEMOCRATS CONTINUE TO LEAD OPPOSITION TO INDUSTRIAL EXCEPTION

By Michael Mastromatteo



Ontario NDP Leader Andrea Horwath speaks out against the industrial exception at the PEO/OSPE Government Relations Conference.

PEO is still lining up supporters in its ongoing battle to win repeal of the industrial exception (section 12(3)(a) of the *Professional Engineers Act*). The exception allows certain acts of engineering in manufacturing settings to be carried out by unlicensed personnel.

PEO has been lobbying the provincial government to have the exception repealed in the interests of worker safety and consistency of engineering regulation across the country. Ontario is the only province in Canada with the exception in its engineering statute. PEO has also been making the case that the exception represents a gap in workplace safety in the province.

The industrial exception was the subject of significant debate in the Ontario legislature the week of November 14, 2016. A number of MPPs from the Progressive Conservative (PC) and New Democratic (NDP) parties criticized the governing Liberals in debate over bills dedicated to improving administrative efficiency and reducing red tape.

One such bill, the omnibus *Burden Reduction Act*, outlines the government's intention to keep the industrial exception in force permanently. In the November 15 debate in the House, Monte McNaughton, PC MPP (Lambton-Kent-Middlesex), described the government's justification for keeping the industrial exception

in place as “smoke and mirrors economics” and a public relations exercise.

That same day, Taras Natyshak, NDP MPP (Essex), read PEO’s June 9 media release outlining the regulator’s disappointment that the government backtracked on its earlier pledge to repeal the exception.

In debate the following day, Cristina Martins, Liberal MPP (Davenport), defended maintaining the industrial exception on grounds it allows manufacturers more flexibility in hiring. “Retaining this particular exception in the PEO act will allow businesses to designate employees other than engineers to perform minor alternations to industrial equipment where it is only for onsite use,” she said.

However, on November 17, Wayne Gates, NDP MPP (Niagara Falls), challenged the government assertion that the exception only allows for minor alterations or small design changes to be done by non-engineers. “What I don’t understand is how you (the government) can say the number one priority is safety when you’re having unlicensed employees design or modify equipment,” Gates said.

At the October 26, 2016 PEO/Ontario Society of Professional Engineers (OSPE) Government Relations Conference, NDP Leader Andrea Horwath said her party intends to raise

the repeal matter at committee hearings for the *Burden Reduction Act, 2016*.

“We are certainly not going to abandon the ship at this point,” Horwath said, recommitting her party’s support of PEO’s position on repeal. “[Repeal] of the industrial exception doesn’t sound like red tape. It sounds like an obligation the government should have in terms of public policy, of making sure that workplaces are safe. To have it regulated as a type of red tape in this bill is highly inappropriate.”

The NDP’s attorney general critic, Jagmeet Singh, echoed party support of the repeal later that evening at PEO’s Queen’s Park reception (see “Repeal message adds spice to Queen’s Park reception,” p. 10).

However, Arthur Potts, Liberal MPP (Beaches-East York), told conference delegates that Ontario Liberals aren’t likely to reconsider their position on repeal.

“You have my commitment that we will be moving forward using engineers and their expertise more effectively,” Potts said in response to a question from PEO Registrar Gerard McDonald, P.Eng. “However, having to dictate to a manufacturer [that] engineers have to approve their product doesn’t strike me as the right role of government.”

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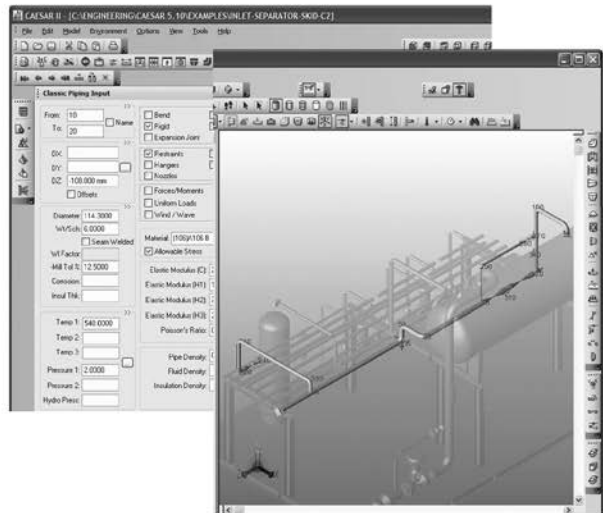
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REPEAL MESSAGE ADDS SPICE TO QUEEN'S PARK RECEPTION

By Michael Mastromatteo

For the 10th year in a row, PEO's engineering reception at Queen's Park brought together PEO members, cabinet ministers, MPPs and other stakeholders to celebrate the work of the province's engineering community.

The 2016 reception, held October 26, was one of the most successful on record, attracting Ontario Premier Kathleen Wynne, seven members of provincial cabinet and some 37 MPPs from all three major parties.

In addition to a number of PEO executives, including Registrar Gerard McDonald, P.Eng., other special guests at the reception included Engineers Canada CEO Kim Allen, P.Eng., FEC; Ontario Society of Professional Engineers (OSPE) President and Chair Michael Monette, P.Eng.; OSPE CEO Sandro Perruzza; Barry Steinberg, P.Eng., C.E.T., CEO of Consulting Engineers of Ontario; Mark Abbott, P.Eng., of Engineers Without Borders Canada; and Mike Lavdas, president of the Engineering Student Societies' Council of Ontario (ESSCO).

The theme for the reception—engineers working together for a stronger future—was a carryover from a PEO/OSPE Government Relations Conference held earlier in the day at the University of Toronto's Hart House (see p. 34).

Although Premier Wynne's visit was brief, she welcomed PEO members and supporters in her speech to delegates. "The relationship we have with you (engineers) is very, very important," Wynne said. "I want to thank you for the work you do in all our communities across the province. We talked about building Ontario up, which we are doing, but we can't do that without engineers. We can't even begin without engineers."

After about an hour of networking between PEO members and MPPs, PEO President George Comrie, P.Eng., FEC, outlined the importance of PEO's ongoing government relations activity.

"The goal of this important program is to ensure government and the public continue to recognize PEO's regulatory mandate," Comrie said, "in particular our role of maintaining the highest standard of professionalism among engineers working in the public interest—by ensuring our voices, our priorities and our issues are heard and considered.

"I would like to point out that the agreement, embodied in the engineers act, between the government of Ontario on the one hand and the engineering profession is a reciprocal one in which we professional engineers agreed to regulate our profession in the public interest in exchange for exclusive rights to practise engineering. We are

working hard to honour our part of that bargain. I call on the Government of Ontario to honour its part by ensuring that only licensed professional engineers practise engineering in Ontario."

PEO's engineering receptions traditionally include comments from MPPs from all three major political parties. Michael Colle, Liberal MPP (Eglinton-Lawrence) and minister of citizenship and immigration from June 2005 to July 2007, cited the work PEO has been doing to overcome barriers to licensing and registration for internationally educated engineers looking to work in Ontario. Colle also saluted engineers for becoming more proactive in government relations efforts. "I urge you to continue this liaison approach and this dialogue," Colle said. "After being here 21 years, I can tell you that if you're not here, you're not going to be heard properly. You have to be here, and most of the MPPs are happy to hear from you and to see you. So keep doing what you're doing and keep up your efforts."

Representing the Progressive Conservative party, Randy Hillier, MPP (Lanark-Frontenac-Lennox and Addington), opposition attorney general critic, said outreach to MPPs from all parties is key to PEO in educating policy-makers of its regulatory mandate. "I came away from meetings with engineering officials with a greater understanding of the nuances and the importance that the industrial exception has for PEO," Hillier said. "What is really critical about these events and about meeting with members of the legislature is that it allows us to have a greater insight and knowledge of your concerns so that we can make more thoughtful decisions."

The most resounding note of support for PEO and its case for repeal of the industrial exception was voiced by MPP Jagmeet Singh, attorney general and government and consumer services critic for the New Democratic Party (NDP).

"It's important that you speak to politicians and that you find out where they stand," Singh said. "And so far, the political parties that just spoke to you [this evening] do not support you on the [industrial exception] issue. So we need to call it out. And I can say with great confidence, the only party that supports you in this legislative assembly, which supports the engineers of Ontario and their position with respect to the industrial exception, is the New Democratic Party of Ontario."

PEO had invited Ontario Attorney General Yasir Naqvi to attend the earlier Government Relations Conference and the evening reception, and was disappointed he was unable to attend. Naqvi, however, issued a statement outlining his commitment to working with PEO to strengthen the engineering profession in Ontario.

Another tradition at the annual Queen's Park receptions is presentation of PEO Government Liaison Program (GLP) awards to chapters, and the presentation of awards to MPPs for support of PEO's government relations outreach. The 2016 GLP chapter award went to PEO's Oakville Chapter, with honourable mention going to the Mississauga Chapter. The Oakville Chapter organized at least 10 points of contact between chapter members and MPPs in 2016.

MPP awards went to Indira Naidoo-Harris, associate minister of education (early years and child care) for the Liberal party, Jeff Yurek of the Progressive Conservatives, and Jagmeet Singh of the NDP.

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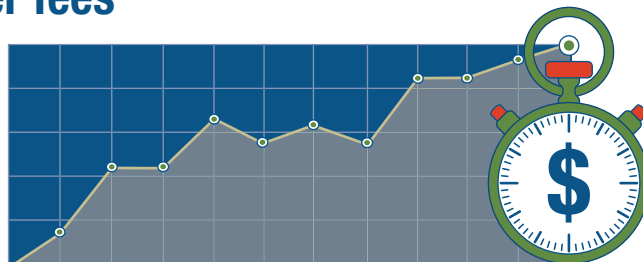
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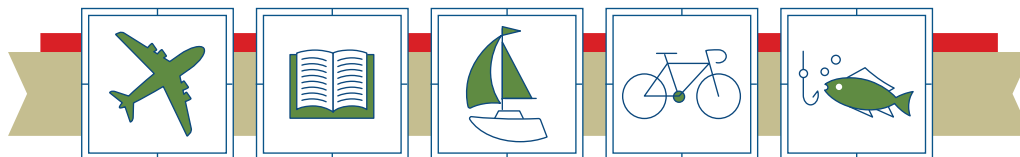
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QUEEN'S PARK RECEPTION 2016



The 2016 Queen's Park reception featured a tower-building challenge with MPPs, P.Engs and engineering students. Team members (left to right) Imad Ansari, Ryerson University student; Granville Anderson, MPP (Durham); and Warren Turnbull, P.Eng., PEO West Central Region councillor, huddle together to talk about their tower design and build strategy.



Rakesh Shreewastav, P.Eng., FEC, PEO lieutenant governor-in-council appointee (left), and Barry Steinberg, P.Eng., C.E.T., CEO of Consulting Engineers of Ontario (right), talk to Ontario Premier Kathleen Wynne.



George Comrie, P.Eng., FEC, PEO president (left), and Jeannette Chau, P.Eng., PEO manager of government liaison programs (right), present a certificate of appreciation to Indira Naidoo-Harris, MPP (Halton), associate minister of education (early years and child care), for her work in helping PEO's government relations efforts.



Gathering together at the beginning of the reception are (left to right) Dave Levac, MPP (Brant), speaker of the Legislative Assembly of Ontario; Barry Steinberg, P.Eng., C.E.T., CEO of Consulting Engineers of Ontario; George Comrie, P.Eng., FEC, PEO president; Vic Fedeli, MPP (Nipissing); Sandro Perruzza, CEO of the Ontario Society of Professional Engineers; and Ping Wu, P.Eng., president of the Professional Engineers Government of Ontario.



Daniel King, EIT, tests the wind strength of one of the towers using a hair dryer, as part of the reception's tower-building challenge. Participants Melissa Buckley, University of Waterloo student; and Peggy Sattler, MPP (London West), look on with excitement.



Queen's Park reception guests included (left to right) Roger Jones, P.Eng., FEC, PEO councillor-at-large; Thomas Chong, P.Eng., FEC, PEO past president; Gila Martow, MPP (Thornhill); Noubar Takesian, P.Eng., FEC, PEO East Central Region councillor; and Daniel Liao, P.Eng., PEO Government Liaison Committee member.



PEO Past President Thomas Chong, P.Eng., FEC (far left), catches up with Monique Taylor, MPP (Hamilton Mountain), Michael Price, P.Eng., FEC, PEO deputy registrar, licensing and registration; and Tim Kirkby, P.Eng., FEC, PEO lieutenant governor-in-council appointee.



Mike Colle, MPP (Eglinton-Lawrence), congratulates PEO for becoming more proactive in government relations efforts.



University of Waterloo student Melissa Buckley (left); Peggy Sattler, MPP (London West); and Jeffrey Lee, P.Eng., raise their hands after being named the winning team of the tower-building challenge.



Jagmeet Singh, MPP (Bramalea-Gore-Malton), attorney general and government services critic, speaks about the NDP's full support of engineers and their position on the industrial exception.

CHAPTERS WARM TO THE IDEA OF ENHANCED BRAND BUILDING

By Michael Mastromatteo

The 2016 Chapter Leaders Conference (CLC) combined information updates on key PEO initiatives with an opportunity for chapter officials to provide input into the regulator's next strategic plan.

Held November 19, just prior to the evening's Ontario Professional Engineers Awards gala (see next page), the CLC adopted the theme "Revitalizing the brand...Making connections." Chapter officials were invited to consider ways of maximizing the chapter role in strengthening engineering regulation throughout the province.

To update chapter officials on key initiatives, PEO Registrar Gerard McDonald, P.Eng., overviewed steps in the development of PEO's 2018–2020 Strategic Plan, and then invited input from delegates—via a strengths, weaknesses, opportunities and threats (SWOT) exercise—on what might be included in the updated plan.

McDonald followed up with a review of the recently approved Practice Evaluation and Knowledge (PEAK) program, an effort by PEO to produce an accurate regulatory profile of licence holders and gauge their professional knowledge activities. It's expected the chapters will play a significant role in promoting the program.

McDonald suggested chapter officials organize local information sessions about the PEAK program and he offered to travel out to each region to spread the word.

Keynote speaker Erin Bury, managing director of 88 Creative, a Toronto-based digital marketing and design firm, later offered advice on how chapter leaders can exploit new media and emulate start-up companies to build recognition of engineering and the importance of licensing and regulation.

She described "start-up mantras" for brand-building success. Among them are the power of ideas going viral ("virality"), being open to ideas from any and all sources, tapping into the local community for new connections, becoming "an early adopter" of successful new channels, and focusing on one's personal brand as opposed to a corporate or headquarters brand.

Bury's presentation included a chapter branding challenge in which small groups of conference participants developed social media projects to bring greater recognition and public awareness to their particular cause.

Reflecting on the branding element of the conference theme, West Central Region Councillor and Chair of the CLC Organizing Committee Warren Turnbull, P.Eng., said there is nothing amiss with PEO's current brand or reputation, but that chapters and PEO council in general should remain open to revitalizing it.

Earlier, PEO President George Comrie, P.Eng., FEC, welcomed delegates to the conference and spoke of the chapter system as PEO's "great leadership incubation environment." He cited the key role of chapters in succession planning and in helping groom volunteers from the local level for potential positions on committees or on council.

The idea of chapters as a training ground for wider involvement is especially relevant at PEO election time. A number of speakers at the CLC called on chapter leaders to promote the election among membership, and to avoid the situation in which candidates enter council by acclamation, rather than by contested election.

As is customary at the CLC, the program included the annual chapter success story contest, which sees selected chapter representatives outline successful programs or initiatives from the past year. After hearing 10 separate chapter success stories, delegates awarded the top prize to the Windsor-Essex Chapter for its October 2015 Innovation Station: Engineering Your Life event at Devonshire Mall in downtown Windsor. It was the second straight CLC success story win for the Windsor-Essex Chapter.

One of the recurring ideas at the 2016 CLC was the importance of inviting engineering interns (EITs) to executive positions on chapter boards. The Simcoe-Muskoka Chapter, which currently has six EITs on its executive, issued a friendly

Asif Khan, P.Eng., of the Windsor-Essex Chapter outlined his chapter's success at the 2015 Innovation Station.



Digital marketer and client relations expert Erin Bury highlighted branding efforts at the 2016 Chapter Leaders Conference.



challenge to the other 35 chapters to try to match or exceed the Simcoe-Muskoka total. For an organization looking to find new leaders, the support of EITs at the chapter level can pay enormous dividends.

PEO President-elect Bob Dony, PhD, P.Eng., FEC, offered final thoughts on the conference and the value of branding exercises. He likened enhanced chapter networking as a “crowd sourcing” activity that has enormous potential to elicit new and exciting ideas from among PEO’s 80,000 members.

BITS & PIECES



The word engineer comes from the Latin words *ingeniare* (“to contrive, devise”) and *ingenium* (“cleverness”).

A single Google search produces 0.2 grams of CO₂. Google handles about 3.5 billion search queries per day, releasing some 700 tons of CO₂ each day.



Toronto’s Billy Bishop Airport now has one of the world’s first fully underwater tunnels, connecting travellers from the mainland to the island airport.
Photo: Ports Toronto

2016 ONTARIO PROFESSIONAL ENGINEERS AWARDS CELEBRATE ENGINEERING INNOVATORS

By Duff McCutcheon

If you want to learn about the current state of Ontario engineering, you couldn’t do better than sitting in on the Ontario Professional Engineers Awards gala—a joint PEO/Ontario Society of Professional Engineers program that honours the province’s top engineers across several categories.

The 2016 event was no different. And the 500 or so engineers, award winners and guests who attended the black-tie gala heard about groundbreaking research coming out of the province’s engineering schools, labs and organizations—medical nano-devices so tiny they can perform 3-D scans of a fruit fly’s nervous system; lab-on-a-chip technology that brings powerful medical diagnosis tools to remote villages around the world; and pavement materials that can withstand everything climate change throws at it, just to name a few. The awards also honoured engineers who have contributed so much—through their careers, volunteer positions and leadership—to the profession and society.

Following are short excerpts of the award recipients’ acceptance speeches and comments taken from recent interviews with *Engineering Dimensions*. (The recipients’ full biographies can be found on page 12 of the September/October 2016 issue of *Engineering Dimensions*. Video tributes of all award recipients are available on PEO’s YouTube channel at www.youtube.com/PeoOnCa.)

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PROFESSIONAL ENGINEERS GOLD MEDAL

Larry Seeley, PhD, P.Eng., chair and chief executive officer, Seeley Group Ltd.

"I am so proud to be an engineer and I am incredibly proud to receive the Gold Medal Award among so many engineers in this province who have had such outstanding careers. I love being an engineer and building, designing and developing processes, products and businesses. We build wealth, create value and do what hasn't been done. At Falconbridge we developed processes to reduce sulphur dioxide emission, improve metal recovery, improve safety and become one of the best smelters in the world. In Sudbury, we created Science North—one of the greatest science centres in the world. I'm also so proud to have developed Lakefield Research, one of the premier R&D and testing facilities for mining in the world."

ENGINEERING MEDAL—ENGINEERING EXCELLENCE

George J. Anders, PhD, P.Eng., president, Anders Consulting, and adjunct professor, department of electrical and computer engineering, University of Toronto

"I thank all those people who helped me reach my goals and attain my life dreams. Considering the industry giants that received this award before me, it's both humbling and joyous to be recognized in such splendid company. Coming to Canada as a poor immigrant, this country not only gave me the opportunity to travel but also to meet brilliant minds in my field of work. Thank you to all the people, colleagues and mentors, who inspired me. It has been said that nothing in the world has been achieved without passion. If my work has in any way helped to create better transmission systems, then I am truly honoured."

Vaughn Betz, PhD, P.Eng., associate professor, department of electrical and computer engineering, University of Toronto

"This award is truly an honour and I feel humbled to be in such illustrious company. It's been great to hear the speakers tonight talk about the role of engineers and new knowledge and technologies that benefit both society and the economic health and prosperity of our country. I became an engineer partially because of an interest in science and also because I had a desire to innovate and create a new technology to help make good jobs and wealth for my compatriots. I've been fortunate to be able to achieve some of that and I owe a debt of gratitude to the people that helped me achieve that dream."

John T.W. Yeow, PhD, P.Eng., professor, systems design engineering, Canada research chair in micro/nano devices, University of Waterloo, and president, ArtSensing Inc.

"It's an honour to be here. It's both humbling and inspiring. I grew up in five different countries across four continents. In this unique life experience, my father taught me how engineering can have a profound impact on the livelihood of local communities. Be it a factory in South Africa, a school in an African village or a five-star hotel in



The 2016 OPEA recipients are (top row, left to right) Vaughn Betz, PhD, P.Eng., John Yeow, PhD, P.Eng., Ted Maulucci, P.Eng., J. Stewart Aitchison, PhD, P.Eng.; and (front row, left to right) George Anders, PhD, P.Eng., Valerie Davidson, PhD, P.Eng., Larry Seeley, PhD, P.Eng., and Susan Tighe, PhD, P.Eng. Missing from the photo are Lin Tan, PhD, P.Eng., and Ebrahim Bagheri, PhD, P.Eng.

Singapore, our profession can truly transform our world and we have a sacred responsibility to society. I am grateful to my father for showing me the way."

ENGINEERING MEDAL—RESEARCH AND DEVELOPMENT

J. Stewart Aitchison, PhD, P.Eng., professor, department of electrical and computer engineering, University of Toronto

"Thanks to PEO and OSPE for this award and the gala. Of course, all the work we're doing I don't do myself. It's my students who are the main contributors to that work and I'd like to thank them."

Susan Louise Tighe, PhD, P.Eng., Norman W. McLeod professor of sustainable pavement engineering, director of the Centre for Pavement and Transportation Technology, and professor of civil and environmental engineering, University of Waterloo

"Thank you so much for this honour. I feel very proud to be an engineer. A strong infrastructure leads to a strong economy and affords us a high quality of life. The work I've done in the developing world clearly shows that if you have strong, well-functioning infrastructure, you have a strong viable society. We're working on the roads and runways of the future, incorporating nanotechnology, state-of-the-art environmental practices, resilient design philosophies that can adapt to climate change and most importantly providing safe, cost-effective infrastructure for the public. Many thanks to my family, especially my children, who are patient with me when I pull over to take a photo of pavement."

ENGINEERING MEDAL—YOUNG ENGINEER

Ebrahim Bagheri, PhD, P.Eng., associate professor, department of electrical engineering, Ryerson University

“I am most proud of my students—both current and graduates. We have accomplished so much based on their expertise, brilliance and ideas. I am very excited that my graduates have gone on to successful positions in industry and academia and we still collaborate with them on a regular basis.”

Lin Tan, PhD, P.Eng., associate professor, department of electrical and computer engineering, University of Waterloo

“The impact of my research is very broad. For the research community, our innovations have advanced the state of the art for software dependability. But for people generally, my research impacts peoples’ daily lives. Our work has helped to detect hundreds of bugs and our technology has been integrated into software that’s been used by millions across the globe.”

CITIZENSHIP AWARD

Valerie Davidson, PhD, P.Eng., university professor emerita, School of Engineering, University of Guelph

“It’s an honour to receive this recognition. When I was in high school, engineering was not an obvious choice for me because I was not male. This stereotype has not disappeared and I’m so proud of the work of ONWiE (Ontario Network of Women in Engineering) to show young girls that there are amazing opportunities in engineering. Since the first Go ENG Girl program in 2005, applications by female students have increased by more than 250 per cent. I know that together we will create a profession that welcomes diversity and offers clear opportunities for women to participate.”

Eduardo (Ted) Maulucci, P.Eng., chief information officer, Tridel Corporation

“When I read what this award stood for I was deeply honoured because that is what I aspire to be as a person—someone who helps others and makes the world a better place. But I have had a lot of help and the real reward is having all these people that I care about be proud of me tonight. This prize gives me energy to keep going on and makes me want to do more. I promise to do what I can to live up to what this award stands for and continue to show that engineers do great things for the world.”

ENTREPRENEURIAL ENGINEERS: STRENGTHENING ONTARIO’S INNOVATION ECOSYSTEM

As Ontario’s political leaders all pointed out in their recorded greetings at the Ontario Professional Engineers Awards (OPEA) gala, professional engineers play a significant role through their work as innovators and entrepreneurs—building infrastructure, keeping Ontarians safe and creating wealth and jobs through new knowledge and technology creation.

“I wish to commend the OSPE, PEO and their members for the vital work they do, and for the pivotal role they play in helping to build our modern infrastructure, strengthen our economy, and improve our quality of life,” said Ontario Premier Kathleen Wynne, with similar sentiments offered in greetings by opposition leaders Patrick Brown and Andrea Horwath.

However, as OPEA keynote speaker John Molloy pointed out in his speech, while Ontario has made huge strides in commercializing research, \$6 billion in new discoveries being produced every year lies fallow because there are few entrepreneurial engineers who have the business know-how—and inclination—to create businesses with it.

“There is lots of great discovery but it needs experienced people who can do something with it commercially. It takes a special person to execute and move that research through the commercialization process. It’s tough to do, so we don’t do it. And it’s not promoted at universities,” said Molloy, managing director of Southeastern Ontario Angel Network (SOAN) and chairman of the Regional Innovation Centre, Launch Lab.

The situation used to be worse, Molloy noted, but in 2001 a visionary assistant deputy minister with the then Ministry of Research and Innovation created a system of regional innovation centres across the province supported by business incubators, accelerators and angel networks. “Currently, the

government coordinates it all and the regions execute through communities and institutions. It works well. Many people in the system can help entrepreneurs find the support they need and help them access the best program at the right time,” he said.

But there are weaknesses, Molloy added, and there are still billions of dollars’ worth of research collecting dust when it could be creating companies and jobs.

“We need engineers who can walk university halls, interact with researchers and recognize commercial potential. It’s a job that requires market experience, a creative outlook and the ability to get things done,” he said.

“Ultimately, it should be organized on a national scale. However, no one has done this and resolve is not there. But then this research is wasted and underutilized from an economic development perspective.”

Molloy closed with a challenge to the engineers at the OPEA gala: “If you think you can help, reach out to your regional innovation centres and explore the possibilities. It’s not for the weak of heart but it can be fun, rewarding and Ontario needs more of them.”



Keynote speaker John Molloy of the Southeastern Ontario Angel Network spoke about engineers’ role in commercializing research and strengthening Ontario’s innovation economy.

PETERBOROUGH CHAPTER HOSTS INTERNET OF THINGS SYMPOSIUM

By Michael Mastromatteo

PEO's mid-sized Peterborough Chapter pooled resources with the local Institute of Electrical and Electronics Engineers (IEEE) and Ontario Association of Certified Engineering Technicians and Technologists (OACETT) groups to stage an Internet of Things (IOT) symposium that drew nearly 80 guests to Fleming College.

Held October 22, 2016, the symposium examined the IOT as one of the most exciting technological innovations of contemporary times. The symposium was also aimed at decreasing some of the public anxiety associated with privacy and security in an interconnected world.

Presentations featured such topics as privacy and information security, digital industrial operations, energy savings, medical applications, and implications for agricultural production stemming from the Internet.

Peterborough Chapter Vice Chair Marcelo Sarkis, P.Eng., one of the prime organizers of the event, says in addition to providing new insights on the impact of IOT, the symposium helped the chapter forge stronger links between local engineers and the Peterborough Innovation Cluster—an organization aimed at job creation and economic development by supporting local entrepreneurs.

"Peterborough and area engineers are collaborating with the [Greater Peterborough] Innovation Cluster to engage local engineers to assist the innovation cluster clients," Sarkis says. "It allows the local community to get a better understanding of engineers and what they do, and it provides local engineers an opportunity to work with local tech start-ups at the innovation cluster."

Principal speakers included David Whitehouse of the Peterborough Utilities Group, Marjan Alavi, PhD, P.Eng., of the IEEE Industrial Applications Society, and Marc Levesque, P.Eng., of Research, Innovation, Science and Economic Development Canada.

The 2016 symposium drew elected officials from both the provincial and federal government. Attending on behalf of the province was Jeff Leal, MPP (Peterborough), while Jamie Schmale, MP (Haliburton-Kawartha Lakes), represented the national government.

The event included exhibits from some of Peterborough's leading technology organizations and tours of Fleming College and the Kawartha Trade and Technology Centre.

The symposium is becoming an annual event for PEO's Peterborough Chapter. In 2015, the group staged an event examining innovations in aerospace that included a tour of the Peterborough airport.

IMPROVED VOLUNTEER ENGAGEMENT PROVIDES BENEFITS IN ALL DIRECTIONS

By Michael Mastromatteo

PEO continues to explore ways to get the most from its extensive volunteer resources while providing leadership training for the many member volunteers who serve on the regulator's task forces and committees.

The latest example took place October 28, 2016, at the annual Committee Chairs Workshop organized by PEO's Advisory Committee on Volunteers (ACV).

Organized under the theme of volunteer engagement, the workshop featured a number of presentations by Bobby Umar, P.Eng., president and "leadership catalyst" of Raaalen, a Toronto-based organization specializing in leadership, teamwork, communication and career development.

Umar, a former aerospace design engineer at Bombardier, described how he developed a special interest in volunteerism early in his engineering career. He also discussed the value of "empathetic leadership," or the ability to maximize volunteer potential by tuning in to an individual's specific talents and abilities.

He even suggested empathy and active listening are rapidly becoming the top job skills for the 21st century.

Umar later asked participants to consider five key questions surrounding PEO's experience with volunteers. The questions, developed in consultation with the ACV and PEO's people development team were: How do we better engage volunteers? Why do volunteers lose interest? How do we make volunteering more enjoyable? What motivates you to volunteer? and What are the qualities of a successful committee or task force?

Prior to Umar's presentations, PEO President George Comrie, P.Eng., FEC, outlined some of the expectations of the day's workshop. "We at PEO are always looking to make our committees and task forces more effective," Comrie said. "I know each of you wants to maximize your efforts on behalf of this organization, but at the same time the effort you devote to PEO should be a rewarding experience for each task force or committee member."

Comrie outlined three main obstacles to effective committee work. He said a lack of consensus on a committee's objective, coupled with poorly developed teamwork skills, and a lack of continuity in committee membership tend to thwart full committee effectiveness.

The volunteer workshop included a number of team-building and task-setting exercises aimed at helping participants look for new ways to address challenges and find solutions.

Discussion points generated at the annual Committee Chairs Workshops are analyzed by the ACV and PEO's people development department with a view to improving committee operations. The workshop material will be shared with members on the ACV web page, www.peo.on.ca/index.php/ci_id/27616/la_id/1.htm.

POWER OF THE P.ENG. SHINES AT ESSCO CONFERENCE

By Jocelyn Lee

The power and resilience of the professional engineering licence highlighted discussion November 4–6, 2016 at the PEO Student Conference at Carleton University in Ottawa.

The conference is held annually as a collaboration between the Engineering Student Societies' Council of Ontario (ESSCO) and PEO.

Approximately 70 students from across Ontario learned about opportunities within engineering and the benefits of licensure. The conference began with an optional lunch at Parliament Hill, hosted by Sarnia-Lambton MP Marilyn Gladu, P.Eng., the first female engineer elected to Parliament.

The next day, Joel Vautour, talent acquisition advisor at Yellow Pages, returned for a second year to educate students about job hunting, including tips on navigating the corporate market.

In the afternoon session, John Gamble, P.Eng., C.E.T., president and CEO of the Association of Consulting Engineering Companies Canada, spoke about shifting our engineering focus to problem definition, which he says is a more accurate representation of the service engineers provide to the public. Erica Lee Garcia, P.Eng., of Engineers Without Borders (EWB) Canada followed up with an outline of her career path and how students can use engineering skills to make optimal choices. Delegates also heard from a panel consisting of Gamble, Garcia and Adrian Chan, PhD, P.Eng., a professor in the department of systems and computer engineering at Carleton University. The panel gave advice to students based on their experiences and career paths in engineering.

The final speaker of the day, Himel Don Khandker, a student at Ryerson University and representative from EWB's Engineering Change Lab, led a workshop in which students were given a scenario to reflect on and asked to tie it to the engineering profession.

The following day, students heard from Ontario Society of Professional Engineers President and Chair Michael Monette, P.Eng., ESSCO



Among the student conference delegates were (left to right) ESSCO vice presidents Robert Plant, Katie Arnold and Jocelyn Lee, ESSCO President Mike Lavdas and conference co-chairs Jake Lipohar and Alex Whitlock.

President Mike Lavdas and Himel Don Khandker. ESSCO executives would like to thank conference chairs Jake Lipohar and Alex Whitlock on hosting a successful and informative conference. The ESSCO leaders also expressed their appreciation to PEO for its ongoing support, without which the conference would not be possible.

Jocelyn Lee is vice president, communications for ESSCO.

SHORTLIST SPOT A BOOST FOR PROFESSION'S DIVERSITY OBJECTIVES

By Michael Mastromatteo



Engineering groups are celebrating the selection of Nova Scotia human rights pioneer Voila Desmond as the first Canadian-born woman to be featured on a new Canadian bank note, but are equally impressed a trailblazing woman engineer made the shortlist for the honour.

Elizabeth (Elsie) MacGill, P.Eng. (1905–1980), the world's first female chief aeronautical engineer, was one of five finalists considered for bank note recognition from a list of 461 eligible candidates submitted by Canadians in the Bank of Canada's "Bank NOTE-able woman" consultation. The \$10 bank notes are set to go into circulation in 2018.

MacGill, who was known as Queen of the Hurricanes for her work on the Hawker Hurricane fighter plane in the 1940s, was the first woman in North America to earn a master's degree in aeronautical engineering and was also PEO's first female professional engineer.

MacGill received the Ontario Professional Engineers Gold Medal in 1979 for her many years of service to the profession and the wider community. She died suddenly the following year but had been active in the profession right up to the end.

MacGill was featured in the March/April 2013 issue of *Engineering Dimensions* as one of Canada's engineering heroes ("Heroes for the ages," p. 24).

In a December 9 statement, Engineers Canada CEO Kim Allen, P.Eng., FEC, commended the Bank of Canada's effort to salute notable women: "While aeronautical engineer Elsie MacGill was not selected to appear on this new bank note, we applaud the Bank of Canada for starting a meaningful conversation that recognizes and commemorates how women have shaped our country."

CELEBRATING CIVIL ENGINEERING AT LAKEHEAD CHAPTER EVENT

By Louis Richard, P.Eng.

PEO's Lakehead Chapter's 55th Engineering and Technology Conference in Thunder Bay attracted nearly 170 engineers and students to a day-long celebration of northwestern Ontario engineering.

Held November 4 at the Valhalla Inn, the conference featured several speakers:

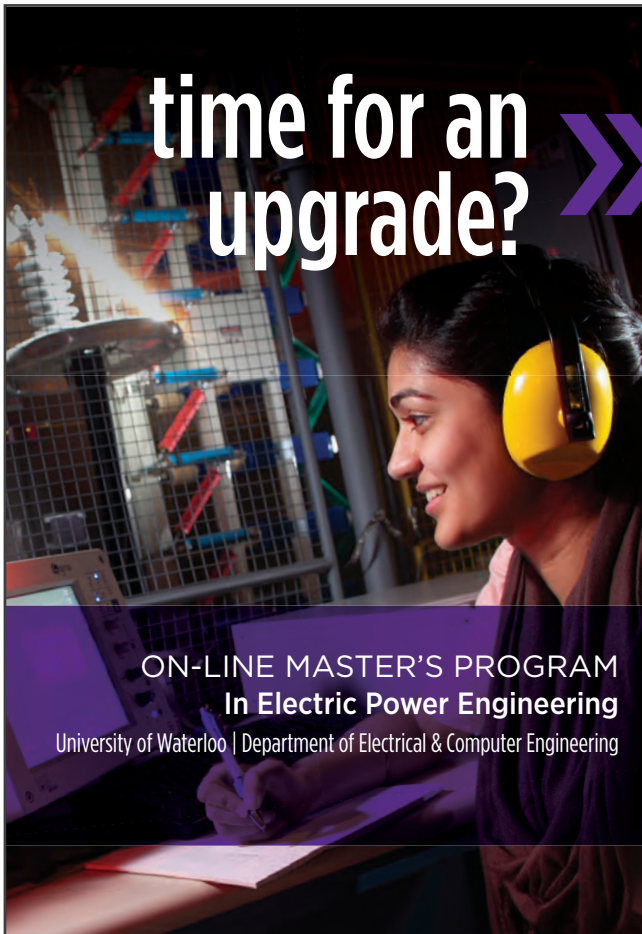
- Keynote speaker Dwayne Ziebarth, C.E.T., senior project manager at WSP Canada's Thunder Bay office, described how his team incorporated innovation to meet the many challenges for the expansion project at the Rocanville PotashCorp mine in Saskatchewan.
- Mark Baker, P.Eng., vice president of projects, Noront Resources Ltd., spoke about the company's mining operations in support of the Ring of Fire development.
- Bruce Caldwell, P.Eng., manager, program planning for the Ontario Ministry of Trans-

portation, provided an update on the four-lane widening of Highway 11/17 between Thunder Bay and Nipigon.

- Adam Oatman, P.Eng., examined the complexity of project planning and implementation for Toronto's Union Station upgrades.
- Maria Rey, vice president and chief science advisor, Space Strategies Consulting Ltd., outlined the rapid development of space-based remote sensing technologies with a focus on civil infrastructure.
- Siamak Elyasi, PhD, P.Eng., assistant professor, department of chemical engineering, Lakehead University, spoke about research in turning plastic waste into fuel.
- Thunder Bay area MP Patty Hajdu, minister for the status of women, noted the role of engineers in society and encouraged more efforts to increase the number of women in the profession.

After hosting so many technical conferences, the Lakehead Chapter is looking forward to hosting the 2017 PEO annual general meeting for the first time in Thunder Bay on April 22, 2017.

Louis Richard, P.Eng., is an executive member of PEO's Lakehead Chapter.



time for an upgrade? >>>

**ON-LINE MASTER'S PROGRAM
In Electric Power Engineering**
University of Waterloo | Department of Electrical & Computer Engineering

Since graduation, you've upgraded your computer, your cell phone and probably even your car. What about you? Isn't it time you thought about upgrading your knowledge and skills?

Upgrade — your way — with an on-line Master's program.

The on-line Master's program in Electric Power Engineering in the Department of Electrical & Computer Engineering, University of Waterloo, offers advanced, state-of-the-art, training in Electric Power Engineering. The Program is designed for engineering personnel from the electric power industry, electrical engineering graduates, and other professionals looking to upgrade and accelerate their career in the power and energy sector. The program offers a full spectrum of courses, offered over three terms each year, which are relevant to the power industry. Courses are taught by world-class faculty members from the Department's Power & Energy Systems Group; one of the best power engineering research groups in North America.

Program Information

One of the following three program options is available to all program participants:

- » **Master of Engineering (MEng) in Electric Power Engineering:** Awarded on completion of 9 courses
- » **Graduate Diploma (GDip) in Electric Power Engineering:** Awarded on completion of 6 courses
- » **Certificate of Completion:** Awarded on completion of a single course.

The MEng and GDip Programs are fully approved by the Ontario Council on Graduate Studies. For more information on course schedules, fees, and other details, please visit ece.uwaterloo.ca/onlineMEng.



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RICHMOND HILL MP APOLOGIZES FOR USE OF RESTRICTED ENGINEERING TITLES

Majid Jowhari, MP (Richmond Hill), was charged by Professional Engineers Ontario (PEO) under sections 40(2)(a.1) and 40(2)(a) of the *Professional Engineers Act* for using the titles “engineer” and “professional engineer” when describing his credentials at a public candidates debate during the 2015 federal election. These sections of the act forbid the use of such terms by unlicensed persons. Jowhari was not licensed as a professional engineer in Ontario at that time.

A pre-hearing conference was held on October 18, 2016, at which Jowhari agreed to provide a public letter of apology and a donation to the Ontario Professional Engineers Foundation for Education. As a result, the charges were withdrawn. The full transcript of the letter is provided below.

*Letter of Apology from Majid Jowhari, MP
October 24th, 2016*

On October 19, 2015, I was elected as an MP representing the riding of Richmond Hill in the House of Commons, and currently sit on the Standing Committee on Industry, Science and Technology. I am not an engineer. In the course of my campaign, questions arose concerning the use of the titles “engineer” and “professional engineer”.

I earned a Bachelor of Technology degree in industrial engineering from Ryerson University, as well as an MBA from York University. I was licensed as a professional engineer by the PEO between 1995 and 1999, after which my licence was cancelled for non-payment. When I gave up my licence as a professional engineer, I also gave up the privilege of calling myself an “engineer” and a “professional engineer”.

On October 4, 2015, I attended a debate between six candidates from the ridings of Richmond Hill and Willowdale at the ‘Federal Candidates Forum’ organized by the Iranian Canadian Congress. When reviewing my credentials and work experience at the outset of the debate, I presented myself as an “engineer” and a “professional engineer” to those in attendance. These words were unscripted, were incorrect, and on reflection were potentially misleading. I did not intend to mislead anyone. I regret these statements and sincerely apologize for my actions.

Professional Engineers Ontario (PEO), the regulatory body for the profession in this province, initially contacted me in February

2015 to address certain materials that had been made public in the course of my campaign. I have since spoken at length with PEO concerning the use of restricted professional titles in my campaign. I am fortunate to have been provided with this opportunity to address my actions in an open letter.

In the Province of Ontario, professional engineers practice and use their titles while subject to a commitment to serve the public and to uphold a strict code of professional conduct. The Professional Engineers Act restricts the titles “engineer” and “professional engineer” to those persons who are licensed by PEO. This allows the public to identify who is licensed to practise engineering and to know that they are governed accordingly. As a non-member, it is a violation of the Professional Engineers Act to use either the specific or general title.

This experience has taught me a valuable lesson about the need for precision at all times when addressing my engineering education and credentials. In the future, I will refrain at all times from using restricted titles without clarifying that I was a member of PEO, and am no longer licensed as a professional engineer.

I sincerely hope that the public and the engineering profession will accept my apology for misstating my credentials.

As a show of respect and support for engineering in Ontario and Canada, I have donated \$5,000 to the Ontario Professional Engineers Foundation for Education.

Yours sincerely,

Majid Jowhari, MP

● NOTICE OF LICENCE SUSPENSION—NIDHAL NAAMI

On December 19, 2016, Nidhal Naami’s professional engineering licence was suspended pursuant to a June 16, 2015 order of the Discipline Committee. The order was issued following a finding of professional misconduct against Naami at a discipline hearing held on that date. Naami’s licence was suspended because he failed to write and pass the professional practice examination within the 18-month timeframe prescribed by the Discipline Committee.

ENFORCEMENT HOTLINE Please report any person or company you suspect is practising engineering illegally or illegally using engineering titles. Call the PEO enforcement hotline at 416-840-1444 or 800-339-3716, ext. 1444. Or email enforcement@peo.on.ca. Through the *Professional Engineers Act*, Professional Engineers Ontario governs licence and certificate holders and regulates professional engineering in Ontario to serve and protect the public.

FORMER ENGINEERING FIRM AND PRINCIPAL FINED \$10,000 FOR WEBSITE AND SOCIAL MEDIA CONTENT

Emmanuel de Guzman and Falcon Group International Inc. have been convicted of four counts of breaching the *Professional Engineers Act* and fined \$10,000. Falcon Group was found guilty of two counts for offering professional engineering services through its website and using restricted terms, titles and descriptions in a LinkedIn profile without a Certificate of Authorization from Professional Engineers Ontario (PEO). De Guzman, as a director and officer of the corporation, was found guilty of two counts for authorizing, permitting or consenting to the offences. De Guzman has never been licensed as a professional engineer in Ontario. The verdict was made on October 28 by His Worship Justice of the Peace Sunny Ng. The website and LinkedIn profile at issue have since been removed.

A PEO Certificate of Authorization (C of A) allows individuals or firms in Ontario to offer or provide engineering services directly to the public. Falcon Group was licensed as a C of A holder in 2011. After the certificate was revoked by PEO in December 2014, however, the company continued to represent itself as a professional engineering firm through its website and LinkedIn profile.

In January 2016, the Superior Court of Justice ordered Falcon Group to refrain from using the words “engineer,” “engineering,” or any other term, title or description that will lead to the belief that it may provide professional engineering services to the public. De Guzman was similarly ordered to refrain from using the titles “professional engineer,” “P.Eng.” and “engineer.” In June 2016, as Falcon Group and de Guzman had still failed to comply with the *Professional Engineers Act*, PEO laid charges under the *Provincial Offences Act*.

Nick Hambleton, associate counsel, regulatory compliance, represented PEO in this matter.

PEO thanks the professional engineers, architects and organizations that co-operated with its investigation and provided evidence for use in the court proceedings.

WHAT'S IN A NAME? PEO'S RESTRICTIONS ON USING ENGINEERING TERMS IN BUSINESS AND CORPORATE NAMES

By Ashley Gismondi and Steven Haddock

It is perfectly acceptable as a licence holder or applicant to aspire to open your own engineering company. It is also likely that you may wish to use the terms “engineer” or “engineering” in your name when you register or incorporate to highlight your area of expertise and to give the appearance that your business is authorized. Generally, depending on where you register or incorporate, government staff at the provincial or federal level have the discretion to reject a proposed business name with these terms on the grounds that it requires explicit consent to use them. PEO is the gate keeper to granting consent to use these terms, upon satisfying certain conditions. Below are a series of questions to educate members about using engineering terms in their business and corporate names.

Does PEO grant consent to everyone who asks?

PEO will grant permission to use these terms to licence holders who hold, or are eligible to obtain, a Certificate of Authorization (C of A). A C of A is issued by PEO to allow individuals and business entities to offer and provide professional engineering services to the public, and is different from a licence issued to individuals to practise professional engineering, as set out in section 47 of Ontario Regulation 941/90. If an engineering intern (EIT) or applicant requests a C of A, it will be declined. It is also important to be a member in good standing with the association so as to not raise any issues or delay the consent process. PEO will also grant consent to a non-profit corporation where the aims of the organization are consistent with the objectives of PEO.

What if I am a limited engineering licensee (LEL) or licensed engineering technologist (LET)?

PEO will also grant consent for businesses operating under a C of A that is issued to an LEL or an LET; however, the name may not contain the terms “engineer” or “engineering consultant” but instead must contain a term that clearly describes the type of engineering within the limited licence holder’s scope of practice. The word “engineering” is acceptable as long as it is modified by a word that is rationally connected to the LEL or LET’s scope of practice. For example, “ABC Engineering” would get declined but “ABC Automation Engineering” would be acceptable to PEO.

What is the procedure for requesting consent?

Those wishing to obtain consent must provide the following information in a letter, fax or email:

1. The full name and licence number of the professional engineer who will be one of the individuals taking responsibility for the engineering services provided under the C of A;
2. The proposed name of the business;
3. A short description of the business activities to be carried out by the business;
4. An undertaking to obtain and maintain a C of A, if applicable:
 - a. If the business name contains a variation of “consulting engineers,” a further undertaking to obtain permission to use from PEO council. This option is only available to consulting engineers or persons clearly eligible to become consulting engineers; and
5. Whether it will be an unincorporated business, Ontario corporation, or federal corporation.

Is there a fee for the consent letter?

Although there is no charge for obtaining a consent letter, those requesting permission will also have to promise to apply for and maintain a C of A. This is the case even if the chosen name does not include “engineer” or “engineering.” If you are planning to offer professional engineering services to the public, obtaining a C of A is mandatory. The associated fees for such are currently listed on PEO’s website (www.peo.on.ca).

What does the law say?

There are several interlocking and overlapping provisions under Ontario and Canadian law regarding the use of engineering terms in business names. However, for practical purposes, the overarching rule is that only PEO’s C of A holders are allowed to use these terms without restriction.

Below are a few excerpts from legislation that express the restrictions on “engineer,” “engineering” and other variations:

- *Professional Engineers Act*, R.S.O. 1990, c. P.28 40(3)(a) Every person who is not acting under and in accordance with a Certificate of Authorization and who uses a term, title or description that will lead to the belief that the person may provide to the public services that are within the practice of professional engineering.

Beginning with our act, the backbone of operations at PEO, this section highlights that it is an offence to use “engineer” or “engineering” in a name and offer the services of a professional engineer unless authorized to do so.

- Canada Business Corporations Regulations, 2001 SOR/2001-512 26.(c) is sponsored or controlled by or is connected with a university or an association of accountants, architects, engineers, lawyers, physicians or surgeons or another professional association recognized by the laws of Canada or a province, unless the appropriate university or professional association consents in writing to the use of the name.

Since PEO is the professional association for engineers in Ontario, we can provide a suitable consent letter upon request.

- *Business Corporations Act*, R.R.O. 1990, Regulation 62 15.10 “Engineer,” “ingénieur,” “engineering,” “genie,” “ingénierie” or any variation thereof, where such word suggests the practice of the profession, except with the written consent of the Association of Professional Engineers of Ontario.

The act specifically lays out all the protected terms and the procedure by which to obtain consent in Ontario.

- *Business Names Act*, Regulation 122/91 9. A name shown in a registration must not include a word, expression or abbreviation the use of which is restricted under a federal act or an Ontario act unless the registrant satisfies the restriction.

For PEO’s purposes, this includes sole proprietorships, partnerships and corporations where the word suggests the practice of the profession.

This is not an exhaustive list. Depending on the type of registration you’ve chosen, some—but not all—of these laws will apply. You may wish to consult legal counsel or an accounting professional with assistance in explaining to you the advantages of registering as a business or a corporation.

How does PEO review business names?

In addition to responding to complaints about business names, PEO reviews business names from public sources such as NUANS® (Newly Upgraded Automated Name Search) and corporate announcements. NUANS® is an advanced search system that searches corporate and business registries across Canada. New Ontario corporation names are published every week and PEO reviews them about once every two weeks. Business names, revised Ontario corporation names and federal corporation names are reviewed from a print-out from the federal NUANS® system, which contains several thousand names and is systematically reviewed in a cycle that lasts about three years. As such, if you incorporate a new Ontario corporation, PEO will know about it within a couple of weeks, but if you register a business

name or federal corporation, or change the name of an Ontario corporation, it may take three years or more for us to reach you.

We begin our review by comparing business names to our current directory of C of A holders. When we find an unauthorized Ontario business using one of the restricted terms, we send a series of letters requesting more details on their business activities. This allows us to assess whether or not the continued use of the business name may mislead someone into believing it is an authorized professional engineering firm.

Industry Canada, the department responsible for federal registrations, changed procedures in 2011, making it virtually impossible to incorporate a Canadian corporation with a restricted word in its name. Although the Ontario Ministry of Government Services—the ministry responsible for Ontario businesses—does reject names “at the counter” in absence of PEO’s consent, they are not consistent in this process.

In most cases, if you are using a restricted term without being authorized, PEO is willing to negotiate an agreement (an undertaking) to allow you to continue to use the name as long as no evidence of the contrary comes to our attention. However, if we receive no response, or the name is obviously misleading, PEO will file a challenge against the name.

What is the challenge process like?

There are two different procedures depending on whether the name is a corporate name or a business name (even a business name registered by a corporation). In both cases, the challenge starts with PEO filing a challenge with the Ministry of Government Services.

For a corporation name, you will be sent a Notice of Opportunity to be Heard, which provides you a chance to present evidence and an argument in support of your case. Once you receive this notice, you can ask the ministry to schedule a hearing to determine whether the name is properly registered. The ministry will then schedule a “hearing in writing,” which provides each side the opportunity to submit documents and written legal arguments to the hearing officer. The hearing officer then makes a decision, which may be appealed to the divisional court. If you do not request a hearing, the hearing officer will rule summarily without giving either side an opportunity to make written submissions.

For a business name, the business names registrar (or their delegate) will make an administrative decision and send you notice that the name will be cancelled in 21 days if you do not appeal the decision to the divisional court.

Be prepared for a wait. The duration between when PEO initiates its challenge and the date of the decision can vary widely. It has been as short as six weeks and as long as six years. On average, you can expect to wait six months for a business name decision, and about four years for a corporate name decision. Up

until the date of the decision, PEO will continue to be willing to negotiate an agreement, but if a decision is made in PEO’s favour, it will not negotiate further unless you file an appeal.

What happens if I don’t want to obey the decision?

If you continue to use a corporate or business name that has been struck, or use an unregistered business name, PEO will send one warning letter and then refer the matter to legal counsel. We consider the ministry’s decision on the name to settle the issue on whether the name will lead to the belief you may engage in the practice of professional engineering under the provisions of s. 40(3)(a) of the *Professional Engineers Act*. Our most likely course is to obtain an order to prevent the continued use of the name. Failure to abide by the terms of such an order may lead to fines or jail time.

What if I don’t wish to use restricted terms in my name?

Other than “engineer” or “engineering,” PEO will not object to terms in a business name, even if the business is related to professional engineering. As such, the use of the names of engineering practice areas (e.g. structural, mechanical, electrical) together with other terms related to engineering practice (e.g. technology, design, laboratory, consultant) is completely acceptable.

FINAL REFLECTIONS

Looking into business names takes up a lot of time and resources. “Business names account for about 20 per cent of the time we spend on all enforcement files,” says enforcement team member Steven Haddock. “In addition, the cost of doing record look-ups is one of the biggest discretionary parts of our budget.”

The enforcement team strives to open eight files during its biweekly review of business names for a total of just over 200 files opened per year, and that’s not including all the other files it has on the go (title, seal, etc.).

The bottom line is, if you manage to evade the consent process and register it, the name registration may be changed or cancelled at a later time and your only recourse may be a costly court proceeding. Obtaining a consent letter is easy. You don’t want to get caught on the wrong side of compliance with PEO.


ANY QUESTIONS?

Thinking of using engineer or engineering in your business name? We’d like to hear from you. Please contact a member of the enforcement team by phone 800-339-3716, ext. 1444 or by email at enforcement@peo.on.ca.

Ashley Gismondi is PEO’s enforcement and outreach officer. Steven Haddock is PEO’s enforcement and advisory officer.

Do you know about the PEAK program?

IT'S COMING MARCH 31, 2017



On March 31, 2017, PEO will launch the Practice Evaluation and Knowledge (PEAK) program for all licence holders.

This unique program is designed to improve the regulatory profile of PEO licence holders and encourage individualized continuing knowledge development.

Practising licence holders will be asked to:

- Complete both a practice evaluation questionnaire and an online ethics module prior to their licence renewal date; and
- Complete and report to PEO their recommended continuing knowledge activities prior to their subsequent licence renewal date.

Non-practising licence holders will be asked to:

- Make a declaration that they are not practising professional engineering; and
- Complete an online ethics module prior to the date of their licence renewal.

The PEAK program is:

- ✓ Unique
- ✓ Flexible
- ✓ Relevant

The PEAK program is not:

- ✗ A one-size-fits-all solution
- ✗ Bureaucratic
- ✗ Window dressing

2017 ONTARIO EVENT HIGHLIGHTS



National Engineering Month (NEM) is a Canada-wide, national celebration designed to raise awareness of engineering and engineering technology and its contributions to our everyday lives. This year, Ontario will be celebrating by hosting hundreds of events throughout the province. These events are staged by volunteers from engineering student and professional communities, supported by members of Professional Engineers Ontario (PEO), the Ontario Association of Certified Engineering Technicians and Technologists (OACETT), the Ontario Society of Professional Engineers (OSPE) and Engineers Without Borders Canada (EWB).

Join in the celebrations! You can sign up to be a volunteer and help out at an event near you, bring your family to an event or follow all the action throughout the month on social media #NEM2017 (@nemontario on Twitter and Instagram, or facebook.com/nemontario).

The following is a partial listing of events planned, supported or hosted by PEO chapters during NEM 2017. Please refer to nemontario.ca for the full listing with confirmed dates and additional details.

CHATHAM

Impromptu Design Challenge
John McGregor Secondary School
PEO's Chatham-Kent Chapter is hosting design challenges for the Lambton-Kent district schools. There will be a junior (grades 7 and 8) and a senior (high school) challenge. Both events will challenge teams to build an apparatus to complete a specific task using the materials provided. Contact Ellen Sinclair, P.Eng., ERSincla@uniongas.com, 519-365-4305.

ETOBICOKE

Engineering Idol 2017
March 4, University of Toronto
PEO's Etobicoke Chapter is hosting their 10th annual Engineering Idol competition where teams from over a dozen selected high schools participate in a challenging engineering task. Contact Andrew Demeter, P.Eng., ar.demeter@gmail.com, 416-505-8433.

GEORGIAN BAY

Scale an Innovation:
Button-Making Event
PEO's Georgian Bay Chapter will engage the community through the making and wearing of buttons with engineering slogans and the NEM logo. Participants will be encouraged to pick or make their own designs and then watch the entire button-making process.

HAMILTON

Bay Area Science and Engineering Fair, Mohawk College
The Bay Area Science and Engineering Fair is an event for children in grades 7 through 12. Details are available at www.basef.ca. Contact Nigel Birch, P.Eng., nbirch5@cogeco.ca, 905-681-7287.

Scale an Innovation:
Button-Making Event
PEO's Hamilton-Burlington Chapter will engage the community through the making and wearing of buttons with

engineering slogans and the NEM logo. Participants will be encouraged to pick or make their own designs and then watch the entire button-making process.

KINGSTON

17th Annual Popsicle Stick Bridge-Building Contest, Boys and Girls Club (Frontenac Mall)
PEO's Kingston Chapter is hosting a popsicle stick bridge-building contest. Bridges built by contestants will be tested at the event. Lego Robotics kits will be available for students to use during the main event. Contact Doug Hamilton, P.Eng., douglas.robert.hamilton@gmail.com, 613-389-9628.

LONDON

2017 NEM Kick-off Luncheon
Double Tree by Hilton
PEO London Chapter's NEM kick-off luncheon will see the city engineer deliver a keynote address discussing the past year's and upcoming year's construction projects. Contact Ian Cheng, P.Eng., iancheng@rogers.com, 519-521-1225.

Canadian Centre for Product Validation event

The CCPV is unlike any other testing facility in Canada. It has been uniquely designed to be a multimodal development test facility, conducting electrical, mechanical, performance, environmental and thermal testing under one roof. Contact George Biljan, P.Eng., gjbiljan@gmail.com, 519-281-4388.

Labatt Brewery Tour, Labatt London

A brewery tour and presentation by resident engineer Scott Durnin, P.Eng., emphasizes engineering in manufacturing from a brewing engineer's perspective. Contact Syd Van Geel, P.Eng., syd.vangeel@rogers.com, 519-852-4629.

Scale an Innovation: Button-Making Event

PEO's London Chapter will engage the community through the making and wearing of buttons with engineering slogans and the NEM logo. Participants will be encouraged to pick or make their own designs and then watch the entire button-making process.

MUSKOKA

Engineering and Technology Model-Building Competition, Eastview Secondary School

PEO's Simcoe-Muskoka Chapter events for NEM 2017 will focus on a variety of STEM-oriented projects and activities, bridge-building and strength-testing competition, catapult competition, car competition, live engineering quiz and several demos. Contact Oday Wade'e, P.Eng., oday.wadee@peo-simcoe-muskoka.com, 647-667-7613.

NIAGARA REGION

Bridge-Busting Competition

Students (kindergarten through Grade 9) are encouraged to build a bridge at home from popsicle sticks and white glue. They are then invited to test the limits of their bridge in PEO's Niagara Chapter bridge-busting competition. Contact Stan Mathew, mathews@ae.ca, 905-346-0990, ext. 250.

Dream Big Niagara Falls IMAX Theatre

All around the world, engineers are pushing the limits of ingenuity and innovation in unexpected, imaginative and amazing ways. Dream Big, a giant-screen film about engineering, will take viewers on a journey of discovery from the world's tallest building to a bridge higher than the clouds. Along the way, the audience will witness how today's engineers are shaping the world of tomorrow. Contact Stan Mathew, P.Eng., 905-346-0990, ext. 250.

Engineering Design and Build Competition, Niagara College

To kick off NEM 2017, PEO's Niagara Chapter will hold its third annual Engineering Design and Build Competition. Students from various Niagara region secondary schools will compete in teams to design a plan and solve an engineering problem. Contact Stan Mathew, P.Eng., mathews@ae.ca, 905-346-0990, ext. 250.

NORTH BAY

Bridge-Building Competition, March 31

This competition is part of PEO's North Bay Chapter school outreach initiative that introduces real-life engineering issues in a manner that complements the curricula being taught in schools. This event also allows for one-on-one interaction between students and local engineers in a casual, fun-filled atmosphere. John Simmonds, P.Eng., john.simmonds11@outlook.com, 705-474-4667.

OAKVILLE

Scale an Innovation: Button-Making Event

PEO's Oakville Chapter will engage the community through the making and wearing of buttons with engineering slogans and the NEM logo. Participants will be encouraged to pick or make their own designs and then watch the entire button-making process.

OTTAWA

Canadian Space and Aviation Museum Engineering Challenge

Working individually or in groups, participants are challenged to build examples of real-life aviation or space-based vehicles and objects, which are evaluated on structure stability, mechanics and innovation. Contact Damien Letendre, P.Eng., opeo.edu@gmail.com, 613-808-6346.

Career Workshop, Carleton University and University of Ottawa

An open forum for engineering students and professional engineers to discuss the variety of engineering career opportunities. Contact Damien Letendre, P.Eng., opeo.edu@gmail.com, 613-808-6346.

Engineering Challenge, Carleton University and University of Ottawa

Drop-in engineering challenge where students will have set parameters and constraints to complete. Damien Letendre, P.Eng., opeo.edu@gmail.com, 613-808-6346.

Scale an Innovation: Button-Making Event

PEO's Ottawa Chapter will engage the community through the making and wearing of buttons with engineering slogans and the NEM logo. Participants will be encouraged to pick or make their own designs and then watch the entire button-making process.

QUINTE WEST

Bridge-Building and Airplane Propulsion Contests, Maranatha Church

Students will compete to build the strongest bridge that can take the maximum load before breakage. The airplane propulsion contest will engage students in flight mechanics and how to tweak the necessary parameters to achieve a maximum flight range. Contact Panch Yogeswaran, P.Eng., panchyoges@hotmail.com, 613-962-4386.

SARNIA

Engineering Discovery Day Lambton Mall

Although targeted to elementary school aged students, the public is also invited to participate in pick-up challenges hosted by PEO's Lambton Chapter, where simple objects are used to demonstrate a scientific prin-

ciple. All booths are geared towards hands-on participation. Participants are given a Discovery Day passport and when they visit a set number of booths they receive a small prize. Contact Maureen Wong, P.Eng., sarniaengweek@gmail.com, 519-339-2898.

Scale an Innovation: Button-Making Event

PEO's Lambton Chapter will engage the community through the making and wearing of buttons with engineering slogans and the NEM logo. Participants will be encouraged to pick or make their own designs and then watch the entire button-making process.

SAULT STE. MARIE

Sault Ste. Marie Engineering Month Event, March 4, Sault Ste. Marie Station Mall

PEO's Algoma Chapter is hosting the annual Engineering Day at the mall. This includes engineering displays from local businesses, a team math challenge, colouring contests, robotic displays and other exciting interactive displays. Contact Micheal Paciocco, EIT, mpaciocco@yahoo.ca, 705-949-1033, ext. 206.

Scale an Innovation: Button-Making Event

PEO's Algoma Chapter will engage the community through the making and wearing of buttons with engineering slogans and the NEM logo. Participants will be encouraged to pick or make their own designs and then watch the entire button-making process.

SUDBURY

Bridge-Building Competition Atlas Copco Theatre

Hosted by Dynamic Earth and PEO's Sudbury Chapter, the annual Bridge-Building Competition is open to students from grades 3 to 12. Teachers are encouraged to register their

entire class, integrate the competition into their classroom lessons, and make a day out of this event. Contact Jeff Shaw, P.Eng., 705-885-8419, jeffkshaw@gmail.com.

THUNDER BAY

Student Design Competition Nordmin Engineering Ltd.

Student teams are challenged with design, building and testing, and will have fun using a self-powered fan to blow a ping pong ball down a track as far as possible. Contact Phil Riegle, P.Eng., philip.riegle@tetrattech.com, 807-624-5458.

Research and Innovation Mall Event Intercity Shopping Centre

Table-top event with videos, hands-on activities, catapults, circuit boards, Rube Goldberg machine, hydraulics, etc. Contact Phil Riegle, P.Eng., philip.riegle@tetrattech.com, 807-624-5458.

TORONTO

14th Annual Bridge-Building Contest Scarborough Town Centre

Hosted by PEO's Scarborough Chapter, students from grades 3 to 8 and their parents participate in learning about engineering. Contact Victor Lan, P.Eng., lanlin07@hotmail.com, 416-668-9810.

Dream Big East Toronto

All around the world, engineers are pushing the limits of ingenuity and innovation in unexpected, imaginative and amazing ways. Dream Big, a giant-screen film about engineering, will take viewers on a journey of discovery from the world's tallest building to a bridge higher than the clouds. Along the way, the audience will witness how today's engineers are shaping the world of tomorrow.

Dream Big York

All around the world, engineers are pushing the limits of ingenuity and

innovation in unexpected, imaginative and amazing ways. Dream Big, a giant-screen film about engineering, will take viewers on a journey of discovery from the world's tallest building to a bridge higher than the clouds. Along the way, the audience will witness how today's engineers are shaping the world of tomorrow.

Engineering Innovations Forum Toronto Botanical Garden

PEO's East Toronto Chapter will host a presentation called "Self-Driving Vehicles: Transformers of the Future." Contact Michael Flatt, P.Eng., mflatt@eiforum.ca.

Gears in Motion, Hillcrest Library

During the Gears in Motion event hosted by PEO's Willowdale-Thornhill Chapter, students will learn about the working of gears and piston actuators in a pneumatic engine by building a mockup of a working air propelled pneumatic engine. Contact Rana Tehrani Yekta, EIT, rana.ty@gmail.com.

WATERLOO

First Robotics Participation University of Waterloo

PEO's Waterloo Chapter will interact with high school students who are entered in the FIRST Robotics Competition. Contact Kaoru Yajima, P.Eng., kyajima@regionofwaterloo.ca, 519-575-4757, ext. 3349.

WINDSOR

Dream Big Windsor

All around the world, engineers are pushing the limits of ingenuity and innovation in unexpected, imaginative and amazing ways. Dream Big, a giant-screen film about engineering, will take viewers on a journey of discovery from the world's tallest building to a bridge higher than the clouds. Along the way, the audience will witness how today's engineers are shaping the world of tomorrow.

January 2017

JANUARY 20-22

3rd International Conference on Mechanical Design & Engineering, Hong Kong, China
www.icmde.org



JANUARY 23-26

Association for Mineral Exploration Roundup, Vancouver, BC
roundup.amebc.ca



FEBRUARY 5-9

International Solid-State Circuits Conference, San Francisco, CA
isscc.org

February 2017



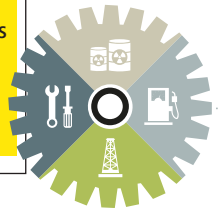
JANUARY 28-FEBRUARY 2

SPIE Photonics West, San Francisco, CA
spie.org/conferences-and-exhibitions/photonics-west



FEBRUARY 8-12

3rd International Conference on Mechatronics & Robotics Engineering, Paris, France
www.icmre.org



JANUARY 30-FEBRUARY 1

International Air-Conditioning, Heating, Refrigerating Expo, Las Vegas, NV
ahrexpo.com

FEBRUARY 11-16

SPIE Medical Imaging, Orlando, FL
spie.org/conferences-and-exhibitions/medical-imaging



FEBRUARY 13-17

2017 Paper Week Canada, Montreal, QC
paperweekcanada.ca



JANUARY 31-FEBRUARY 2

DistribuTECH Conference & Exhibition, San Diego, CA
www.distributech.com



March 2017

MARCH 1-2

International Conference on Water Management Modeling, Toronto, ON
www.icwmm.org



MARCH 12-15

Geotechnical Frontiers, Orlando, FL
geotechnicalfrontiers.com

MARCH 8

Engineering Innovations Forum, Toronto, ON
innovationforum.peo.on.ca

MARCH 13-15

4th International Conference on Civil & Urban Engineering, Prague, Czech Republic
www.iccue.org



MARCH 1-31

National Engineering Month events, across Ontario
www.nemontario.ca

MARCH 2-5

The Construction Institute Summit, Anaheim, CA
www.cisummit.org



MARCH 25-29

SPIE Smart Structures/NDE 2017, Portland, ON
spie.org/conferences-and-exhibitions/smart-structures/nde



ENGINEERS STILL AMONG LEADERS IN MEETING DIVERSITY CHALLENGE

THE FLOW OF INTERNATIONALLY EDUCATED APPLICANTS SEEKING LICENSURE MAY HAVE SLOWED IN RECENT YEARS, BUT ONGOING EFFORTS TO ACCOMMODATE THEM HAVE BROUGHT A NEW APPRECIATION FOR DIVERSITY AND INCLUSIVENESS IN PEO'S OVERALL OPERATIONS.

BY MICHAEL MASTROMATTEO

In the days leading up to the Ontario government's implementation of the *Fair Access to Regulated Professions Act* (FARPA) in 2006, there was much attention on the plight of internationally educated professionals—engineering graduates among them—driving taxicabs or taking similar survival jobs to make ends meet in their newly adopted province.

In fact, FARPA marked a major shift in public policy aimed at accommodating the needs of internationally educated professionals as they sought to establish their careers in Ontario.

This act required certain regulated professions to have fair registration practices. The act also established the Office of the Fairness Commissioner (OFC) to make sure the professions comply with the law. The OFC's guiding principle is that regulatory bodies in Ontario must ensure their applicant assessments are transparent, objective, impartial and fair.

Although engineering was often unfairly targeted as the profession least receptive to the skill and talents of international applicants, PEO was actually a leader in accommodating internationally educated professionals in the licensing process.

As early as 2004, PEO's then CEO and registrar Kim Allen, P.Eng., FEC, was actively involved with immigrant advocacy associations,

such as the Toronto Region Immigrant Employment Council (TRIEC), to study what might be done to guide international engineering graduates, or IEGs, through the profession's complex licensing and registration processes.

This eventually led to the development of "bridging" programs to help IEGs overcome education-related gaps in their credentials, and even mentoring efforts, which now have helped hundreds of IEGs stay on the path to licensure.

The timing was just about right, too. Between about 1998 and 2006, the proportion of PEO members who were internationally educated and trained increased year over year, as a proportion of PEO's existing membership base.

However, according to Michael Price, P.Eng., FEC, PEO's deputy registrar of licensing and registration, the actual number of IEG applicants has remained steady at 1700 to 1800 per year during the past 10 years and they continue to represent more than one-third of the new licences PEO issues each year. "Ontario experienced inordinately high levels of immigration in the early 2000s, but those levels of immigration have declined in the past 10 years," Price says.

Despite a change in recent immigration patterns, the experience of the 10 years from 1996 to 2006 prompted PEO to not only consider registration barriers for IEGs but also how enhanced accommodation of immigrant applicants would better serve the interests of diversity and inclusiveness.

MAPS AND GUIDEPOSTS

Engineers Canada, the national engineering association, also responded to the needs of IEGs. With support from PEO and other Canadian engineering regulators, Engineers Canada developed the International Institutes and Degrees Database to provide timely information on various degrees and institutions around the world that have been compared to Canadian standards. The database is a tool that allows all Canadian regulators to fairly assess the academic qualifications of IEG applicants and determine if they meet the requirements to be licensed to practise in Canada.

With funding from Citizenship and Immigration Canada, Engineers Canada also created the Roadmap to Engineering in Canada website (newcomers.engineerscanada.ca) to provide a central location for IEGs to access information on entering Canada's engineering profession. This website has information on a range of topics such as getting licensed, finding the right employment, fitting into the Canadian engineering profession, and immigration to Canada, and is used by more international professionals seeking licensure than any other resource website in Canada.

So while the number of IEGs looking to register with PEO has not increased in recent years, and the number of Canadian engineering program licensing applicants has doubled, PEO and the current cohort of IEGs have reaped the benefits of initiatives put in place to accommodate the needs of their predecessors. In a way, previous efforts to respond to IEG needs has abetted the regulator's commitment to bring more diversity and inclusiveness into the profession (see sidebar, p. 33).

Prior to the fair access legislation, PEO began highlighting its efforts to accommodate IEGs. At the time, IEGs were described as a welcome addition to the talent pool for building a skilled and diverse Canada. In 2005, for the first time in its history, PEO licensed more IEGs than graduates of Canadian accredited engineering programs despite the fact that, on average, only one-quarter of IEGs typically apply for a licence. The situation was repeated in 2006 and 2007.



New Canadians are the talent pool for building a skilled and diverse Canada. For international engineering graduates seeking licensure in Ontario, PEO offers valuable guides, brochures and even mentorship opportunities to help them through the process.

By 2010, PEO championed a change in the *Professional Engineers Act* to eliminate the requirement for an applicant to be a Canadian citizen or permanent resident in order to be licensed as an Ontario P.Eng.

The Ontario regulator early on updated its website to provide IEGs and would-be applicants greater information on how to apply for the Ontario P.Eng., and what steps are required to have academic and experience histories evaluated for Canadian equivalency.

PEO also introduced opportunities for international applicants to begin the registration process prior to their arrival in Ontario. These efforts were combined with financial incentives to ease the initial costs of application.

One of the celebrated efforts was PEO's Engineering Intern Financial Credit Program (FCP), which combines financial incentives, mentoring, guidance and networking possibilities to help accommodate newcomers to the profession.

Instituted in 2007, the FCP was expected to boost membership growth, and was designed to complement activities such as raising employer awareness of the added value licensed engineers provide and increasing the public's confidence in the licence.

These efforts were seen as building blocks to engage unlicensed engineering graduates, retain non-practising licence holders, increase licence uptake by engineering graduates and to encourage IEGs to apply to PEO upon landing in Canada.

IEGs enrolling in the program were (and are) eligible to participate in a complementary Licensure Assistance Program (LAP), which was set up to link engineering interns with licensed professional engineer mentors who guide newcomers through the licensing process.

Operating predominantly through the PEO chapter system, the LAP has created greater access points between IEGs and the engineering regulator. Due to the tendency of IEGs to settle in larger urban centres, many PEO chapters in smaller communities have yet to set up a LAP. Those that have, however, are reporting impressive results.

George Dimitrov, P.Eng., of PEO's Etobicoke Chapter, has been a LAP volunteer for nearly four years. He arrived with his parents from Bulgaria in the early 1990s and recalls their struggle adjusting to life in Canada. "Helping today's IEGs in any way I can puts me in the mind of my own parents' struggles all those years ago," Dimitrov said in an interview. "These kinds of efforts are something most chapters should take to heart to help potential members. In this way, the chapters have a great opportunity to engage their local communities in a positive, socially committed way."

Similarly, Gareth Wood, P.Eng., a four-year volunteer with the Ottawa Chapter, began mentoring after serving as a committee member of the Institution of Engineering and Technology.

"There is a degree of complexity in the [registration] process and, of course, not only do IEGs have to face the cultural changes of Canada, but some are experienced engineers who now have to retrain and go through a whole new process. There is always some friction on this issue," Wood says.

BRINGING OUT THE BEST

Wood, a current director with the Ottawa Chapter, says that while the ongoing efforts work well, there are always new things to consider in bringing the best out of IEGs and, in turn, promoting more diversity within the profession.

"The Ottawa Chapter has been leading the way in the Licensure Assistance Program and our yearly applicants are testament to both the interest and the popularity of the program," he says. "I think each chapter should look at assisting the IEGs as early as we can and attempt to bring them into the engineering community as quickly as possible. Each chapter member certainly has a professional obligation to nurture the profession at a grassroots level and this helps our Ottawa Chapter to be diverse and connected."

Wood welcomes PEO's work with IEGs as an additional way of bringing new thinking and different experiences into Ontario operations: "As Canadian engineers, we should of course always embrace this invaluable perspective and continue to make the profession stronger."

Not all mentors working with IEGs are part of the LAP or the chapter system, however. For example, Saleha Hussain, P.Eng., a building engineer with the City of Toronto, became a mentor with the City of Toronto's own Profession to Profession Mentoring Immigrants Program.

Hussain says neither the engineering profession nor PEO has any official responsibility to adjust its licensing requirements to make

things easier for IEGs. Nonetheless, there are other things they might do in the interests of diversity and inclusiveness.

"The opportunity of helping out has mutual benefits for all," Hussain told *Engineering Dimensions*. "The helpers get the high from being able to do some good; those receiving the help feel taken care of and guided. Without an institution that connects these two groups of people, it is very difficult to create this caring society. This is where PEO can make the biggest impact, by offering the platform to connect on."

Hussain has mentored a number of new immigrants and is now helping Canadian students at the high school and university level. All groups—whether local or internationally educated—benefit from mentoring, she says.

"Ontario, being the most diverse province in Canada, it makes sense for the engineering profession of Ontario to reflect the same diversity in its numbers since it is a microcosm of the society at large," Hussain says. "Because half of all new immigrants to Canada settle down in Ontario, it is only fair if this diversity were reflected in all its professions, including engineering."

She suggests that ignoring the needs of IEGs could result in a two-tier society in which local graduates are given a lion's share of the jobs while disregarding the human potential in the new immigrant group.

"Other professions, including medicine and law, have similar needs of their IEGs and perhaps much insight can be gained by building bridges with other professional organizations and learning how they handle this challenge," she says.

Elmer Ting, P.Eng., head of the York Chapter's mentoring program, agrees and says he understands the struggles of IEGs looking to establish themselves.

"In my current role as mentorship and engineering intern (EIT) director, it's great to be able to help EITs towards licensure and help them make meaningful connections with engineers in the Licensure Assistance Program," Ting says.

Ting also says explaining the rigour of the PEO licensing process is another important step in accommodating IEGs. "Some of the steps to prove sufficient education and experience may be a bit onerous, but applicants and the public need to know that this is done to ensure that a licence upholds these standards," he adds. "All applicants into the profession should be treated equally, but fairly."

PEO's efforts at welcoming and accommodating IEGs is clear recognition that international applicants are a welcome addition to the Ontario workforce.

"We work in a global economy and IEGs bring a wealth of knowledge and experience from their countries that can benefit Ontario's engineering profession," Ting says. "IEGs can provide insight into markets and political systems that can allow engineering firms to compete outside of Ontario and Canada."

As recently as the October 26 engineering reception at Queen's Park, MPPs made note of PEO's work in this area. Michael Colle, Liberal MPP for the Lawrence-Eglinton riding, was minister of citizenship and immigration in 2006 when the fairness legislation came into being. "Many of you can recall the days when engineers of Ontario used to

be blamed for the fact that internationally educated engineers arriving in Canada couldn't get jobs," Colle said. "It wasn't your doing, but today I think we've worked that out. We now have one of the most progressive approaches to foreign trained engineers anywhere in the free world, with our fairness commissioner, and educating the public about the standards and the benchmarks we have here in Ontario. Subsequently, I think the number of graduates who are foreign trained is just remarkable, and a credit to all of you who are engineers in Ontario. You have taken that challenge on and done it very well." **e**

PEO COMMITTEE ANTICIPATED VALUE OF BRINGING DIVERSITY TO REGISTRATION PROCESS

Among regulated professions, PEO was an early adopter of best practices around diversity and inclusion. In 2004—two years prior to the provincial government's *Fair Access to Regulated Professions Act*—PEO established an Equity and Diversity Committee (EDC) with a mandate to recommend action plans to integrate equity and diversity values and principles into the general policy and business operations of PEO. In its latest strategic plan, PEO remains committed to integrating "equity and diversity values and principles" into general policy and business operations.

Márta Ecsedi, P.Eng., FEC, chair of PEO's EDC, believes PEO's efforts to welcome IEGs has spurred an appreciation for other ways in which the regulator can promote diversity among membership. She also believes PEO's work in support of internationally educated applicants has advanced the cause of diversity in its overall operations.

"As far as I'm concerned, we've won that battle," Ecsedi told *Engineering Dimensions*. "PEO has

worked hard to bring more equity to its administrative procedures and practices, and a lot of the work was motivated by the need to accommodate the internationally trained and to treat them fairly when they looked to become licensed in Ontario."

Ecsedi, whose parents were both internationally educated professionals from Hungary, is especially supportive of equity initiatives, not just for IEGs but for all under-represented communities—including women, aboriginals and persons with disabilities.

The EDC chair has gone the extra mile in helping applicants navigate the PEO system. On occasion, she serves as an advocate or ombudsman for selected applicants who require extra help in pursuit of licensure. Over the last decade, she has advocated for at least five applicants, IEGs and Canadian-born, who eventually attained their P.Eng.

"To make our system more equitable, we have to make it easier to evaluate applicants from differing backgrounds," she adds. "It's never going to be exactly the same way for each applicant but I think PEO has done a good job in being open and honest about the requirements, and has always looked to treat each applicant in the most even-handed manner possible."

REGULATOR LEARNS HOW TO DEVELOP ONE VOICE AT THE FIRST PEO/OSPE GOVERNMENT RELATIONS CONFERENCE

By Howard Brown and Blake Keidan



Participants at the PEO/OSPE Government Relations Conference gathered for a group photo on the main staircase of Hart House of the University of Toronto. Flanking MPP Arthur Potts (front row, centre) are PEO President George Comrie, P.Eng., FEC (left), and OSPE President and Chair Michael Monette, P.Eng. (right). PEO Registrar Gerard McDonald, P.Eng., and OSPE CEO Sandro Perruzza are at the far right side of the first row.

An all-party panel of MPPs, including (left to right) Jim McDonell, P.Eng. (PC, Stormont-Dundas-South Glengarry), Arthur Potts (Liberal, Beaches-East York) and Catherine Fife (NDP, Kitchener-Waterloo), discussed various ways organizations like PEO can bring their message to elected officials.

It's hard to make a friend when you need a friend. Sheena Weir, director of public affairs for the Law Society of Upper Canada, shared this advice in a panel discussion during the first PEO and Ontario Society of Professional Engineers (OSPE) Government Relations Conference on October 26, 2016. The conference focused on building PEO and OSPE's relationship so they can work together effectively and improve their government relations initiatives. Weir's comment emphasizes the fact that asking for help from someone you have no prior relationship with means they are far less likely to say yes.

The conference panel featured other industry regulatory and advocacy body representatives who discussed best practices for government relations, including Chris Cheung, P.Eng., director of policy and public affairs for the Ontario Bar Association, and Chris May, director of government affairs for the Chartered Professional Accountants of Ontario. They all spoke extensively, providing specific suggestions on how regulatory and advocacy bodies can work together to build stronger relationships.

"Developing a relationship beforehand means [the government] knows who you are when you go in," said May, reiterating the same point as Weir.

That is why PEO works to build strong relationships with MPPs through the Government Liaison Program. Regulators for other industries take extensive measures to build their own relationships, as Weir and May pointed out. They understand that anything that affects one affects all. "You can build a stronger coalition when all are singing from the same song sheet," said Weir.

DIFFERING ROLES

Like the division of responsibilities across the levels of government, so too are there differing roles between PEO and OSPE for the engineers of Ontario. PEO is the licensing and regulatory body, whereas OSPE advocates with government and provides opportunities for ongoing learning, networking and community building.

When it comes to advocacy, OSPE is working to develop its relationship with government to address issues of policy, such as the engineering labour market, the environment and climate change, or getting more women into the profession. PEO, on the other hand, is working to develop relationships in its work with government to regulate the profession. When PEO needs to change legislation or raise its profile, it helps to have government insiders guiding them through the process.

For example, PEO has been fighting for the repeal of section 12(3)(a) of the *Professional Engineers Act* for years. In the 2015 Fall Economic Statement, the government said it

would discontinue the repeal—and this was formalized last year in the 2016 *Burden Reduction Act*.

Thanks to its relationships with MPPs, PEO was able to achieve the following in 2016:

- Vic Fedeli, MPP (Nipissing), Progressive Conservative (PC) finance critic, tabled an Order Paper Question to the Ministry of Labour on February 16.
- Jagmeet Singh, MPP (Bramalea-Gore-Malton), New Democratic Party (NDP) deputy leader, and attorney general and government and consumer services critic, tabled an Order Paper Question to the Ministry of Labour on February 16.
- The following all spoke out in favour of PEO's position in the legislature when the *Burden Reduction Act* was discussed on November 15: Steve Clark, MPP (Leeds-Grenville), deputy PC leader and tourism, culture and sport critic; Wayne Gates, MPP (Niagara Falls), NDP transportation critic; Monte McNaughton, MPP (Lambton-Kent-Middlesex), PC economic development, employment, growth and infrastructure critic; Taras Natyshak, MPP (Essex), NDP economic development, employment and infrastructure critic; Peggy Sattler, MPP (London West), NDP women's issues, training, colleges, universities, research and innovation critic; and Jagmeet Singh.

PEO's relationships have been tremendously valuable when addressing regulatory issues like the industrial exception, the building code and more. As PEO representatives learned at the conference, regulators need to be consistent in their contact with MPPs in order to build lasting relationships.

EFFECTIVE COLLABORATION

NDP Leader Andrea Horwath, MPP (Hamilton Centre), delivered the afternoon keynote speech at the conference. She congratulated PEO and OSPE on their high standards and for the hard work they carry out in the province. She also reaffirmed her party's support for PEO in repealing the industrial exception, citing it as a matter of public safety.

The conference also had an MPP panel, which included Arthur Potts, MPP (Beaches-East York), parliamentary assistant to the minister of the environment and climate change; Jim McDonnell, P.Eng., MPP (Stormont-Dundas-South Glengarry), PC government and consumer services critic; and Catherine Fife, MPP (Kitchener-Waterloo), NDP finance and treasury board critic. They provided a perspective from elected officials about how organizations can better get their message in front of politicians.

OSPE and PEO have a lot to gain from stronger ties moving forward. It is a watershed moment, marking real progress towards effective collaboration. [e](#)

Do you know about the PEAK program?

IT'S COMING MARCH 31, 2017

PEO will soon launch its Practice Evaluation and Knowledge (PEAK) program for all licence holders.

This unique program is designed to improve the regulatory profile of PEO licence holders and encourage individualized continuing knowledge development.

Visit www.peopeak.ca to learn more about the program, test the practice evaluation questionnaire and see the sample reporting mechanism.



FOCUS ON PUBLIC DUTY DISTINGUISHES PEO'S NON-PROFIT STATUS

By Andrew Tapp



As part of its ongoing review of governance-related activity, PEO would do well to consider its status as a non-profit organization, and how non-profit groups line up against their for-profit counterparts. For-profit and non-profit organizations have much in common, but there are also significant differences.

The non-profit/for-profit comparison is even more relevant for PEO in getting the most from its volunteer resources, and providing leadership training and development for members who get involved with committees and other administrative panels.

The most obvious difference between the two types of boards is their purpose: for-profit boards are responsible for making a profit, while non-profit boards are responsible for fulfilling an organization's mission.

However, there is debate over whether these goals really are exclusive. Arthur D. Collins and Sophia Shaw of Acorn Advisors, advisors for non-profit organizations, say that success for any organization—for-profit or non-profit—depends on devotion to a concrete mission. On the other hand, Espen Eckbo, professor of finance and director of the Center for Corporate Governance at Dartmouth College, believes non-profits should focus on numbers over mission and act like for-profits because "their job is the same to: maximize the pie, maximize resources." As a professional regulator, PEO is very much a mission-focused organization; all other considerations are secondary to protecting the public.

Members of for-profit and non-profit boards also have similar duties. The "duty to care" means each board member should act as a "reasonable person" in the fulfillment of their duties, and the "duty of loyalty" requires

that board members put the organization before themselves. Non-profit board members have one additional duty: the "duty of obedience" that compels them to remain supportive of the organization's mission.

For-profit and non-profit boards share other responsibilities as well. Both must select the person who will be in charge of the day-to-day operations of the organization, select capable board members, and create or commission operational plans—although non-profit board members are often more involved in creating those plans than their for-profit colleagues.

Larger differences between for-profit and non-profit boards can be seen on a structural level. While all boards will have some committees, for-profit board committees will be focused on finances and governance, while non-profits often have additional committees related to the purpose of the organization, such as PEO's Licensing and Registration committees. There is also a significant difference in the number of committees maintained by each board type. Many for-profit boards will generally have one or two committees in addition to the ones set down in that organization's founding documents—such as the *Professional Engineers Act* for PEO—while non-profit boards often have large numbers of additional committees. PEO alone has 20, in addition to its six board committees. Non-profit boards often have more members as well: for-profit boards typically have between 10 and 15 members, while non-profit boards can have up to five times that size.

While differences exist between them, both non-profit and for-profit boards are in the business of leadership and have a responsibility to ensure their organization accomplishes its goals. Both types of organizations can learn from the other. Non-profit boards tend to be better than their for-profit corporations at handling conflicts of interest, and their members are often more informed about the organization's business than the average shareholder. However, for-profit boards' smaller size leads to a greater likelihood of consensus, and a greater responsibility among individual board members.

During periods of review and evaluation, PEO should always be cognizant of what we can learn from our corporate cousins. **e**

Andrew Tapp is PEO's policy analyst.

SOURCES

Collins, Arthur D. and Sophia Shaw. "For-profit and Nonprofit Boards of Directors: Similarities, Differences, and Keys to Success." Acorn Advisors, May 1, 2016, acorn-advisors.com/for-profit-and-nonprofit-boards-of-directors-similarities-differences-and-keys-to-success/.

Larson, Laurie. "Who Does It Better? The Corporate versus the Nonprofit Governance Model." *Trustee*, vol. 58, no. 5, 2008, groups.cob.ohio-state.edu/fbf/files/For-profit-vs-nonprofit.pdf.

Rosenblatt, Betsy. "Nonprofit and Corporate Boards: Same or Different?" CompassPoint, December 21, 2000, www.compasspoint.org/board-cafe/nonprofit-and-corporate-boards-same-or-different.

Silverthorne, Sean. "The Difficult Transition from For-Profit to Nonprofit Boards." Harvard Business School Working Knowledge, May 12, 2011, hbswk.hbs.edu/item/the-difficult-transition-from-for-profit-to-nonprofit-boards.

Takagi, Gene. "Why Nonprofit Governance is Different from For-profit Governance." Nonprofit Law Blog, May 4, 2015, www.nonprofitlawblog.com/why-nonprofit-governance-is-different-from-for-profit-governance/.

COUNCIL APPROVES IMPLEMENTATION OF NEW PEAK PROGRAM

By Nicole Axworthy

509TH MEETING, NOVEMBER 17, 18, 2016

At its November meeting, council received a report with recommendations from the Continuing Professional Competence Program Task Force, and approved implementation of the newly renamed Practice Evaluation and Knowledge (PEAK) program beginning March 31, 2017. Council directed the task force to provide its recommended constraints and guiding principles at the February council meeting to finalize the report.

The PEAK program was developed following in-depth research by two PEO task forces and significant consultation with licence holders, including two focus groups and seven town hall meetings held across the province from September to November 2015. The program is designed to provide an accurate regulatory profile of both practising and non-practising PEO licence holders and consists of three main elements:

1. an online practice evaluation questionnaire;
2. a continuing knowledge declaration (for practising licence holders only); and
3. an online ethics module.

As of March 31, 2017, licence renewal notices to all licence holders will contain a request encouraging participation in the program. Until the official launch of the program, the beta version of the practice evaluation questionnaire will continue to be available to licence holders for testing via PEO's member portal.

After a one-year trial, PEO's registrar is expected to provide a report to council at its June 2018 meeting with data showing the participation rates and other analysis, and provide recommendations to council on next steps.

Further information on the PEAK program, including a detailed FAQ section, is available at www.peopeak.ca.

BUDGETS APPROVED

Council has approved the 2017 operating and capital budgets, as recommended by the Finance Committee. Both budgets are balanced and meet council's reserve requirements.

In the draft operating budget, total revenues are budgeted at \$26 million and total expenses at \$25.5 million, leaving a surplus of \$507,000 for the year. The forecasted revenue represents an increase of \$1.2 million or 4.9 per cent over the 2016 forecasted revenue, which is mainly due to:

- an increase in PEO headquarters revenues of \$482,000 due to leasing in 2017 of vacant space on the fourth and eighth floors;
- an increase in application, registration, exam and other fees of \$422,000 due to an increase in exams written, and Certificate of Authorization applications and registrations; and
- an increase in P.Eng. revenue dues of \$264,000 due to a natural growth in P.Eng. membership based on the historical trend.

PEO engineering licence fees for 2017 will remain frozen for the ninth consecutive year, representing a continuing real reduction in the tax on members. For the seventh consecutive year, all other fees will also remain unchanged.

Budgeted expenses for 2017 are expected to increase by \$961,000 or 3.9 per cent over the forecasted 2016 expenses. This increase is due largely to:

- an increase in employee salaries and benefits and retiree and future benefits of \$453,000 due to a projected 3 per cent merit increase in staff salaries and CPI adjustments, and new positions of IT manager and assistant manager of registration;
- an increase of \$120,000 for chapters due to a one-time increase in allotments requested by the Regional Councillors Committee, and a higher travel budget for attendance at meetings;
- an increase of \$113,000 for volunteer business expenses due to higher costs for travel to Thunder Bay for the 2017 annual general meeting and related events, and an increase in costs for meals, mileage, accommodation and travel expenses for attending committee meetings and conferences;
- an increase of \$93,900 in amortization due largely to the completion of phase 1 of the new Aptify database in early 2016; and
- an increase of \$83,600 in purchased services due largely to higher costs for event meals and related expenses for the 2017 annual general meeting in Thunder Bay, higher costs for marking and setting exams, higher costs for producing and printing *Engineering Dimensions*, and costs for a planned policy development survey.

The increased expenses will be partially offset by reductions of:

- \$60,500 in consultants due to the conclusion of the Aptify membership database project;
- \$54,700 in contract staff since no contractors are expected to be hired in 2017; and
- \$16,900 in legal costs due to a decrease in requirements for independent legal counsel for complaint reviews, lower expenses for hearing-related activities, and the elimination of costs for investigations related to the repeal of the industrial exception.

The capital budget for 2017 is \$2.47 million, which comprises capital improvements to PEO headquarters (\$1.38 million), information technology (IT) (\$1.05 million) and facilities (\$20,000). Capital improvements planned for 40 Sheppard include elevator upgrades, replacement of insulated glazing units of exterior windows, heat pump replacement, painting, and leasehold improvements for potential tenants. Significant IT expenditures for the year include building

an online licensing system, upgrading the PEO website, upgrading the internal facing Intranet, Aptify enhancements and various hardware upgrades. The planned facilities expenditure for 2017 includes purchasing needed office furniture.

BORROWING RESOLUTION

Council carried a motion to renew PEO's borrowing policy, which includes an operating line of credit and corporate credit cards with Scotiabank, until January 31, 2018. Council approved an operating overdraft for an amount not to exceed \$250,000, and use of corporate credit cards with an aggregate limit not to exceed \$120,000. Council was told PEO has an adequate cash flow to meet its business requirements on a regular basis, and the overdraft facility is only for contingency purposes. Corporate credit cards provide convenience to senior volunteers and staff for PEO-related business expenditures, and the credit card balances are paid off every month.

REVISED INVESTMENT POLICIES

Council has approved revised investment policies for the assets in PEO's operating reserve fund and registered employee pension plan to incorporate suggestions from PEO's investment managers to modify the asset mix of both policies in order to assist PEO in achieving its risk and return objectives.

These investment portfolios are separate funds that are managed in accordance with their individual mandates. PEO has not reviewed or updated the investment policies for both of these funds since 2009. An Investment Subcommittee was created in 2015 to assess the performance of these funds and, after extensive discussions, decided these modifications were needed.

NEW AND REVISED GUIDELINES

Council has approved a practice guideline for professional engineers who are performing structural condition assessments of existing buildings. The guideline, *Structural Condition Assessments of Existing Buildings and Designated Structures*, developed by PEO's Professional Standards Committee (PSC), provides professional engineers with best practices for conducting their work, with special emphasis on their duties to their employers, clients and the public. Its purpose is to define the professional and technical requirements imposed on practitioners who perform this type of work.

The PSC has been authorized by council to form an Environmental Site Assessment, Remediation and Management Subcommittee, as well as a Professional Engineers Providing Reports on Mineral Projects Subcommittee, to review and revise the existing relevant guidelines to better

reflect current best practices, and consider changes to legislation affecting industry and professional engineering. The current guideline *Professional Engineers Providing Services in Environmental Site Assessment, Remediation and Management* was published in 1996, and the guideline *Professional Engineers Providing Reports on Mineral Properties* was published in 2002. In the intervening years, there have been numerous changes to the technical guidelines and standards that affect both environmental site assessment and remediation, and the exploration and mining industry.

Council also approved the formation of a Coordinating Licensed Professional Joint Subcommittee to prepare a joint practice guideline with the Ontario Association of Architects (OAA) that would be endorsed by both PEO and the OAA. Coordinating licensed professionals will coordinate the design work of architects and engineers for buildings required to be designed by an architect, an engineer, or both as per the *Professional Engineers Act*, the *Architects Act* and the Ontario Building Code. At its June 2014 meeting, PEO council supported in principle that a professional coordinator be mandated in the Ontario Building Code (see In Council, *Engineering Dimensions*, July/August 2014, p. 39).

The joint subcommittee will be comprised of three architects and three engineers engaged in the practice of coordinating design work of architects and engineering in building projects, and the subcommittee is expected to complete a draft joint practice guideline and present it to PEO's PSC and OAA Practice Committee no later than December 2017. The joint committee will also develop an accompanying performance standard once the Ministry of Municipal Affairs and Housing announces changes to the *Building Code Act*.

During the development of these new and revised guidelines, PEO staff and subcommittee members will consult with practitioners and stakeholders, and when the draft documents are complete they will be posted to the PEO website for public consultation. **e**



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Where we stand

Stephen Jack,
P.Eng.,
Toronto, ON

I want to congratulate George Comrie on his President's Message "Competence assurance for professional engineers" in the current issue of *Engineering Dimensions* (November/December 2016, p. 3).

The issue of continuing professional development or continuing professional competence has been a topic of debate on PEO council for as long as I've been a member (since 1968) and during the time (25 years) I served as a PEO staff member. There have been innumerable PEO task forces, committees, referenda and debates on this topic over five decades and now I'm pleased to see the yardsticks have moved to the goal line—almost.

Your article is the clearest, most concise and persuasive summary of where the profession stands on this important issue that I have seen. I suggest that your article or an edited excerpt of the same be incorporated into the professional practice and ethics material in Ontario engineering student curriculum.

A burden to members

Anthony D. Vlassopoulos, P.Eng.,
Toronto, ON

The President's Message "Competence assurance for professional engineers" in the November/December issue (p. 3) was very thoughtfully written but leaves the impression that there is another make-work program for bureaucrats and administrators coming down to add to the burden of members.

The message defines competence appropriately, I think—as an amalgam of knowledge, skill and character. But then comes the suggestion that all three should be measured annually, including character. Sorry, it can't be so. Character is quite deep and doesn't change easily, and its judgment cannot be left to some remote individual—on an annual basis, no less.

There are two important facts stressed in the message:

- The Elliot Lake Commission of Inquiry did not hear any evidence that the tragedy might have been averted if mandatory continuing education had been in place for our members; and
- Complaints against professional engineers most often involve misconduct, not incompetence.

Good points indeed. I am also impressed, like Mr. Comrie, by the principle espoused by our task force on the subject that only individual practitioners can determine what to learn to improve their practice and remain competent.

So, with this background, what seems to be the practical suggestion in the message? That members should be forced to (a) complete annually an ethics module, (b) complete a questionnaire on their practice, (c) declare type, duration and cost of their activities, and (d) complete specific competence assurance activities that PEO may impose on them to renew their licence.

Incredible! A much better and much simpler approach would be to send members an annual questionnaire composed in a way that engages them to reflect on their practice, and decide for themselves what they should do to reduce risk to the public and remain competent.

Then leave it at that, without need for some remote cognoscenti marking scores, making judgments and imposing requirements on our members or even offering suggestions.

LETTERS TO THE EDITOR are welcomed, but must be kept to no more than 500 words, and are subject to editing for length, clarity and style. Publication is at the editor's discretion; unsigned letters will not be published. The ideas expressed do not necessarily reflect the opinions and policies of the association, nor does the association assume responsibility for the opinions expressed. Emailed letters should be sent with "Letter to the editor" in the subject line. All letters pertaining to a current PEO issue are also forwarded to the appropriate committee for information. Address letters to naxworthy@peo.on.ca.

Recent articles about the industrial exception in *Engineering Dimensions* prompt me to share my views.

With all due respect, we (PEO) have given an incomplete and simplistic depiction of the industrial exception situation to the press and may even have tended to trivialize it. It is not an issue of the design of guards and personnel safety on machines making widgets or “dangerous” common machine shop tools.

In Ontario, we have a large number of industrial employees, many of whom have the credentials to qualify for membership and do engineering as described by the *Professional Engineers Act* but shun membership. Engineering is also done by employees who would not be eligible for PEO membership. I would suggest that the vast majority of PEO members who work as employee engineers do so because membership gives them attractive resume credentials in the event they get “downsized.” Their jobs do not require membership and they work side by side with licensed and non-licensed folks doing the same work.

The reality is that large companies have internal engineering divisions and departments staffed with managers, supervisors and folks doing engineering that do not follow the practices and rigour that a Certificate of Authorization firm would if it did the exact same work for the “client” company for a fee. Does this protect the public? How, then, does PEO exercise its regulatory mandate? To my mind it does not and with the industrial exception it cannot.

Exempt in-house engineering is not limited to simple machinery and equipment to make products. One industry example: petroleum/petrochemical/refining involves the engineering of complex chemical processes, piping systems, safety shutdown systems, and systems that treat effluent or mitigate environmental impacts. If the standards, checks and procedures and qualifications (competence) in-house are less than those offered by an engineering firm offering the same services to that industry, public protection may well be compromised.

With carbon tax and cap and trade regulations imminent, exempt folks will engineer changes to “their employer’s facilities.” How will PEO fulfill its mandate to protect the public? Perhaps PEO should concentrate on regulating, disciplining and assuring the competence of those individuals and firms that provide engineering services to the public and pass the responsibility for industrially exempt engineering to the province. After all, it is the province that has legislated the exception. PEO can then be called upon by the province as an advisor in this matter if they deem it necessary.

Editor’s note: PEO’s enforcement team confirms that the author is quite correct that the industrial exception includes the complex processes described in his example. Such complex systems are considered to be machinery and equipment as defined under the exception inasmuch as these types of plants produce both saleable and waste products. PEO is unable to regulate this engineering work that is permitted under the exception, and delegation to government might create confusion for the public or a disparity in the respective standards of regulation.

Simplifying the situation

Elio Comello, P.Eng., Camlachie, ON

Rebar response

Frank N. Smith,
PhD, P.Eng.,
Kingston, ON

In his letter, Mr. Clutterbuck stated that I was “not aware that there is, in fact, a steel mill in Canada capable of producing stainless steel for rebar” (“Last remaining mill in Canada,” *Engineering Dimensions*, November/December 2016, p. 68). In fact, I was well aware that ASW Steel Inc. produces stainless steel billets and blooms. These are usually considered as intermediate products that require re-heating and further work (e.g. rolling) in order to produce end-user products—such as rebar.

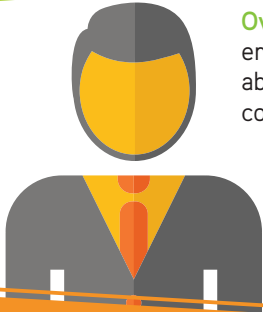
A recent survey indicates that stainless steel rebar is not currently produced (rolled) in Canada—by ASW or by any other organization. Referring to the stainless steel rebar market, Mr. Clutterbuck goes on to say in his letter that “Re-entering this market is anticipated....” It is hoped that their endeavours prove to be successful and that ASW will, in the future, be able to produce the high-quality, long-lasting stainless steel rebar that Canadian infrastructure projects require and deserve.

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¹ Human Resources and Skills Development Canada: 2006 Survey of Self-Employed Individuals: Perceptions of Benefit Coverage, May 2006.

³ Chaplin R, Earl L. Household spending on health care. Health Reports 2000; 12(1): 57-65.

⁵ Canada Life and Health Insurance Association, A guide to disability insurance, November 2012.

⁷ Disability Insurance: Where Will the Money Come From If You're Disabled? Canadian Life and Health Insurance Association, January 2004.

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² Canadians at Financial Risk: 2013 Canadian Life Insurance Ownership Study Highlights, LIMRA, 2013.

⁴ Statistics Canada: Trends in out-of-pocket health care expenditures in Canada, by household income, 1997 to 2009 (April 2014).

⁶ Get Sick, Get Out: The Medical Causes of Home Mortgage Foreclosures. Health Matrix: Journal of Law-Medicine, Vol. 18, No. 65, 2008.

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