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Ontario

# ENGINEERING DIMENSIONS

JANUARY/FEBRUARY 2016

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# BETTER VALUE FOR OUR PROFESSION IS ALWAYS POSSIBLE

Thomas Chong, MSc, P.Eng., FEC, PMP
President

IT WAS LIKE A BETRAYAL on November 26, 2015, when the Ontario government reversed its five-year legislative commitment to repeal clause (a) of subsection 12(3) of the *Professional Engineers Act* (PEA). The current PEA allows non-licensed people to do professional engineering work on machinery or equipment used to produce products for their employers at their employers' facilities. It is often called the "industrial exception."

Specifically, under the heading of "Lowering Business Costs through Modernized Regulations," the government stated its intention to implement measures "on an expedited basis" aimed at, among other things, "permanently maintaining the industrial exception in the *Professional Engineers Act*."

To say PEO is extremely disappointed at this turn of events is, perhaps, an understatement, and we have made our disappointment publicly known. Within hours of the government's statement, we issued a media release in which we condemned the government's reversal of its commitment to repeal the exception.

In PEO's statement, I noted our shock at the government's decision, which had been taken after consultations to which PEO was not a party and which I described as "not in keeping with PEO's position as a valued stakeholder that traditionally works in partnership with government to serve and protect the health, safety and economic interests of all Ontarians." I also noted that the repeal would have been implemented without any expense to taxpayers and little cost to employers because of measures PEO had put in place to ease the transition for employers.

You can read the full text of PEO's media release at: www.peo.on.ca/index.php?ci_id=29315&la_id=1.

Since the government's June 2013 decision to postpone its announced September 1, 2013 effective date for the repeal, PEO has been working with the Ministry of Labour on research into recent prosecutions under the *Occupational Health and Safety Act* involving injuries to employees in manufacturing environments. A report on this research is expected shortly.

We have also spent heavily in assisting manufacturers to achieve voluntary compliance, investing close to $500,000 to assist companies with their licensing costs. Based on PEO's outreach to industry, we believe only 7 per cent of manufacturing employers are likely to have been affected by the repeal, were it implemented.

I followed up the media release with an appeal to members to make their MPPs aware of their displeasure with the government's decision. My email included sample text you might use in your letters. You can find the sample letter for you to adapt at www.peo.on.ca/index.php/ci_id/29330/1a_id/1.htm. Thank you to those who copied me on their letters and also to those who wrote and did not send a copy to me. PEO representatives have also met with Progressive Conservative and NDP MPPs, to brief them on this situation, and I have written directly to the premier.

Interestingly, Ontario is the only province with such an exception to its licensing requirements in its engineering act, and Engineers Canada issued a media release on November 30 in support of PEO: https://www.engineerscanada.ca/news/engineers-canada-concerned-ontario-government-decision-will-negatively-impact-workplace-health.

Permanently abandoning the repeal of the industrial exception signals to Ontario industry that it does not need engineering licence holders to be successful. It is analogous to saying medical doctors do not need to be licensed if they work in hospitals. This signal misleads Canadian manufacturing companies into thinking they do not need to make engineering "investments" to fuel their future growth of new products and productivity enhancements.

Linda Franklin, president and CEO of Colleges Ontario, an advocacy association representing the province's 24 colleges and institutes stated: "*Producing more engineering graduates in highly specialized areas will help businesses become more innovative and will strengthen Ontario's economy*."

Proceeding with the repeal would support innovation in our industrial/manufacturing sector, and is an essential part of "reshoring" our industry and creating Canadian/Ontario prosperity. Engineering must be viewed as an investment for the future of any wealth-generating enterprise, not as a cost of production.

Good engineers reduce costs, improve productivity, and protect the health, safety and well-being of all Ontarians. To raise the relevance and value of our profession, we need to start with this fundamental belief in ourselves.

I urge you all to continue to make the government aware that how it handled its commitment to repeal the industrial exception is not acceptable to you. I also urge you to continue to be ambassadors for your profession through practice excellence, so that all sectors of our economy will come to realize that the small cost of having licence holders involved in engineering work is actually an investment in their enterprise's future.

## MEANWHILE...

Returning to what I had originally intended for this message, much of PEO's recent activity exemplifies my

PEO's 2015-2016 council, back row, left to right: Bill Kossta, Charles Kidd, P.Eng., FEC, Rakesh Shreewastav, P.Eng., FEC, Marilyn Spink, P.Eng., Ewald Kuczera, P.Eng., Sharon Reid, C.Tech, Serge Robert, P.Eng., Dan Preley, P.Eng., Mary Long-Irwin, Len King, P.Eng., FEC, Nicholas Colucci, P.Eng., FEC, David Brown, P.Eng., C.E.T., Changiz Sadr, P.Eng., FEC, Warren Turnbull, P.Eng., and Roger Jones, P.Eng., FEC. Front row, left to right: Ishwar Bhatia, P.Eng., FEC, David Adams, P.Eng., FEC, Patrick Quinn, PhD (honoris causa), P.Eng., FEC, George Comrie, P.Eng., FEC, Thomas Chong, P.Eng., FEC, Bob Dony, PhD, P.Eng., FEC, Santosh Gupta, PhD, P.Eng., FEC, and Danny Chui, P.Eng., FEC.

presidential priorities of collaboration, innovation and recognition.

The seven town hall meetings held throughout the province from late September until late November were certainly an exercise in collaboration, with PEO staff working with chapter volunteers in each region to provide an opportunity for members to discuss how PEO might implement the recommendations of the Elliot Lake Commission of Inquiry and, in particular, the ones aimed at creating a specialist designation for those inspecting existing buildings and signing structural adequacy reports, and putting into place a continuing professional development program for PEO licence holders.

My sincere thanks go to the more than 500 engineers and engineering interns who attended the meetings and gave us valuable feedback. Changes to some of the proposals we discussed in the first meetings have already resulted from the insight you provided. To view the presentations from the meetings, listen to the discussions, or read synopses of the meetings, please visit our town hall page at www.peo.on.ca/index.php/ci_id/29011/la_id/1.htm.

Also a fine example of collaboration, the Ontario Professional Engineers Awards gala was held on November 21. I was privileged to co-host this prestigious event with Karen Chan, P.Eng., president and chair, Ontario Society of Professional Engineers. You can see inspiring video vignettes of our awardees' achievements by visiting https://www.youtube.com/channel/UCWJE-nROfT_LxYFSTaSmSXg/feed.

## INNOVATION

The Chapter Leaders Conference earlier the same day, aimed to generate innovative ideas for how chapters can bridge the path from engineering student to licensed engineer, solve issues they encounter in running their chapters, and engage more members in their programs and events.

A last-minute addition to the program was a presentation from Annette Bergeron, P.Eng., FEC, chair of the now former Continuing Professional Development, Competence and Quality Assurance Task Force, on the task force's work to develop concepts for a PEO continuing professional development program. At its meeting on November 20, PEO council approved the guiding principles and basic program elements contained in the task force's final report. A new task force will now be created to work on the detail of the risk review form and other elements of this innovative, made-in-Ontario program.

## RECOGNITION

Council recognized the important role of PEO's chapters at its November meeting by approving a 2016 budget that increases the chapter allotment by 10 per cent. This is the money ($561,000 in total) that will be distributed among our 36 chapters according to their business plans. Most chapters offer a variety of interesting events with something of interest for almost everyone and I would encourage you to engage with your chapter. Chapter meetings are great places to network and to learn more about PEO.

I'm also proud to announce that the next recipient of PEO's President's Award will be Carol Layton, deputy minister, Ministry of Transportation Ontario. The President's Award is presented to a non-engineer nominated by the president for council's approval who has demonstrated extraordinary support or promoted public awareness of the engineering profession. Deputy Minister Layton, who oversees the largest number of professional engineers in the Ontario government, is being recognized for supporting value engineering in her ministry, promoting and mentoring women in engineering, and pioneering a virtual mentoring program using green technology to reach out to Ontario public service employees across the province. I look forward to presenting this award to her at PEO's Order of Honour gala next April in Toronto.

And, finally, to recognize and commemorate the innovative and collaborative work of PEO's 2015-2016 council, we assembled them for a group photo of the November meeting. I have enjoyed working with these dedicated men and women during 2015 and look forward to our continuing efforts during 2016 to regulate and advance the practice of engineering to protect the public interest. Σ

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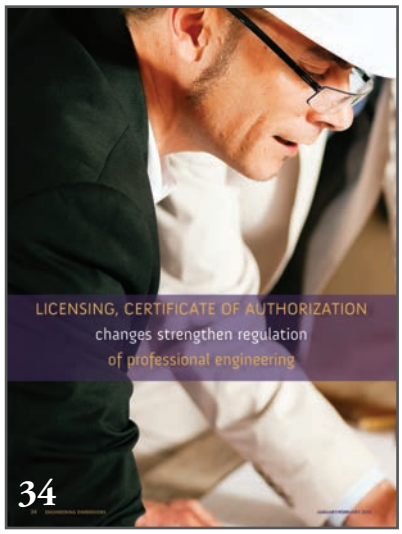


## FEATURE ARTICLE



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# [ EDITOR'S NOTE ]

## THE EXCEPTION STANDS (FOR NOW)

Jennifer Coombes
Editor

WHILE THERE WERE quite a few new developments in the engineering profession in late 2015, perhaps eclipsing all was the Ontario government's stunning announcement November 26 it had reversed its commitment to repeal a section of the *Professional Engineers Act* (PEA) that permits unlicensed people to perform engineering work on manufacturing production machinery and equipment (p. 3, 8). Often referred to as the industrial exception, this section of the PEA is something PEO has, for many years, been actively working to reverse, citing the potential to enhance manufacturing productivity and worker safety, among other reasons.

Despite assurances that the profession just needed to bide its time, PEO only learned from the province's *2015 Ontario Economic Outlook and Fiscal Review* that the government intended on "permanently maintaining the industrial exception in the *Professional Engineers Act*."

Understandably, this 180 course change was accompanied by shock. President Thomas Chong, P.Eng., FEC, on behalf of the profession, expressed his disappointment in a press release, saying the way the decision was made and communicated to PEO was "not in keeping with PEO's position as a valued stakeholder that traditionally works in partnership with government to serve and protect the health, safety and economic interests of all Ontarians" (www.peo.on.ca/index.php?ci_id=29315&la_id=1).

Engineers Canada also issued a press release condemning the decision.

Whether the issue can be resolved remains to be seen. In the meantime, this apparent setback has not weakened the president's resolve to see the repeal of the exception proclaimed. He has used every avenue to drive home to government the need to reconsider its decision, including writing to the premier, encouraging members to write their MPPs and holding meetings with party leaders.

One thing rolling out as planned is implementation of the series of regulation amendments (in effect as of July 1, 2015) that recognize the knowledge and special skills of PEO's limited licence holders and, for the first time, allow them to be responsible for engineering services offered to the public under a Certificate of Authorization. Strengthened academic and experience requirements to obtain a limited licence also accompany this change. All is explained in "Licensing, Certificate of Authorization changes strengthen regulation of professional engineering" (p. 34).

Another new area for the profession is continuing professional development (CPD). Council signaled its intention to move ahead with developing the details of a CPD program for PEO licence holders by approving the guiding principles and basic elements of the program outlined in the Continuing Professional Development, Competence and Quality Assurance Task Force's (CPDCQA TF) final report (www.peo.on.ca/index.php?ci_id=29313&la_id=1) at its November meeting (p. 52). Next steps include creating an implementation task force to develop the details and, ultimately, testing PEO members' acceptance of mandatory elements of the program through a referendum.

On the subject of new developments, albeit on a much smaller scale, you may have noticed that with this issue we've reverted to the print edition as the default delivery method for *Engineering Dimensions* (p. 54). If you had previously signed up for the digital edition and would like to continue receiving it, it's easy to switch back. Simply click the Pay Fees/Manage Accounts tab at www.peo.on.ca and change the *Engineering Dimensions* delivery preference in your online profile back to the digital edition. Σ

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Professional Engineers Ontario

THIS ISSUE: PEO recently welcomed a series of regulation changes that recognize the special skills of limited licence holders and ultimately strengthen the profession.

### 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 416-224-9528, ext. 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.

## Government makes shocking move
# TO MAINTAIN INDUSTRIAL EXCEPTION

*By Michael Mastromatteo*


PEO is voicing its strong opposition to the Ontario government's surprise announcement November 26 that a repeal of the industrial exception [clause (a) of subsection 12(3) of the *Professional Engineers Act* (PEA)], will not be going ahead.

In the province's *2015 Ontario Economic Outlook and Fiscal Review*, the economic development ministry said not only will the exception not be repealed, but that it is to be maintained permanently.

The industrial exception allows non-licensed people to carry out engineering work on machinery or equipment used to produce products in their employers' facilities.

In October 2010, the exception was repealed as one of 66 changes to the PEA contained in the *Open for Business Act*. However, proclamation of the repeal into effect was set at some time in the future to enable PEO to work with industry on the transition.

"We are shocked the Ontario government has taken this course of action and feel misled by them," said PEO President Thomas Chong, P.Eng., FEC, in a statement released the same day as the government's economic statement. "In coming to its decision, the government held consultations with others to which PEO was not a party. This is not in keeping with PEO's position as a valued stakeholder that traditionally works with government to serve and protect the health, safety and economic interests of all Ontarians."

PEO Registrar Gerard McDonald, P.Eng., described the government move as "a troubling decision" that reverses its previous commitment to repeal the industrial exception. "Not requiring engineers to carry out the work in this narrow area is a significant missed opportunity to protect the public," McDonald added.

The decision not to repeal the exception is part of the province's effort to institute what it calls a "smarter" regulatory system. "The government aims to create a regulatory framework that produces the best protections at the lowest possible compliance costs informed by the best systems around the world," the fall economic statement said. According to the statement, among measures the government committed to introduce "on an expedited basis" to achieve its goal will be "permanently maintaining the industrial exception in the *Professional Engineers Act*."

The repeal was to take effect on September 1, 2013, following three years of transition planning and consultation with stakeholders. On June 12, 2013, however, the proclamation date was postponed indefinitely.

Since then, the regulator has consulted extensively with industry and invested heavily in assisting manufacturers to prepare their employees who would have required professional licensing post-repeal.

PEO has also been working with the Ministry of Labour, undertaking research into recent prosecutions under the *Occupational Health and Safety Act* involving injuries to employees in manufacturing environments. A report on this research is expected to be finalized by early 2016.

PEO estimates only 7 per cent of manufacturing employers are likely to be affected by the repeal, if it is proclaimed.

"This repeal would have been implemented without any expense to taxpayers and little cost to employers, since PEO had committed to offsetting almost half of the licensing fee of anyone required to be newly licensed as a result of the repeal," Chong said in his statement.

McDonald says the government's decision is doubly disappointing in light of its assurance to PEO in 2013 that the repeal might still be implemented in the future. "The province told us in 2013 that it wasn't the right time to go ahead with the repeal," McDonald said, "so we took them at their word that it might still be accomplished if we made a better case for it. Now it appears we never really had that chance."

Despite the setback, Chong is determined to continue PEO's efforts to have the repeal proclaimed because its continued existence represents a gap in PEO's ability to regulate professional engineering work, potentially putting manufacturing workers at risk.

In a November 27 email to all licence holders and engineering interns, Chong urged them to contact their MPPs to voice their extreme displeasure with the government's actions, and included text of a possible letter for their use. He also wrote to the premier on December 1.

On November 30, PEO representatives met with Progressive Conservative Finance Critic Vic Fedeli, MPP, to brief him on the issue. They met with New Democratic Party Finance Critic Catherine Fife, MPP, on December 2.

Engineers Canada supported PEO by issuing its own media release, noting Ontario is the only province with such an exception to the licensing requirements in its engineering act. "The government's decision leaves Ontario lagging behind the

**"THE GOVERNMENT's DECISION LEAVES ONTARIO LAGGING BEHIND THE REST OF CANADA."**
Kim Allen, P.Eng., FEC, CEO, Engineers Canada

rest of Canada," said Engineers Canada CEO Kim Allen, P.Eng., FEC. "I'm disappointed that the government seemingly has little interest in pursuing national, harmonized standards in this area, and I struggle to understand why Ontario should have a lower standard than the rest of the country."

The Ontario division of the Canadian Manufacturers & Exporters (CME) and other industry groups have opposed a repeal of the exception because they say it complicates regulation in the manufacturing sector. In response to the November 26 fall economic statement, CME posted a statement on its website: "CME has argued the importance of retaining the industrial exception. Eliminating the industrial exception had no rationale and would have been detrimental to the economy. CME is pleased with the commitment to retain the industrial exception permanently."

# SUPPORT FOR ENGINEERING PROFESSION crosses all party lines

*By Michael Mastromatteo*

Ontario Attorney General Madeleine Meilleur said the engineering profession "measurably improves our everyday lives," October 21 at the ninth engineering reception at Queen's Park.

PEO's NINTH QUEEN'S PARK reception again proved to be a non-partisan celebration of the engineering profession's role in protecting public safety.

Held October 21, just two days after Canada's federal election, the reception attracted more than 50 members of provincial parliament (MPPs), including seven cabinet ministers and the province's attorney general to meet and mingle with PEO members, engineering students and other stakeholders in the wider engineering community.

The theme for the 2015 reception was protecting public safety, and PEO President Thomas Chong, P.Eng, FEC, wasted no time in reflecting that theme in his welcome remarks.

"The event tonight celebrates the work of PEO's Government Liaison Program (GLP), which ensures that government and the public recognize PEO's regulatory mandate and its high standards for licensing," Chong said. He said he looked forward to working with the attorney general, and the housing and labour ministries on such important public safety issues as implementing the recommendations of the Elliot Lake Commission of Inquiry and repealing clause (a) of subsection 12(3) of the *Professional Engineers Act*, known as the industrial exception.

This year's reception included the first-ever "engineering games" at Queen's Park, a tower-building event involving teams of MPPs and engineering students, designed to reflect engineering's role in providing safe and reliable public infrastructure.

Annual GLP awards for MPPs and chapters for achievement in government relations were also presented. The 2015 Chapter Award went to PEO's Grand River Chapter, with the Kingston Chapter receiving honourable mention. MPP award winners were Liberal MPP Sophie Kiwala (Kingston and the Islands), Progressive Conservative MPP Jim McDonell, P.Eng. (Stormont-Dundas-South Glengarry) and NDP MPP Teresa Armstrong (London-Fanshawe).

Ontario's new opposition leader, Patrick Brown, attended his first engineering reception and brought greetings from his party.

"I want to thank [PEO president] Thomas Chong who came in to brief me on the important work PEO is doing, especially on the Elliot Lake Inquiry recommendations," Brown said. "I realize your organization is going to be integral to the success we have going forward in the province."

Brown pledged his party's support of PEO's work, but also noted that support for Ontario's engineers crosses the entire political spectrum.

"I know you'll find we have speakers from all three parties here tonight, but there is no partisanship when it comes to supporting your organization and its aims, because it's about excellence and about supporting the infrastructure in this province," Brown added.

Ontario Attorney General Madeleine Meilleur similarly spoke about the engineering profession's contributions to safety and innovation. "Whether it's providing for our safety or supporting a robust economy, there is no doubt that this is a profession that measurably improves our everyday lives," Meilleur said.

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She singled out PEO's co-operation in implementing key building safety recommendations of the Elliot Lake inquiry, which was struck to investigate the causes of the June 2012 partial collapse of the rooftop parking deck of the Algo Centre Mall.

"Engineers help build the fabric of our communities," the attorney general said. "I look forward to our continued collaboration."

Ontario's New Democrats were represented by MPP Catherine Fife (Kitchener-Waterloo), who also praised the key role engineers play in the safe stewardship of technology.

"Your expertise and your diligence help keep workers and people safe in the province of Ontario and our caucus extends its thanks to you," Fife said.

She later described the strong engineering support for former PEO president Diane Freeman, P.Eng, FEC, in her bid to become the first female engineer elected to federal parliament. Although Freeman didn't win in her Waterloo riding, the support she received from engineers in the campaign was unprecedented, according to Fife: "Many had never volunteered on a campaign before, but because it was Diane Freeman–one of your own–you came out and supported her, and it was truly incredible."

Fife said she took some consolation in the victory of Marilyn Gladu, P.Eng., for the Progressive Conservatives in Sarnia-Lambton.

Fife later reiterated her party's support of PEO in its bid to repeal the industrial exception, which allows some engineering work in manufacturing settings to be carried out by unlicensed people.

Others attending the reception included Barry Steinberg, P.Eng., CEO, Consulting Engineers of Ontario; Karen Chan, P.Eng., president and chair, Ontario Society of Professional Engineers; Kim Allen, P.Eng., FEC, CEO, Engineers Canada; and Hiona Murray, Professional Engineers Government of Ontario.

PEO President Thomas Chong, P.Eng., FEC (left), outlined the regulator's willingness to work with the Ontario government to improve engineering regulation and public safety. At right, Ontario Progressive Conservative Leader Patrick Brown, who was attending his first engineering reception at Queen's Park, said support for the profession crosses all party lines.

Kitchener-Waterloo MPP Catherine Fife, of the Ontario New Democratic Party, affirmed the party's support for PEO objectives at the Queen's Park reception. At right, Queen's Park reception guests included (left to right) former PEO councillor Sandra Ausma, P.Eng., PEO Registrar Gerard McDonald, P.Eng., and Ontario Attorney General Madeleine Meilleur.

At left, this year's reception at Queen's Park featured a tower-building exercise with MPPs, engineering students, and members of the Government Liaison Committee (GLC). MPP Helena Jaczek (left) looks for supplies, while student Ola Suchon, and Amalia Rey-McIntyre, EIT, assist MPP Peter Milczyn in his effort. At right, Jeannette Chau, P.Eng. (left), PEO's manager, government and student liaison programs, presents PEO's MPP Awards to Progressive Conservative MPP Jim McDonell, P.Eng. (second from left), Liberal MPP Sophia Kiwala (fourth from left) and NDP MPP Teresa Armstrong (second from right). Also pictured are Madeleine Meilleur (third from left), PEO Vice President George Comrie, P.Eng., FEC (third from right), and PEO GLC Chair Darla Campbell, P.Eng. (far right).

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PEO's Queen's Park receptions allow plenty of time to mix and mingle. At left, Kingsway Chapter Chair Steve Favell, P.Eng., FEC (left), meets with (left to right) Beaches-East York MPP Arthur Potts, Helen Wojcinski, P.Eng., Willowdale MPP David Zimmer, and PEO LGA Councillor Ishwar Bhatia, P.Eng. In the centre photo, PEO Chief Administrative Officer Scott Clark, LLB (left), catches up with (left to right) LGA Councillor Bill Kossta, MPP Cristina Martins, and PEO Deputy Registrar Michael Price, P.Eng. At right, Grand River Chapter Chair Gabe Tse, P.Eng. (second from right) accepts the GLC Chapter Award from Jeannette Chau, P.Eng. (third from left). With them are Shahriar Varkioni, P.Eng. (far left), Darla Campbell, P.Eng., and Mahin Derakhshanian, P.Eng. (far right).

## MPPs TURN OUT IN GREAT NUMBER

Over 50 MPPs from all three parties took part in PEO's October 21 Queen's Park reception.

Granville Anderson, MPP (Durham)
Teresa Armstrong, MPP (London-Fanshawe)
Bob Bailey, MPP (Sarnia-Lambton)
Yvan Baker, MPP (Etobicoke Centre)
Bas Balkissoon, MPP (Scarborough-Rouge River)
Chris Ballard, MPP (Newmarket-Aurora)
Toby Barrett, MPP (Haldimand-Norfolk)
Lorenzo Berardinetti, MPP (Scarborough Southwest)
PC Leader Patrick Brown, MPP (Simcoe North)
Sarah Campbell, MPP (Kenora-Rainy River)
Steve Clark, MPP (Leeds-Grenville)
Grant Crack, MPP (Glengarry-Prescott-Russell)
Bob Delaney, MPP (Mississauga-Streetsville)
Joe Dickson, MPP (Ajax-Pickering)
Vic Fedeli, MPP (Nipissing)
Catherine Fife, MPP (Kitchener-Waterloo)
Kevin Flynn, MPP (Oakville)
John Fraser, MPP (Ottawa South)
Wayne Gates, MPP (Niagara Falls)
France Gélinas, MPP (Nickel Belt)
Lisa Gretzky, MPP (Windsor West)
Ernie Hardeman, MPP (Oxford)
Percy Hatfield, MPP (Windsor-Tecumseh)
Ann Hoggarth, MPP (Barrie)
Helena Jaczek, MPP (Oak Ridges-Markham)
Sylvia Jones, MPP (Dufferin-Caledon)
Sophie Kiwala, MPP (Kingston and the Islands)
Marie-France Lalonde, MPP (Ottawa-Orléans)
Dave Levac, MPP (Brant)
Tracy MacCharles, MPP (Pickering-Scarborough East)
Jack MacLaren, P.Eng., MPP (Carleton-Mississippi Mills)
Amrit Mangat, MPP (Mississauga-Brampton South)
Michael Mantha, MPP (Algoma-Manitoulin)
Cristina Martins, MPP (Davenport)
Gila Martow, MPP (Thornhill)
Jim McDonell, P.Eng., MPP (Stormont-Dundas-South Glengarry)
Kathryn McGarry, MPP (Cambridge)
Eleanor McMahon, MPP (Burlington)
Monte McNaughton, MPP (Lambton-Kent-Middlesex)
Attorney General Madeleine Meilleur, MPP (Ottawa-Vanier)
Peter Milczyn, MPP (Etobicoke-Lakeshore)
Paul Miller, MPP (Hamilton East-Stoney Creek)
Reza Moridi, MPP (Richmond Hill)
Glen Murray, MPP (Toronto Centre)
Indira Naidoo-Harris, MPP (Halton)
Arthur Potts, MPP (Beaches-East York)
Lou Rinaldi, MPP (Northumberland-Quinte West)
Laurie Scott, MPP (Haliburton-Kawartha Lakes-Brock)
Mario Sergio, MPP (York West)
Todd Smith, MPP (Prince Edward-Hastings)
John Vanthof, MPP (Timiskaming-Cochrane)
Bill Walker, MPP (Bruce-Grey-Owen Sound)
Soo Wong, MPP (Scarborough-Agincourt)
Jeff Yurek, MPP (Elgin-Middlesex-London)
David Zimmer, MPP (Willowdale)

# IMPLEMENTING ELLIOT LAKE RECOMMENDATIONS COULD BRING **big changes, town hall audiences told**


*By Michael Mastromatteo*

Implementing the recommendations of the Elliot Lake Commission of Inquiry could have long-lasting implications for engineering regulation in Ontario.

This was one of the key messages at the recently concluded PEO "You talk. We listen."-themed regional town hall meetings from September to November.

Six town halls were held in the Eastern, Northern (two meetings), Western, West Central and East Central regions. PEO added a seventh town hall November 26 for members of Consulting Engineers of Ontario, at the organization's request.

The meetings focused on recommendations from the inquiry into the 2012 partial collapse of the Algo Centre Mall in Elliot Lake. Nine of the inquiry's recommendations call on PEO to take action, including instituting a system of "mandatory continuing professional education" for members (recommendation 1.24) and requiring a PEO-designated "structural engineering specialist" to sign structural adequacy reports of inspections of existing buildings (recommendation 1.5).

"I don't consider the tragedy that occurred at Elliot Lake to be indicative of any widespread failure on the part of the engineering profession or of PEO as a regulator," said PEO President Thomas Chong, P.Eng., FEC, in opening the November 12 meeting in Toronto, "but we do have an opportunity to reflect on how we can prevent such occurrences in the future."

Former president Annette Bergeron, P.Eng., FEC, chair of PEO's Continuing Professional Development, Competence and Quality Assurance (CPDCQA) Task Force, attended six of the seven town halls to present the task force's work and gather feedback.

She told attendees at the East Central Region meeting that the task force is looking to develop an innovative and unique continuing professional development (CPD) program specially tailored to Ontario engineers' practice realities.

"I want to reassure you that this [CPD program] is not something that PEO came up with on the back of a napkin," she said. "We've been working very hard to create something that we think you can give us some feedback on, and we can tweak along the way, and that you might be willing to accept."

In September, PEO council committed to requiring members to approve in a referendum mandatory aspects of any proposed CPD program.

The proposed CPD program generated heated discussion at the November 12 meeting, with some attendees distributing an anti-CPD flyer and at least one interrupting Bergeron's presentation by calling CPD "needless bureaucracy."

Others in attendance, however, commended PEO for taking up the CPD issue, and said efforts to stay abreast of technical and practice enhancements are a key part of any engineer's due diligence.

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Bergeron said that of PEO's 80,000 members, only 15 have voluntarily entered CPD data into their profile on PEO's website. "Clearly the voluntary system of reporting isn't working, and PEO essentially has no idea what members are doing in terms of CPD," Bergeron said. "However, we now have an opportunity here to be innovative and leading-edge. I would like your feedback on this program tonight and PEO council will hear about it."

The CPD task force has established a dedicated email account, cpdcqa@peo.on.ca, for members to ask questions or provide feedback about the proposed program.

Following the CPD discussion, PEO Registrar Gerard McDonald, P.Eng., provided town hall participants insights into a proposed structural engineering specialist designation.

Calling the possible specialist designation "a significant evolutionary step," McDonald said it stems from the inquiry's concerns that self-designations, such as "structural engineer," aren't necessarily in the public interest.

"Self-designation could lead the public to believe that a particular engineer has had to meet certain official criteria or pass specific exams," McDonald said. "However, these self-appointed designations are based on an engineer's main area of practice, and are not granted by PEO."

He said development of a structural engineering specialist designation with an exclusive scope of practice would require regulation and/or *Professional Engineers Act* changes. Depending on demand, this could, in turn, stratify or fragment the profession into various exclusive areas of practice.

"It's a significant evolutionary step for us, and it's one we shouldn't take without some serious thought on how we want to do it," McDonald said. "Although we have these recommendations, I am not presenting a solution to you today. What we want is your feedback on the right way to go for the profession."

Almost 150 people attended the November 12 East Central Region town hall, either in person or online.

Audio recordings and synopses of the regional town hall meetings, as well as the presentations and a backgrounder on the CPDCQA task force's work is available at www.peo.on.ca/index.php/ci_id/29011/la_id/1.htm.

Former PEO president Annette Bergeron, P.Eng., FEC, chair of the regulator's CPDCQA Task Force, outlines the concept of a proposed continuing professional development program at the November 12 town hall.

PEO members at the November 12 town hall came loaded with questions about PEO's plans for continuing professional development.

John Glover, P.Eng., FEC (left), moderated the November 12 meeting. Presenters included PEO Registrar Gerard McDonald, P.Eng. (centre), and President Thomas Chong, P.Eng., FEC.

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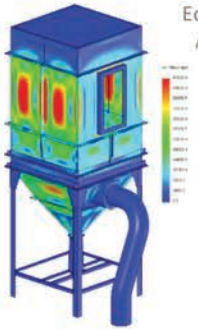

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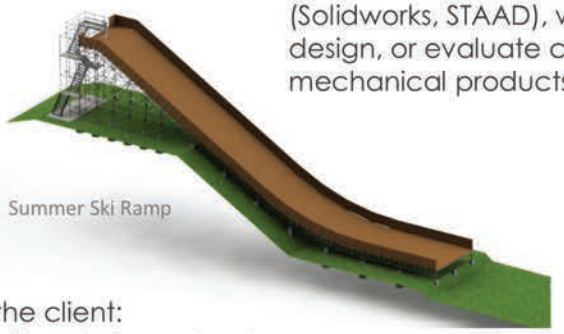

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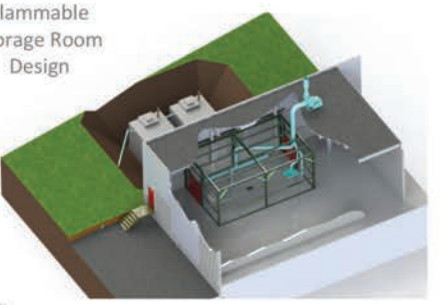

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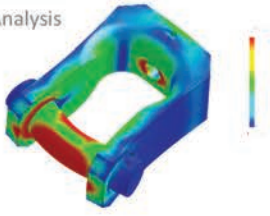

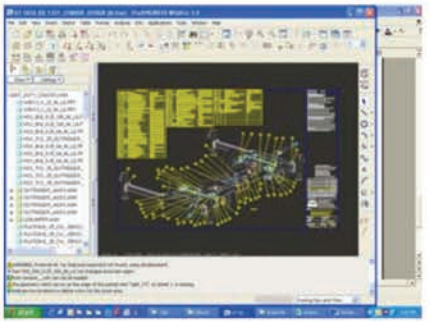

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## Members warming to idea of CPD

The chair of the regulator's former Continuing Professional Development, Competence and Quality Assurance (CPDCQA) Task Force is optimistic that PEO members now understand the need for some form of CPD.

Annette Bergeron, P.Eng., FEC, toured the province from late September to late November to discuss the task force's work, including at the regulator's "You talk. We listen." town hall meetings. The task force was stood down following delivery of its final report to PEO council on November 20.

"I've personally presented the task force's unique, risk review approach to professional development at five town halls," Bergeron told *Engineering Dimensions* November 19. "At first, we didn't know how it would be received. All we knew was that our [survey] data indicated 80 per cent support for our proposed program. I discovered that licence holders first arrived at their town halls with a little trepidation towards professional development in Ontario. It's understandable that they expected PEO to follow suit of the eight other provinces that have mandatory CPD in Canada."

What's unique about the proposal for Ontario, Bergeron said, is that non-practising engineers would have no CPD requirement other than a one-hour, no cost, ethics refresher. Under the proposed program, practising engineers would fill out a risk review that would help to reduce their required CPD hours and any associated costs. In addition, practising engineers already doing CPD for their employers would simply list their activities.

"After [town hall] attendees heard about our unique proposal for PEO, they relaxed and responded typically with an 'I can manage this' attitude," she added. "I estimate from five town halls that 70 per cent of attendees came around to supporting our program, while 30 per cent of attendees didn't really want to listen. Therefore, I am encouraged that once licence holders have the opportunity to understand how our proposal is different from their assumptions, they realize that this is a truly innovative approach to managing practitioner risk, and reporting on how practitioners increase their knowledge throughout the year."

At its September 2015 meeting, PEO council approved a motion that any mandatory CPD program elements would not be imposed without member ratification (see "Council votes to hold member referendum on CPD reporting," *Engineering Dimensions*, November/December 2015, p. 37).

After approving the guiding principles and basic program elements of the proposed program at its November 2015 meeting, PEO council directed that the registrar create terms of reference for a new task force to finalize the program's risk review form, CPD requirement algorithm and criteria for acceptable technical activities for approval in February 2016. A communications plan is also to be developed for council approval in February.

# PEO takes leading role in responding to **Elliot Lake inquiry recommendations**

*By Michael Mastromatteo*

PEO is taking seriously recommendations contained in the Bélanger Commission report on the Elliot Lake mall collapse.

Prepared by retired Justice Paul Bélanger, the report was released October 15, 2014. The report investigated the events leading up to the partial roof collapse of the Algo Centre Mall, which killed two people, injured 19 others and created severe economic disruption within the northern Ontario community.

Nine of the report's recommendations were directed to PEO.

To add a sense of urgency to his report, the commissioner called on the provincial government and others involved in Ontario's building community "...to issue a public report within one year on their response to these recommendations and what steps, if any, they are taking to implement them."

Speaking October 21 at PEO's Queen's Park reception, Ontario Attorney General Madeleine Meilleur lauded engineering co-operation in responding to the Elliot Lake inquiry recommendations.

"The Ministry of the Attorney General is liaising with Professional Engineers Ontario to enhance the performance standards for structural inspections, as well as considering potential amendments to the *Professional Engineers Act*," Meilleur said. "Potential amendments include changes that would help ensure structural inspections are carried out by structural engineering specialists and regulating the engineering profession through a system of mandatory continuing professional education."

The attorney general noted that PEO has taken quick action on many of the recommendations directed to it, including:

- launching its own investigation into the conduct and actions of the engineers involved in the Algo Centre Mall collapse;
- sending information to members about best practices regarding structural assessments of existing buildings; and
- proactively posting licence suspension and termination information on its website.

PEO was one of the first to respond to the commission's engineering and building safety-related recommendations. In July, the regulator met with the attorney general and the Ministry of Municipal Affairs and Housing to discuss progress in implementing some of the recommendations.

The engineering response to the Elliot Lake report has also been the focus of the six town hall meetings PEO organized between September 29 and November 12, 2015.

PEO has also helped the Ontario housing ministry, which administers the Ontario Building Code, with its own response to the Elliot Lake commission report. In addition, the regulator recruited two structural engineering practitioners, Chris Roney, P.Eng., FEC, BDS, and Will Teron, P.Eng., to be part of the housing ministry's building safety technical advisory panel.

The Ontario Association of Certified Engineering Technicians and Technologists (OACETT) has also been active since the report's release. On January 1, 2016, OACETT initiated a mandatory continuing professional development program for its members in response to the commissioner's recommendations. "Further," says OACETT CEO David Thomson, "we've discussed with the government and PEO the role of the 'prime consultant,' which was another recommendation of the commission."

## PEO, housing ministry still seek clarity on building code issue

*By Michael Mastromatteo*

PEO reports little progress in settling a misunderstanding with the Ontario housing ministry about including as an appendix a building design table in the reprinting of the Ontario Building Code.

As was reported in the November/December 2015 issue of *Engineering Dimensions* (p. 9), PEO objects to the housing ministry's plan to reintroduce the table as an appendix to the building code. The regulator is concerned

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that the design table could inadvertently allow building officials to make building design permit application decisions statutorily reserved for professional engineers.

A November 19 meeting involving ministry officials; Gerard McDonald, P.Eng., PEO registrar; Johnny Zuccon, P.Eng., FEC, deputy registrar, tribunals and regulatory affairs; and David Brown, P.Eng., BDS, PEO councillor, failed to solve the impasse.

The meeting, a follow-up to a September 3 meeting with the minister's office, was an attempt to respond to requests from the Ontario Association of Architects (OAA) and the Ontario Building Officials Association to put the design and general review table back into the building code as an appendix–a move PEO opposes.

PEO prefers building officials continue to refer to the 2007 PEO-OAA joint bulletin *Design and General Review Requirements for Buildings in the Province of Ontario* to help with their permit application decisions.

PEO still receives calls from building officials requesting the joint bulletin, and there has not, to date, been feedback to suggest the tool is inadequate. There has also not been any case before the Joint Practice Board to resolve a dispute between architects and professional engineers in respect of professional services.

None of the parties to the November 19 meeting could identify how the removal of the building design component of the table from the building code, as a consequence of the 2007 divisional court decision in PEO's favour, had impacted public safety.

PEO is not expected to change its position on the building design table, but is open to ongoing dialogue with the housing ministry on the issue.

# INDIVIDUAL ENGINEERS honoured and INAUGURAL PROJECT AWARD presented at 2015 OPEA GALA

*By Jennifer Coombes*

The 2015 Ontario Professional Engineers Award recipients are, back row, from left: Benoit Nolet, P.Eng. (representing the St. Lawrence Management Corporation's project), Seth Dworkin, PhD, P.Eng., Andrew Daugulis, PhD, P.Eng., Brian Isherwood, P.Eng., and William D. Goodings, P.Eng. Front row, from left, Michael A. Butt, P.Eng., Sushanta Kumar Mitra, PhD, P.Eng., Claire M.C. Kennedy, P.Eng., LLB, Cristina Amon, ScD, P.Eng., Jeanette M. Southwood, P.Eng., FEC, and M. Hesham El Naggar, PhD, P.Eng.

Members of the Ontario engineering community and supporters gathered November 21 at the Ontario Professional Engineers Awards (OPEA) gala to recognize and be inspired by the achievements of outstanding engineers.

This year, 10 professional engineers were honoured with individual awards and, new for 2015, a group project award was also presented. The team behind the St. Lawrence Seaway Management Corporation's innovative, hands-free mooring system won the first-ever OPEA Engineering Project or Achievement Award.

Emcee Nancy Hill, LLB, P.Eng., chair, Professional Engineers Awards Committee, welcomed the attendees to the gala.

Co-hosts of the evening, Ontario Society of Professional Engineers President and Chair Karen Chan, P.Eng., and PEO President Thomas Chong, P.Eng., FEC, also addressed attendees.

Chan said: "Tonight we present awards to 10 outstanding professional engineers and, for the first time in OPEA history, we will also recognize the inaugural engineering project or achievement of the year. As an engineer, I am inspired by the positive and wide-ranging impact the profession has in Ontario and around the world. Yet, all too often, the vital role of engineers simply goes unnoticed. At OSPE, we are dedicated to changing this by raising the public's awareness of the vital contributions that engineers make to our society. This year's gala highlights engineering and climate change because we, as engineers, have the knowledge and skills needed to alleviate its harmful impacts."

Added Chong: "We honour professional engineers who in both their careers and day-to-day lives illustrate the highest standards and ideals of our noble profession. I'd like to congratulate our awards recipients for their unwavering commitment to advancing the practice of the pro-

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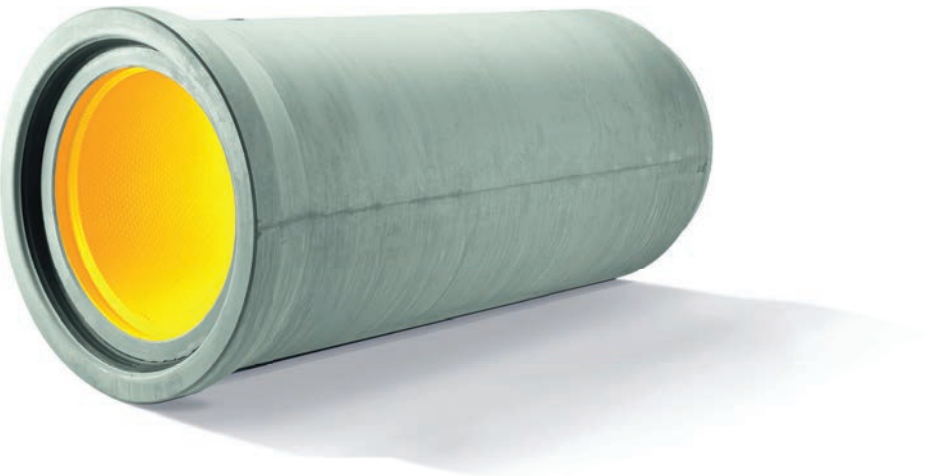

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fession through inspiring and diverse contributions to society. They have inspired the young, contributed to their communities, excelled in research, fostered achievements in those around them and mentored the next generation of engineers. They are exemplary ambassadors of professional engineering."

The evening's theme was climate change and the key role engineers play as stewards of Ontario's land, air and water, and in developing technologies to combat climate change.

A keynote address delivered by Glenn Murray, minister of the environment and climate change, underscored the need for engineering expertise to reverse the threat. Minister Murray referred to a 2014 Pentagon report (http://archive.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf) that suggests the effects of climate change–destruction of homes and land, and scarcity of food and water–are "threat multipliers" that could aggravate stressors such as poverty, political instability and social tensions in certain areas of the world and, in turn, enable terrorist activity.

Closer to home, in the US and Canada, he says, a changing climate, caused by carbon emissions from the 1950s and 1960s, has already destroyed crops and could increasingly threaten our food supply.

"We have 45 or 50 years maybe, if we're lucky, to avoid catastrophe, loss of species and an economic disaster unprecedented. This is why I think engineering is the most important profession in the fight against climate change. We need your profession more than we ever have before. We have to rapidly deploy technologies by you and two or three generations past you. We need you to stand up and be climatologists, biologists, economists. We need integrators. We need your leadership and we need the great integrity and intelligence of your profession. So, I'm counting on your help," Murray said.

A video message from Ontario Premier Kathleen Wynne welcomed attendees and reiterated the need for engineering expertise. "Thank you for your enormous contributions to our province. I look forward to working with you to build a more prosperous and environmentally sustainable Ontario. Congratulations to all the award winners," she said.

Following are portions of the recipients' acceptance speeches.

## PROFESSIONAL ENGINEERS GOLD MEDAL

**Cristina Amon, ScD, P.Eng.,** dean, faculty of applied science and engineering, University of Toronto

"I am very honoured to be in the company of all of you. All of tonight's award winners exemplify the very best in engineering. When I look around the room, I am reminded once again what a great privilege it is to be an engineer. We engineers solve problems and develop technology that improves people's lives. Today, more than ever before, engineers play a leadership role in driving our country's innovation agenda and economic prosperity. Engineers are also vital to address some of the more challenging and pressing global issues, such as climate change. I'm proud to say at the University of Toronto, department of applied science and engineering, we are leading some of the groundbreaking research in education and areas such as innovation, sustainable energy and sanitation. It's this research that's sparking innovation and making a difference in our lives. The constant challenges we face continue to grow, so does the importance of harnessing great engineering expertise, talent and ideas to solve them. Gender diversity and participation from First Nations remain a particular concern for our profession. For instance, if we look at the statistics of practising licensed engineers in our country, less than 12 per cent are women. We need to do better and we can do better. Engineering schools play a crucial role. At the University of Toronto we are working on a program, which is starting to have an impact. I'm pleased to share with you that our engineering class this year has nearly one third of women students. We can also make diversity a priority in our daily lives, in our leadership decisions. If each of us commits to one small but ongoing change to increase engineering diversity, just imagine what we can achieve together."

## ENGINEERING PROJECT OR ACHIEVEMENT AWARD

**Benoit Nolet, P.Eng.,** manager, corporate operations, St. Lawrence Seaway Management Corporation, on behalf of the engineering team behind the seaway's hands-free mooring system

"This project was not supposed to work. The thought of securing 35,000-ton vessels with vacuum technology was met with a lot of skepticism. The marine industry is more of an 'if it ain't broke don't fix it' mentality and the resistance to change was widespread. It had to be developed in spite of captains telling us we were wasting our time. Instead, the technical team decided to use this adversity to prove the naysayers wrong. Today, 90 per cent of the transit on the seaway is safely and efficiently processed with hands-free mooring, which is a direct result of our team's tenacity, refusal to quit and the desire to deliver a high-quality product. Today, captains are disappointed when hands-free mooring is not used on their vessel. Thank you to OSPE and PEO for awarding us the very first engineering project award. We are very honoured to receive it. (See "Honouring Highway $H_2O$," *Engineering Dimensions*, September/October 2009, p. 26)

## ENGINEERING MEDAL ENGINEERING EXCELLENCE

**Brian Isherwood, P.Eng.,** founder, Isherwood Geostructural Engineers

"This is a big honour for me and it came completely out of the blue. I feel a little guilty being singled out because my career always rested on accidents from one thing to another, particularly the people I've been privileged and honoured to work with. The idea of honouring me, I really feel they're honouring our team."

**Sushanta Kumar Mitra, PhD, P.Eng.,** associate vice president, research, York University

"This award really goes to my students, post docs, lab technicians, and a large group of collaborators at three different institutes, one in Bombay, India, University of Alberta in Edmonton, and right here at York in Toronto. Thank you very much."

Jeanette M. Southwood, P.Eng., FEC, vice president, strategy and partnerships, Engineers Canada

"When I was very young my parents emigrated from Cape Town, South Africa, during apartheid so that I and my sisters could have a better, safer life. My parents instilled in us the importance of giving back, which resulted in me becoming an engineer. With the global infrastructure deficit in the trillions of dollars and concerns about water, food and energy security, urbanization and our aging population, there are many opportunities for engineers to give back. I congratulate my fellow awardees for their achievements. Thank you for this wonderful evening that shines a light on our profession."

## ENGINEERING MEDAL MANAGEMENT

Michael A. Butt, P.Eng., chairman and chief executive officer, Buttcon Limited

"I'm very proud to be here today. I'm also surprised and humbled. I never thought that somebody who barely got through school would ever stand up here and get this award. But, statistically, since I was born, I've been very lucky. I was born in 1937 and there were fewer people born that year than any other in the 20th century. I had little competition! That's why I got into the University of Toronto with very low marks. I feel honoured to be here. Thank you."

## ENGINEERING MEDAL RESEARCH AND DEVELOPMENT

Andrew Daugulis, PhD, P.Eng., professor of chemical engineering and research chair, biochemical and cell culture engineering, Queen's University

"This is a great honour for me on many levels. I do want to stress how important it is to me that this is an engineering award. I became a P.Eng. as soon as I could after graduation–actually, as soon as I could afford the annual dues. It's the impacts of research and the engineering aspect that are the most gratifying for me. Imagine being given an award for what you love to do? That pretty much describes my situation."

M. Hesham El Naggar, PhD, P.Eng., associate dean, research, faculty of engineering, and research director, Geotechnical Research Centre, Western University

"I'm honoured to be standing here. I never thought I'd be here. My best work is always buried in the ground! I never thought I'd be admired for my work. I'd like to thank PEO and OSPE for awarding me this prestigious award. This makes me proud to be an engineer at this time, this place and on this night."

## ENGINEERING MEDAL YOUNG ENGINEER

Seth Dworkin, PhD, P.Eng., associate professor, mechanical and industrial engineering, Ryerson University

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"Thank you. I'm truly honoured and humbled. I'm honoured because this award recognizes my chosen path in engineering education, clean energy research and the task of training the next generation of engineers. And I'm humbled because it reminds me of the many people to whom I owe a debt of gratitude, including my parents who instilled in me the values of education and service and led me down a path to choosing a career that challenges and motivates me."

### CITIZENSHIP AWARD

William D. Goodings, P.Eng., retired

"I've been a volunteer for many a cause for almost my entire life. The most profound thing I learned in my Canadian Executive Services Organization (CESO) work was the essential starting point is to learn something about a community and only then attempt to solve their problem, often using their most abundant resource–lots of willing hands. That usually turned out to be the key to finding and implementing simple, affordable, appropriate solutions. Volunteering in poor and faraway communities provides one with great rewards, new friends, a renewed personal sense of purpose and a chance to do engineering. Experienced professional engineers have all the skills to become volunteer advisors to help communities somewhere in the world."

Claire M.C. Kennedy, P.Eng., LLB, partner, Bennett Jones LLP

"Although I practise case law in my day job, engineering was my first profession. So, the engineering Citizenship Award is especially meaningful to me. There are too many people who helped me to call out individually but I want to recognize one in particular–Professor Doug Reeve [P.Eng.], founder of the ILead Institute and phenomenal engineering educator. Doug took a chance on a very green tax lawyer 15 years ago. Doug's risky step launched me on my volunteer journey at U of T and elsewhere that has brought me here on stage tonight. I'm deeply grateful and honoured to have received the engineering Citizenship Award."

OSPE and PEO would like to thank the generous sponsors and corporate table hosts of the 2015 OPEA gala.

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# CLC HIGHLIGHTS CHAPTERS AS RESOURCE IN LEADERSHIP DEVELOPMENT

*By Michael Mastromatteo*

THE CHAPTER SYSTEM is a valuable resource in supporting engineering regulation and the development of future leaders, said delegates at the 2015 Chapter Leaders Conference (CLC).

Held November 21, just prior to that evening's Ontario Professional Engineers Awards gala, the conference is a forum for chapter volunteers to share best practices and to generate ideas for enhanced regulatory operation.

The theme for the 2015 CLC was chapters as the link to the future.

In welcoming conference delegates, Serge Robert, P.Eng., Northern Region councillor and chair of the CLC organizing committee, said the conference is an ideal opportunity for rank-and-file members, rather than executives, to put their front-line experience to work in adding value to the chapter system.

Other speakers to address chapter volunteers in the opening session included Changiz Sadr, P.Eng., FEC, PEO councillor and chair of the Regional Councillors Committee, and PEO President Thomas Chong, P.Eng., FEC, who said the conference's "link to the future" theme corresponds with the "innovation-collaboration-recognition" approach he is taking with his presidency.

The morning session featured two small-group discussions. The first examined the role of chapters in keeping recent engineering graduates on the path to licensure; the second focused on developing peer solutions to operational issues common to chapters. Engineering interns (EITs) played a prominent role in the path to licensure discussion, with many suggesting that more exposure to chapters and PEO would help keep recent graduates focused on the path to the professional licence.

Delegates were treated to a bonus presentation by Annette Bergeron, P.Eng., FEC, chair of PEO's former Continuing Professional Development, Competence and Quality Assurance (CPDCQA) Task Force. Bergeron provided a condensed version of her CPD town hall presentations to alert chapter volunteers to the latest developments in PEO's work on a proposed PEO continuing professional development program. The task force was stood


down the day before when it delivered its final report to PEO council.

The keynote speaker was Natalie Panek, a missions systems specialist with MDA and a leading proponent of women in technology professions.

Panek described her repeated efforts to win a placement in NASA's astronaut training program as an object lesson in perseverance and determination.

She said it's important for engineers and other technology professionals to "embrace failure" as a learning opportunity, and to consider the importance of mentoring and role models in encouraging the next generation of practitioners.

"I suggest that you constantly put yourselves in situations outside your comfort zone," Panek said. "And when you get comfortable, move outside your comfort zone again. That leads to life-long learning, especially in the engineering field."

Panek lamented the fact that female role models from reality TV shows are instantly recognizable, while women doing innovative work in technology careers toil in relative obscurity.

"Everyone knows the reality TV stars, but no one knows the real women who are actually doing very cool innovative things to change the world," she said. "And sadly, reality stars are better known, but they aren't likely to inspire the next generation to innovative careers in science and engineering."

As with previous chapter leadership conferences, the 2015 event included a "people's choice" story contest, in which representatives from selected chapters describe popular events held over the last 24 months and have the audience vote for the top stories.

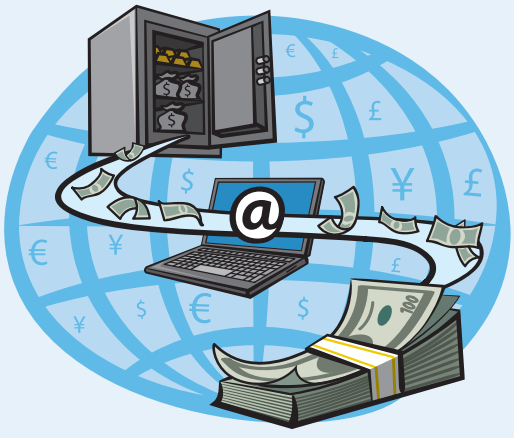
This year's winner was the Windsor-Essex Chapter for its support of the 2014 Canada-Wide Science Fair held in Windsor (see "Science fair showcases chapter's volunteer spirit," *Engineering Dimensions*, July/August 2014, p. 27).

Mission systems specialist and would-be astronaut Natalie Panek was keynote speaker at the 2015 Chapter Leaders Conference.

Stacey Shyshak, P.Eng., of Windsor-Essex Chapter (centre), holds the People's Choice trophy in recognition of her story about chapter support of the 2014 Canada-Wide Science Fair. Sharing the spotlight are (left to right) Gordon Ip, P.Eng., FEC (York Chapter), Kaoru Yajima, P.Eng. (Grand River Chapter), Vajahat Banday, P.Eng. (Georgian Bay Chapter), and Orijit Pandit, P.Eng. (Algonquin Chapter).

Cora Silveira, EIT (left), Haris Ahmadzai, P.Eng., Damien Ch'ng, P.Eng., and Guy Boone, P.Eng., discuss opportunities for PEO chapters to bridge the path to licensure for new engineering graduates November 21, as part of the annual Chapter Leaders Conference in Toronto.

## ATTENTION
## PEO volunteers and vendors



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# BECOMING JOB-READY INCLUDES taking risks, EITs told

*By Michael Mastromatteo*

PEO's YORK CHAPTER expanded its active networking efforts November 7 with an "accelerated mentoring" event for recent graduates and newly licensed engineers.

The day-long program, which attracted nearly 40 engineers and engineering interns (EITs), featured career advice from six veteran engineering practitioners, and an opportunity for recent graduates to share experiences on the road to their first career-related employment.

As an emerging high-tech hub in the greater Toronto area, the York Region has great job potential for new engineers.

The November 7 event included a "straight talk" panel led by management engineers Arnold Gilis, P.Eng., of WorleyParsons Canada, and Dennis Woo, P.Eng., past chair of York Chapter. Both engineers fielded questions from EITs related to translating work experience into their first full-time engineering position. They also offered insights into resume writing, career shifting and general tips on standing out in the job market.

Ron Mantay, P.Eng., vice president, engineering and construction, renewable generation projects, PowerStream Inc., urged recent graduates to look for new or unusual opportunities to advance their careers. He shared his experience of transitioning from an airplane mechanic to a series of senior engineering and management positions. "Make a decision to do something different and invest in yourself," Mantay said. "Consider looking for work that you can really grow into." Mantay also recommended networking and volunteer work as additional channels to find career opportunities.

Many career counsellors today suggest new engineers upgrade their interpersonal skills as a way to succeed in the job market.

These non-technical elements were the focus of a presentation by Araceli Hernandez, P.Eng., FEC, a new program development manager at Celestica (formerly Honeywell) in Mississauga.

"Opportunities to network are most important, as engineers are not very social by nature," Hernandez said. "So it is important to encourage them to be part of a [PEO] chapter and get to know other peers that in the future may be of help."

She also urged recent graduates and EITs to stay focused on obtaining their full P.Eng. licence after fulfilling all work experience requirements. "Having the P.Eng. licence is an advantage as it will give graduates an edge over other people having similar skills who don't have the licence. It tells employers that you are committed and with high standards in your work."

Elmer Ting, P.Eng., chair of York Chapter's EIT and Mentoring Committee, facilitated the accelerated mentoring event. Just one month earlier, Ting organized a networking event that introduced EITs to new contacts and potential employers.

"EITs are faced with many challenges: obtaining their P.Eng. licence, finding a job and advancing their skills to excel early in their careers," Ting told *Engineering Dimensions*. "We recognize these problems as we've all been EITs ourselves at one point, so we try to develop events and programs that address all these aspects while providing opportunities for EITs to build their network. We hope that once EITs become licensed and established in their career that they'll help the next generation."

Other mentors taking part in the York Chapter event included Daniel Liao, P.Eng., Gordon Ip, P.Eng., FEC, Wallace Lee, P.Eng., Paulus Kong, P.Eng., Tanveer Sayed, P.Eng., and Roger Salema, EIT.

Paul Phillipe Champagne, EIT (left), gets some career advice from engineer-mentor Gordon Ip, P.Eng., FEC, as part of the York Chapter's November 7 mentoring event.


Engineer mentors at the York Chapter accelerated mentoring event included (left to right) Elmer Ting, P.Eng., Daniel Liao, P.Eng., Gordon Ip, P.Eng., FEC, Ron Mantay, P.Eng., Roger Salema, EIT, and Wallace Lee, P.Eng.

# Sustainability imperative energizes students at ESSCO CONFERENCE

*By Melissa Buckley*

Student delegates at the annual PEO student conference included (left to right) Grant Mitchell, Michelle Liu, Kieran Broekhoven, Madeline Amszej, Ian Strasser, Melissa Buckley, ESSCO vice president of communications, and Abdullah Barakat.

PEO continues to forge strong links with Ontario's undergraduate engineering student community. The latest opportunity took place November 13 to 15 with PEO's annual student engineering conference. The theme for this year's event, held at the University of Ottawa (U of O), was sustainable thought.

Each year, the engineering regulator joins forces with the Engineering Student Societies' Council of Ontario (ESSCO) to present learning opportunities about the profession and inform students of the benefits of licensure.

Approximately 70 student leaders from across Ontario heard from a variety of speakers and professional engineers about how they have combined sustainability with their other passions and careers. Students arrived in the capital on November 13 for a night of socializing before the busy weekend.

On November 14, students travelled to the U of O campus for a day packed with sessions on the future of engineering in Ontario and the world.

The U of O is powered completely by its own energy, as was discussed in the first presentation by Jonathan Rausseo, the university's first sustainability officer. He inspired delegates to think outside the box and set audacious sustainability goals.

Talent advisor Joel Vautour from Mosaic Sales Solutions spoke to the delegates about how to create their own brand and a great LinkedIn profile, clean up their resumes and "nail" the interview.

In the afternoon, Landon Gardner, founder of numerous startups, inspired students by relating how he took something he loves and used it to improve his community and environment. Gardner is principal of Sailing to Sustainability (S2S), a social, mission-based company dedicated to growing the sport of sailing and engaging Canadians in a sustainable marine environment.

Jeannette Chau, P.Eng., PEO manager, government and student liaison programs, spoke next on the dangers of climate change, discussing the process of reducing emissions and cutting demand, which some communities have already begun.

Delegates also heard from Tobi Nassaumi, a local city officer and champion of sustainable infrastructure in Ottawa, who regaled students with a fascinating presentation on the development of green cities. Students were each given a copy of *Happy City* by Charles Montgomery, which tied in with Nassaumi's presentation.

Katrina Sik, from IMPACT! Sustainability Champions Training Program, instilled the importance of understanding an issue fully before diving into a solution, and encouraged delegates to continue down their paths of sustainable development.

Final speaker Blake Keidan, from Brown & Cohen Communications & Public Affairs (PEO's government relations consultant), spoke about his experience with provincial and federal politics and how to network with just about anyone. Keidan also reinforced the importance of engineers getting involved in politics and having their voices heard by the Ontario Society of Professional Engineers (OSPE) and other community partners.

The sustainability focus continued into the evening as students heard from keynote speaker Ioan Nistor, PhD, professor of hydraulic and coastal engineering at U of O. He spoke about the importance of sustainable development.

Engaging the next generations of professional engineers is an important goal of ESSCO and PEO, as is introducing delegates to the work of PEO and the benefits of obtaining a licence. Both were achieved at the conference.

ESSCO executives expressed their appreciation for the continued support of PEO, which sponsored the conference and offered its connections to some powerful speakers.

ESSCO officials also saluted conference chair and U of O engineering student Nick Burgel and his organizing team: Chiko Musimwa, Wil Bell, Keiko Climaco and Shannon Berry.

Melissa Buckley is a second-year chemical engineering student at the University of Waterloo and ESSCO vice president of communications.

## BUILDING CODE CONVICTION OVERTURNED ON APPEAL

*By Michael Mastromatteo*

An Alberta engineering firm convicted for violating the province's building code legislation has been cleared by the Alberta Court of Queen's Bench, and by the province's engineering regulator.

Williams Engineering was convicted in November 2014 for endangering public safety relating to a renovation project at a downtown Calgary underground parking facility. The conviction was said to be the first time an engineering firm had been charged under building code legislation.

The charge and conviction led to the resignation of Jim Gilliland, PhD, P.Eng. (Alberta), as president of the Association of Professional Engineers and Geoscientists of Alberta (APEGA). Gilliland is a regional director of Williams Engineering.

In July 2015, however, Alberta Court Justice G.H. Poelman exonerated Williams Engineering on appeal, saying: "I have found that the provincial court judge erred in finding that the Crown proved beyond a reasonable doubt that there was an unsafe condition. Each count on which a conviction was entered depends on causing, allowing or maintaining an unsafe condition. Thus, all convictions must be set aside."

Meanwhile, an APEGA investigation into the conduct of Williams Engineering concluded there was no evidence of unprofessional practice by the company or its employee, Gilliland. In an October 2015 statement, APEGA said its panel found that Williams Engineering acted appropriately under the circumstances from a professional regulatory standpoint.

APEGA normally does not make public its investigations of members or firms, but did so in this case so as to avoid the appearance of conflict of interest.

## Law firm predicts dim future for CANADIAN EXPERIENCE REQUIREMENT

*By Michael Mastromatteo*

THE CANADIAN EXPERIENCE REQUIREMENT for licensing is becoming increasingly vulnerable to human rights challenges, says a representative of a leading law firm.

Speaking October 16 at an information session for regulatory bodies, Raj Anand, LLB, a senior civil litigation, administrative and human rights lawyer with WeirFoulds LLP and a bencher (council member) for the Law Society of Upper Canada, said the future is dim for Canadian experience as a requirement for licensing in the senior regulated professions.

WeirFoulds is one of a growing number of law firms to develop expertise in the interaction of self-regulating professions with government overseers.

One of the firms practitioners, Jill Daugherty, LLB, is one of three independent legal counsel retained by PEO's tribunals and regulatory affairs department.

Anand said human rights continue to gain prominence in every jurisdiction and that regulated professions aren't exempt from the influence of human rights tribunals.

In human rights jurisprudence, he said, once a claimant shows that a neutral rule has a discriminatory impact, the onus shifts to the respondent to establish that an exclusion or restriction is reasonable and bona fide, and that no reasonable accommodation is possible.

"Human rights codes are 'quasi-constitutional' and almost anything that you do as self-regulating professions is covered by human rights legislation in one way or another," Anand said.

In response to questions about the future of a Canadian experience requirement for licensing, Anand said it is becoming increasingly difficult to justify. "It's certainly a vulnerable requirement right now," he said.

PEO requires that applicants have 48 months of qualified, verifiable engineering work experience before obtaining a professional engineer licence. At least 12 months of that experience must be obtained in a Canadian jurisdiction under the supervision of a Canadian licence holder. While the Canadian experience requirement is designed to ensure all applicants have sufficient exposure to Canadian engineering codes, legislation, technical standards and regulations, it has been cited as an additional hardship for some internationally educated engineering graduates.

Anand said regulators should continually review their admission and registration practices against human rights expectations to ensure that each applicant is treated as an individual, rather than as a proxy for an entire group or subsection of applicants.

He also said human rights legislation can override regulators' internal adjudicative practices, and urged regulators to provide human rights training to their tribunal members.

PEO's tribunals and regulatory affairs department has been proactive in the human rights area. It organizes procedural law information seminars for Registration Committee members and other volunteers and, in July 2014, invited an official from the Ontario Human Rights Commission to discuss the Canadian experience requirement as a barrier to internationally trained licence applicants.

# PRACTICE ADVICE RESOURCES AT PEO

*By José Vera, P.Eng., MEPP*

THROUGHOUT THEIR careers, engineers may encounter challenging situations in their practices. Often these challenges are not technical, but rather deal with the professional obligations of engineers.

Whatever difficulties lie ahead, engineers have always been known to rise to the occasion and find the necessary resources to overcome challenges. Accordingly, PEO provides several resources to help engineers understand their professional and ethical obligations. Following are some practice advice resources available to assist practitioners. Clients, employers, other regulators and members of the public might also benefit by familiarizing themselves with these resources.

## PRACTICE GUIDELINES

PEO's practice guidelines are a key resource for practitioners looking for advice and recommendations on best practices. Specifically, guidelines are developed to aid engineers in performing their engineering role in accordance with the *Professional Engineers Act* (PEA), and subordinate regulations. Practice guidelines provide a general definition of the roles and responsibilities of professional engineers, and are intended to advise practitioners of what is normally expected of a reasonable and prudent engineer practising in a particular area. Guidelines also explain the role of a professional engineer to the public, especially clients and employers.

For a complete list of the current PEO practice guidelines, please visit www.peo.on.ca/index.php?ci_id=4377&la_id=1.

## PRACTICE BULLETINS

PEO's practice bulletins are similar to practice guidelines, but are developed for urgent issues or where a short document shelf-life is expected. Bulletins are also used for interpretations or supplements to the guidelines. Customarily, bulletins are incorporated into guidelines at the earliest opportunity.

For a complete list of the current PEO practice bulletins, please visit www.peo.on.ca/index.php/ci_id/2211/la_id/1.htm.

## PERFORMANCE STANDARDS

PEO's performance standards provide benchmarks that help practitioners determine the proper level of service they need to provide. However, professional engineers are expected to rely on their own judgment in deciding how to fulfill the tasks entrusted to them. For this reason, instead of dictating rigid rules, PEO's performance standards describe the required outcome of an engineer's activities and leave the method of accomplishing these goals to the discretion of the engineer.

Performance standards can be found in O. Reg. 260/08, a regulation under the PEA. For a current version of this regulation, please visit www.ontario.ca/laws/regulation/080260.

## CONTACTING PEO STAFF FOR PRACTICE ADVICE

PEO's practice advisory team provides information and guidance to engineers on professional practice issues and their responsibilities under the PEA. If you have a practice question that is not addressed by PEO's guidelines, bulletins or standards, please email PEO's practice advisory team at practice-standards@peo.on.ca. This email address is monitored daily by the practice advisory team. The team is also available to discuss practice issues by phone. Please call 800-339-3716, press 0 for reception, and ask to speak with someone about a practice issue.

## MOST COMMON PRACTICE ADVICE QUESTIONS

PEO's practice advisory team tracks information about the most common questions it receives. Approximately 20 per cent of all practice advice questions deal with the engineer's seal. Consequently, engineers are encouraged to read PEO's practice guideline *Use of the Professional Engineer's Seal*, which can be found at www.peo.on.ca/index.php/ci_id/22148/la_id/1.htm.

Over 5 per cent of all practice advice questions deal with the Code of Ethics, which includes the duty to report and conflict-of-interest provisions. Engineers are also encouraged to read *Professional Engineering Practice*, which can be found at www.peo.on.ca/index.php/ci_id/22127/la_id/1.htm, since it contains best practices for dealing with ethical situations.

Another 5 per cent of all practice questions deal with reviewing the work of another engineer. The PEO practice guideline *Professional Engineers Reviewing Work Prepared by Another Professional Engineer* covers this important area of practice and can be found at www.peo.on.ca/index.php/ci_id/22122/la_id/1.htm.

## PRACTICE ADVICE PRESENTATIONS AND WEBINARS

To be more proactive, PEO's practice advisory team will be providing a series of webinars covering the most common practice issues. Please visit www.peo.on.ca in the next few months for detailed information about these webinars.

## PRACTICE TEAM VISITS

PEO's practice advisory team is available to visit your organization and deliver presentations on practice issues. For more information, send an email to practice-standards@peo.on.ca. Σ

José Vera, P.Eng., MEPP, is PEO's manager, standards and practice.

# [ DATEPAD ]

## JANUARY 2016

**JANUARY 23-27**
ASHRAE Winter Conference,
Orlando, FL
ashraem.confex.com/ashraem/w16/cfp.cgi

**JANUARY 24-27**
Biomedical Wireless Technologies, Networks & Sensing Systems,
Austin, TX
www.radiowirelessweek.org/home-bw

**JANUARY 25-28**
Mineral Exploration Roundup 2016,
Vancouver, BC
www.amebc.ca/roundup

**JANUARY 31-FEBRUARY 4**
International Solid-State Circuits Conference,
San Francisco, CA
isscc.org

## FEBRUARY 2016

**FEBRUARY 1-3**
Powerplant Simulation Conference,
San Antonio, TX
www.scs.org/powerplant

**FEBRUARY 1-5**
Paper Week Canada Annual Conference,
Montreal, QC
paperweekcanada.ca

**FEBRUARY 7-11**
International Conference on Nanoscience & Nanotechnology,
Canberra, Australia
www.ausnano.net/iconn2016/

**FEBRUARY 9-11**
DistribuTECH Conference & Exhibition,
Orlando, FL
www.distributech.com

**FEBRUARY 13-18**
SPIE Photonics West,
San Francisco, CA
spie.org/photonics-west.xml

**FEBRUARY 14-17**
Geotechnical & Structural Engineering Congress,
Phoenix, AZ
www.geo-structures.org

**FEBRUARY 21-24**
NEMB Global Conference on NanoEngineering for Medicine & Biology,
Houston, TX
https://www.asme.org/events/nemb.aspx

**FEBRUARY 23-24**
17th International Workshop on Mobile Computing Systems & Applications,
St. Augustine, FL
www.hotmobile.org/2016/

**FEBRUARY 24-25**
International Conference on Water Management Modeling,
Toronto, ON
www.chiwater.com/Training/Conferences/conferencetoronto.asp

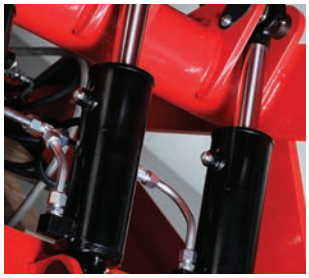
**FEBRUARY 24-27**
Utility Management Conference 2016,
San Diego, CA
www.wef.org/UtilityManagement

**FEBRUARY 27-MARCH 3**
SPIE Medical Imaging Conference,
San Diego, CA
spie.org/x12166.xml

## MARCH 2016

**MARCH 1-30**
National Engineering Month events,
across Ontario
www.nem-mng.ca

**MARCH 2**
Engineering Innovations Forum 2016, "Careers of Innovative Engineers: Past, Present and Future,"
Toronto
www.eiforum.ca



**MARCH 7-10**
Hydraulic Fracturing Conference & Exhibition,
Houston, TX
https://www.asme.org/events/hydraulic-fracturing-conference

**MARCH 8-11**
Sustainable Built Environment Conference,
Hamburg, Germany
www.sbe16hamburg.org

**MARCH 12-16**
IEEE 22nd International Symposium on High Performance Computer Architecture,
Barcelona, Spain
hpca22.site.ac.upc.edu

**MARCH 20-24**
SPIE Smart Structures Conference,
Las Vegas, NV
spie.org/x14193.xml

GAZETTE

# DECISION AND REASONS

## In the matter of a hearing under the *Professional Engineers Act*, R.S.O. 1990, c. P.28, and in the matter of a complaint regarding the conduct of SALVATORE A. DE ROSE, P.ENG., a member of the Association of Professional Engineers of Ontario, and a holder of a Certificate of Authorization.

The panel of the Discipline Committee met to hear this matter on June 25, 2013, at the hearing room at the premises of the Association of Professional Engineers of Ontario (association) in Toronto.

### THE ALLEGATIONS

The allegations against Salvatore A. De Rose, P.Eng., the member and holder (member), were set out in the Statement of Allegations dated October 3, 2012, and filed with the panel. They allege that the member is guilty of professional misconduct for:

1. signing and sealing drawings for Lot 3 Bunny Glen, St. Davids, Ontario, dated May 9, 2011, that did not accurately reflect the building's construction design, amounting to professional misconduct as defined by sections 72(2)(a) and (j) of Regulation 941;

2. signing and sealing drawings for Lot 3 Bunny Glen, St. Davids, Ontario, dated May 9, 2011, and June 27, 2011, that he did not prepare, amounting to professional misconduct as defined by sections 72(2)(e) and (j) of Regulation 941; and

3. reproducing the work of another professional engineer without permission, contrary to the *Copyright Act*, R.S.C., 1985, c. C-42, amounting to professional misconduct as defined by sections 72(2)(d) and (j) of Regulation 941.

### AGREED STATEMENT OF FACTS

Counsel for the association advised the panel that agreement had been reached on the facts and introduced an Agreed Statement of Facts (ASF), which provides as follows:

1. The member is a professional engineer who has been licensed pursuant to the *Professional Engineers Act* (PEA) since 1977. He is also a holder of a Certificate of Authorization under the PEA.

2. The member was previously convicted of professional misconduct. By a decision dated July 29, 2010, the Discipline Committee imposed the following penalty:
   (a) the administration of an oral reprimand, with the fact of the reprimand being recorded on the register for an unlimited period;
   (b) a suspension of the member's licence for a period of 60 days from the date of the hearing;
   (c) the addition of a term and condition on the member's licence that he write and pass the professional practice examination, at his own expense, within 12 months from the date of the hearing; and
   (d) within six months from the date of the hearing and to the satisfaction of the registrar, the member must submit an internal policy/procedure document governing his approach to the provision of general review of construction services and to the issuance of certifications arising from such services.

3. The member wrote and passed the professional practice examination, albeit after the time limit set under paragraph 2(c) above, and he provided an internal policy/procedure document as required.

4. The complainant in the current proceedings is Joseph Ha, P.Eng., a professional engineer practising in St. Catharines, Ontario.

5. On or prior to May 9, 2011, a builder named DRT Custom Homes and Renovations (DRT) retained the member to seal drawings that detailed the stability of a laterally unsupported foundation wall for a residential home at Lot 3 Bunny Glen, St. Davids, Ontario (Bunny Glen). DRT required an engineer's seal on the drawings to obtain a building permit for the property.

6. Rather than ask the member to create the drawings, DRT provided the member with drawings for a similar home it had built at Lot 24 Red Haven, St. Davids, Ontario (Red Haven). The Red Haven drawings, which detailed the stability of a similar foundation wall, were created by the complainant Ha's company, Joseph T.K. Ha Engineering Inc., and sealed on March 18, 2010.

7. On or about May 9, 2011, the member altered the Red Haven drawings without Ha's knowledge or consent by removing Ha's seal, his company's identifying information, the March 18, 2010 creation date, and the Red Haven address, and replaced these with his own seal, identifying information, a new creation date of May 9, 2011, and the Bunny Glen address (the Bunny Glen drawings).

8. On or about June 3, 2011, the member submitted the Bunny Glen drawings to the Town of Niagara-on-the-Lake in support of a building permit for Bunny Glen.

9. On or about June 6, 2011, Building Inspector Walter Klassen notified Ha's office that the Bunny Glen drawings were identical to those Ha had sealed for Red Haven and submitted to the town in 2010.

10. On or prior to June 27, 2011, Klassen advised the member that the Bunny Glen drawings did not match the construction design for Bunny Glen. Klassen asked the member to revise the drawings and resubmit them.

11. On or about June 27, 2011, the member submitted to Klassen a sealed letter that addressed Bunny Glen's laterally unsupported foundation walls and that enclosed a revision of the Bunny Glen drawings with an amendment of the lower floor plan, stamped and signed June 27, 2011. As before, this further submission was done without Ha's knowledge or consent.

12. On or about the same day, Klassen advised DRT that he had rejected the resubmitted Bunny Glen drawings because they appeared to be altered versions of those created by Ha for Red Haven.

13. Ha filed a complaint with PEO on August 17, 2011, regarding the unauthorized use of his drawings.

14. By a letter dated October 26, 2011, the member responded to the complaint as follows:

"I was called by DRT Custom homes to stamp a simple drawing for a laterally unsupported wall in a new house construction. I had done the same type of drawing many times for other contractors. They sent me drawings which they had from a previous and identical house construction which had been, previously prepared by another engineer. I asked them why they did not just get him to do the work. They indicated that he was on vacation and was not available. I asked if the other engineer had been paid for his work and they acknowledged that he had. I was not aware that the owner could not use the drawing on an identical house…

I submitted the drawings and sent my bill to the owner who paid for the work. The building inspector from Niagara on the Lake, Ontario called me later and requested that I submit original drawings. I told him that I knew the other engineer would be back the following week and I was quite busy and would rather just let the other engineer complete the work. He was in agreement with that and said he would discard my drawings and wait for the other engineer to return from vacation and resubmit them. I called DTR Custom homes and informed them of the conversation with the Building Inspector and I told them I would return the fee paid which I did soon after.

My sincerest apologies for my error in judgment. I now have a clearer understanding of copy write issues.
[sic]"

15. By reason of the aforesaid, it is agreed that the member is guilty of professional misconduct as defined in subsection 28(2)(a) of the PEA:
"The member or holder has been guilty in the opinion of the Discipline Committee of professional misconduct as defined in the regulations."

16. The sections of Regulation 941 made under the PEA and relevant to the member's misconduct are:
    (a) subsection 72(2)(a), in that the member was negligent in signing and sealing

drawings for Lot 3 Bunny Glen that did not accurately reflect the building's construction design;

(b) subsection 72(2)(d), in that the member reproduced the work of another professional engineer without permission contrary to the *Copyright Act*, R.S.C. 1985, c. C-42;

(c) subsection 72(2)(e), in that the member signed and sealed drawings that he did not actually prepare or check; and

(d) subsection 72(2)(j), in that the member's conduct as aforesaid would reasonably be regarded by the engineering profession as disgraceful, dishonourable or unprofessional.

## PLEA BY MEMBER AND HOLDER

The member admitted the allegations set out in the ASF. The panel conducted a plea inquiry and was satisfied that the member's admission was voluntary, informed and unequivocal.

## REASONS FOR DECISION

The panel was not persuaded that the facts set out in the ASF supported a finding of professional misconduct under subsection 72(2)(d) of Regulation 941, as set out in paragraph 16(b) of the ASF. Subsection 72(2)(d) of Regulation 941 provides that "Professional misconduct" means… "(d) failure to make responsible provision for complying with applicable statutes, regulations, standards, codes, by-laws and rules in connection with work being undertaken by or under the responsibility of the practitioner." The panel was concerned that the ASF did not make it clear as to the ownership of the copyright in question and that, thus, the conviction under subsection 72(2)(d) was not made out.

The panel was similarly not convinced that the facts established that the member's conduct was "disgraceful" or "dishonourable" for the purposes of subsection 72(2)(j) of Regulation 941, as set out in paragraphs 16(d) of the ASF.

The panel sought the advice of independent legal counsel (ILC) on its intention not to make findings of professional misconduct as set out in paragraph 16(b) of the ASF, nor to find that the actions of the member and holder were "disgraceful" and "dishonourable" as set out in paragraph 16(d) of the ASF. In accordance with the advice it received from ILC, the panel invited the parties to make additional submissions regarding these paragraphs and its intention.

The parties thereafter both agreed to the deletion of the conviction under subsection 72(2)(d) of Regulation 941 and to the deletion of the conviction for disgraceful and dishonourable conduct.

The panel accepted the admitted facts in the ASF as proof of professional misconduct, and found the member guilty of professional misconduct pursuant to section 28(2)(b) of the PEA and subsections 72(2)(a), (e) and (j) of Regulation 941.

## DECISION

The panel, thus, considered the ASF and the submissions and agreement of the parties and found that the facts, as agreed, supported a finding of professional misconduct and, in particular, found that Salvatore A. De Rose, P.Eng., committed the following acts of professional misconduct as set out in paragraphs 16(a), (c) and (d) of the ASF under the legislation:

(a) under subsection 72(2)(a) of Regulation 941, in that the member was negligent in signing and sealing drawings for Lot 3 Bunny Glen that did not accurately reflect the building's construction design;

(c) under subsection 72(2)(e) of Regulation 941, in that the member signed and sealed drawings that he did not actually prepare or check; and

(d) under subsection 72(2)(j) of Regulation 941, in that the member's conduct as aforesaid would reasonably be regarded by the engineering profession as unprofessional.

## PENALTY

Counsel for the association advised the panel that a Joint Submission as to Penalty (JSP) had been agreed upon. The parties filed the JSP. The JSP provides as follows:

(a) pursuant to s. 28(4)(f) of the PEA, the member shall be reprimanded and the fact of the reprimand shall be recorded on the register for an unlimited period;

(b) pursuant to s. 28(4)(b) of the PEA, the member's licence and Certificate of Authorization shall be suspended for a period of 30 days, commencing on July 25, 2013;

(c) pursuant to s. 28(5) of the PEA, the order of the Discipline Committee, with the reasons therefor, shall be published in the official publication of the association, together with the name of the member; and

(d) pursuant to s. 28(4)(j) of the PEA, the member shall pay costs in the amount of $3,500, within 60 days of the hearing before the Discipline Committee.

Counsel for the parties provided submissions on the appropriateness and adequacy of the penalty agreed to.

Counsel for the association submitted that the suspension, reprimand, discipline publication and cost award served the objectives of specific and general deterrence in this matter. She also submitted that the agreed upon penalty protected the public and maintained the reputation of the association. Finally, counsel for the association submitted that the penalty accounted for the member's discipline history and the mitigating steps he took in the present matter, namely, his admission of the allegations of professional misconduct, his apology, and his co-operation with the association.

Counsel for the member submitted that the member made an error in judgment and took an unacceptable shortcut when he signed and sealed the documents in question. He stated that the member took immediate corrective action, including returning the fee he was paid, and showed remorse for his error. He further submitted that the member acknowledged his professional misconduct and agreed to the JSP, which sets out an appropriate penalty in the circumstances. Finally, counsel for the member stated that the member is acutely aware of his responsibilities as a professional engineer, having been one for 35 years.

## PENALTY DECISION

The panel concluded that paragraphs (a), (b) and (c) of the proposed penalty were within the reasonable range and in the public interest. The panel noted that the member readily acknowledged his misconduct and co-operated with the association. By agreeing to the facts and a proposed penalty, the member accepted responsibility for his actions and avoided unnecessary expense to the association.

However, the panel was concerned that provision (d) of the JSP was unnecessary and unreasonable in light of the member's co-operation with the association and the corrective steps he took, and the variation in the convictions entered as agreed on by the parties. The panel sought the advice of ILC on varying the JSP. In accordance with the advice it received from ILC, which was provided to the parties, the panel invited the parties to make further submissions as to the soundness of the inclusion of provision (d) in the penalty.

After consideration, both parties submitted that they agreed that provision (d) be deleted.

Accordingly, the panel agreed to vary the JSP by removing provision (d).

The panel accepted the remaining provisions of the JSP and, accordingly, ordered:

(a) pursuant to s. 28(4)(f) of the PEA, the member shall be reprimanded and the fact of the reprimand shall be recorded on the register for an unlimited period;
(b) pursuant to s. 28(4)(b) of the PEA, the member's licence and Certificate of Authorization shall be suspended for a period of 30 days, commencing on July 25, 2013; and
(c) pursuant to s. 28(5) of the PEA, the order of the Discipline Committee, with the reasons therefor, shall be published in the official publication of the PEO, together with the name of the member.

The member and holder waived his right to appeal, and the reprimand was administered at the conclusion of the hearing.

Henry Tang, P.Eng., signed the Decision and Reasons for the decision as chair of the discipline panel, and on behalf of the members of the discipline panel: Stella Ball, LLB, Ishwar Bhatia, P.Eng., Denis Carlos, P.Eng., and Patrick Quinn, P.Eng.

## FORMER PROVISIONAL LICENCE HOLDER BEHZAD VAGHEI ORDERED TO STOP OFFERING AND PROVIDING PROFESSIONAL ENGINEERING SERVICES

On May 26, 2015, Judge Grant R. Dow of the Superior Court of Justice ordered Behzad Vaghei of Toronto, Ontario, operating under the business name "P.Eng. Design & Drafting Services" (now known as Design & Drafting Services Inc.) to stop using terms, titles and descriptions restricted to professional engineers and authorized professional engineering firms.

Although Vaghei had held a PEO provisional licence from December 2013 to December 2014, he had never held an unrestricted licence and had never been authorized to provide professional engineering services to the public. However, several individuals had come forward regarding Vaghei's advertisements on various classified ad websites, which prominently used the restricted abbreviation "P.Eng." and provided further evidence that Vaghei had held himself out as a professional engineer and had undertaken work that required a professional engineer's seal. He also maintained a website with the domain name "peng-services.com" which has since been taken down.

Jeffrey Haylock of Toronto law firm PolleyFaith LLP represented PEO in this matter.

# ONTARIO ENGINEERS FIND THEIR PLACE IN THE HOUSE OF COMMONS

*By Howard Brown and Blake Keidan*

IN THE JULY/AUGUST 2015 issue of *Engineering Dimensions* we predicted the 2015 Canadian federal election was going to be interesting. It certainly was.

The 42nd general election was the longest since 1872 (lasting 78 days), with the highest turnout in over 20 years. It is the only time in Canadian history that the third-place party was elected to government, let alone with a majority. October 19 was a historic moment.

In the election, six engineers from four provinces were elected as MPs. They are:

- Ontario: Omar Alghabra, P.Eng., MP (Mississauga Centre), and Marilyn Gladu, P.Eng., MP (Sarnia-Lambton);
- Quebec: Steven Blaney, P.Eng., MP (Bellechase-Les Etchemins-Lévis), and Marc Garneau, P.Eng., MP (Westmount-Ville-Marie);
- British Columbia: Sukh Dhaliwal, P.Eng., MP (Surrey-Newton); and
- Newfoundland: Nick Whalen, P.Eng., MP (St. John's East).

The two engineers from Ontario are set to make a big difference in the house.

Alghabra was re-elected in his riding after defeating long-time Conservative MP Bob Dechert. He served as the MP for Mississauga-Erindale from 2006 to 2008, but was defeated in 2008 and 2011. Alghabra has volunteered with PEO in the past and moderated the Engineers Want In conference last March, which was jointly hosted by the Ontario Society of Professional Engineers, Ryerson University and PEO. On December 3, he was appointed parliamentary secretary to the minister of foreign affairs.

On winning re-election, Alghabra told a reporter at *The Eyeopener* that he, "hopes to bring to Ottawa a fresh perspective...a voice that is perhaps not often heard. My own passion and my own commitment to equality, to justice, to wanting to see this country move forward."

Also historic was the election of Gladu, the first female professional engineer elected in Canada. Gladu was chair, and national director of science and industrial policy, with the Canadian Society of Chemical Engineers. She has been part of the Sarnia-Lambton community for over 30 years, employed at Dow Chemical, Suncor and then WorleyParsons, and actively involved in her riding, working with Bob Bailey, MPP (Sarnia-Lambton), and PC natural resources critic, for many years. On November 21 it was announced that Gladu will be the new science critic with the official opposition.

About her election as an MP, Gladu says: "I'm excited to be the first female engineer to ever be elected to the House of Commons. It sets the bar high to perform to our credit. I think there are four areas of competency that engineers can bring to government: engineers can solve complex problems, make fact-based scientific decisions, act with a higher ethical standard and ensure the safety and security of the public." Gladu promises to be "an advocate for engineers having a strong voice in government" and believes this election provides "a great opportunity to be more collaborative, more inclusive and more professional."

Marilyn Gladu, P.Eng., MP (Sarnia-Lambton)
Omar Alghabra, P.Eng., MP (Mississauga Centre)

Engineers will play an important role in parliament and bring relevant experience to their new roles. Garneau, the first Canadian in space and former president of the Canadian Space Agency, was appointed minister of transportation on November 4. He says he will focus his time "providing a transportation system that is safe, reliable and facilitates trade and the movement of people and goods."

In addition to an engineer in his cabinet and four engineers in his caucus, Prime Minister Justin Trudeau has long had an interest in engineering. In his 2014 biography *Common Ground*, Trudeau said: "In the fall of 2002, I started at the University of Montreal's École Polytechnique, to develop my scientific side by studying engineering. I've always loved engineering: the practical application of math and science to real-world situations appealed to me deeply." In his book he also mentions that he met his wife while studying engineering. Although he never finished engineering, it clearly still interests him.

The election may be over, but following what the six elected engineers will accomplish is sure to be exciting! Σ

Howard Brown is president of Brown & Cohen Communications & Public Affairs Inc., and PEO's government relations consultant. Blake Keidan is an account coordinator at Brown & Cohen, and PEO's government relations coordinator.

# LICENSING, CERTIFICATE OF AUTHORIZATION changes strengthen regulation of professional engineering

The Ontario government's open for business legislation of 2010 provided PEO the opportunity to secure much-desired *Professional Engineers Act* amendments that enhance its accountability and transparency, and recognize highly skilled practitioners. BY MICHAEL MASTROMATTEO

For Ontario's engineering profession, there was much more to celebrate on July 1, 2015 than just the country's 148th birthday. The date also marked the day key amendments to the *Professional Engineers Act* (PEA) were proclaimed into effect. At the same time, associated changes were made to Ontario Regulation 941/90–changes that PEO believes will bring further transparency, accountability and effectiveness to engineering regulation.

The PEA amendments, some of which PEO had been working on for more than 10 years, were fast-tracked when the Ontario government passed the *Open for Business Act, 2010*. This legislation focused on changes to other legislation that would enhance economic competitiveness and labour mobility.

## RECOGNIZING SPECIAL KNOWLEDGE AND SKILLS

Changes to section 17 of the PEA and associated sections 47 to 50 of Regulation 941/90, for example, relate to PEO's Certificate of Authorization (C of A). These changes implement an approved 2002 recommendation of PEO's Technologist Licensure Task Group (TLTG) that limited licence holders be permitted to be responsible for engineering services, within the limitations of their licences, provided to the public under a C of A–either their own or another's. Making this happen required a change to the PEA, and the C of A sections of the regulation.

To support Cs of A for limited licence holders, the TLTG also recommended, and council approved, strengthening the requirements to get a limited licence. Accordingly, section 46 of the regulation has been amended to do just that. The amendments to section 46 make more general the academic requirements for a limited licence to accommodate applicants with technical degrees/diplomas in a broader range of disciplines than those to which the licence historically applied. Applicants for a limited licence are also now required to demonstrate equivalent depth of knowledge within the proposed limitation of their licences to that expected of applicants for a professional engineer licence, which will be assessed by PEO's Academic Requirements Committee.

Applicants for limited licences must also obtain eight years of engineering experience that meets the published criteria of the *Guide to the Required Experience for a Limited Licence in Ontario*, approved by PEO council in March 2014. Previously, applicants were required to obtain 13 years of experience that was not as clearly defined. In addition, at least six years of the experience must correspond to the scope of professional engineering services to be provided under the limited licence, with at least four of those six years' experience acquired in a Canadian jurisdiction under the supervision of a professional engineer. Previously, one year of the required experience had to be acquired under the supervision and direction of a professional engineer, with at least the last two years of experience being in the services within the practice of professional engineering to which the limited licence would apply.

The TLTG also recommended that a class of limited licence–the licensed engineering technologist (LET)–be established for a limited licence holder who is also a certified engineering technologist (C.E.T.) with the Ontario Association of Certified Engineering Technicians and Technologists (OACETT). This recommendation was enabled by adding a new section 46.0.1 to the regulation. This new class of limited licence recognizes that these practitioners have met additional qualifications to obtain and maintain their OACETT certifications and their willingness to be held professionally accountable by both the licensing and certification bodies.

Stephen Morley, C.E.T., OACETT past president, said the regulation changes are welcome news for his 24,000 member-strong organization. "In enacting these regulations, Professional Engineers Ontario has recognized the wider range of work engineering technologists are qualified to perform, subject to meeting licensing requirements," Morley said in a statement. "These requirements are demanding, in keeping with the need to protect the public, but for OACETT members who are suitably qualified [certified engineering technologists], this limited licence creates a pathway toward professional advancement."

PEO Registrar Gerard McDonald, P.Eng., concurs. He said in July 2015: "We're pleased PEO can make these changes to recognize the important role played in the profession by the holders of our limited licences and new licensed engineering technologist class of limited licence."

Holders of the new class of limited licence may use the protected title "licensed engineering technologist" and "LET" designation. LETs will also be issued their own seal, which is a variation of the seal issued to holders of limited licences, who now hold a protected title of "limited engineering licensee" (LEL). LET seals will include the licensed engineering technologist title. The seals of LELs will show their title as limited engineering licensee. The seals of both LETs and LELs will include the holder's name, limited licence number, category of limited licence (computer, for example), and the licence limitations.

## LONG IN THE WORKS

Morley says the end result is the fruit of more than a decade of collaboration between OACETT and PEO. "At the end of this lengthy negotiation process and effective co-operation between our two organizations, the provincial government saw fit to amend the regulation and proclaim the enabling amendments to the *Professional Engineers Act*, which were approved in 2010."

Even prior to the July 1, 2015 proclamation date, PEO had begun work on developing an application process for OACETT members interested in the LET designation.

"We have received a lot of inquiries," says Lawrence Fogwill, P.Eng., PEO's manager, registration. "Only a few have mentioned that they intend to pursue their own C of A, but time will tell."

PEO President-elect George Comrie, P.Eng., FEC, chair of the now-stood-down Licensing Process Task Force (LPTF), says the July 2015 regulation changes were overdue. "The driving force behind these changes was the commitment that we made to OACETT about 2001 or that timeframe," Comrie says, adding that other engineering regulators have long struggled with the regulatory relationship between engineers and engineering paraprofessionals. "In Ontario, we have found a better way to do this. We were basically waiting on the government for an act change, which we got in 2010. And then OACETT reminded us that it was time to do the rest of the regulation changes to bring the LET into being."

He says PEO's limited licence, while long in existence, has never seen a large uptake. However, with the creation of the LET, and the move to allow holders of limited licences to obtain a C of A, PEO is moving its licensing authority in a positive direction.

He also said the now more flexible limited licence is an excellent vehicle for PEO to explore licensing options in emerging disciplines, such as critical infrastructure engineering or nanotechnology. "You have people out there practising a form of engineering and

here is PEO saying 'this is the practice of professional engineering now.' And they don't have engineering degrees. But they may be able to meet the academic requirement for a limited licence and demonstrate competence. This just might reflect our ability to establish some sort of beachhead in an emerging discipline," Comrie says.

## CLEARER, QUICKER, MORE ACCOUNTABLE LICENSING

The open for business initiative also allowed PEO to follow up recommendations contained in the LPTF report, which was approved by PEO council in January 2008.

For example, the LPTF recommended that the regulation be amended to require the Academic Requirements (ARC) and Experience Requirements (ERC) committees to specify the academic or experience requirements to be met by licence applicants the committees determine do not meet the requirements for licensure.

Before the recent regulation changes, ARC was required only to make recommendations to the registrar on what examinations or other academic requirements an applicant must complete, while ERC was required only to determine whether an applicant meets the experience requirements and so inform the registrar. The PEA, however, requires the registrar to give notice to applicants of determinations by one or both of the committees, which notice is required to detail the requirements applicants must meet to qualify for licensing.

The amendments to sections 40(2) and 41(2) of the regulation, which became effective April 2, 2015, align the regulation with the notice provisions of section 14(6) of the PEA, and provide greater clarity to licence applicants about how they might meet the licence requirements. This increases PEO's accountability and transparency to licence applicants.

The LPTF also recommended changes to the requirements to obtain a temporary licence, which harmonize these requirements with those for obtaining a licence as a professional engineer. Changes to sections 43 and 44 of the regulation to implement this recommendation, also effective April 2, have enabled PEO to streamline the list of exemptions to the requirement for a Canadian P.Eng. collaborator by permitting a temporary licence holder who has 12 months of Canadian experience to be exempted from the requirement for a collaborator. This is the same Canadian experience required for a full P.Eng. licence. The holder of a full P.Eng. licence requires no collaborator.

These changes ensure the temporary licence remains a useful option for engineers needing to be licensed relatively quickly to meet a specific need, who are not licensed in another province. Having such practitioners apply for a P.Eng. licence, which they can do since Canadian citizenship or permanent resident status is not required for licensure, would potentially delay their licensure.

Engineers licensed in another Canadian jurisdiction who require a licence to work in Ontario temporarily can quickly obtain a full P.Eng. licence under interprovincial mobility agreements.

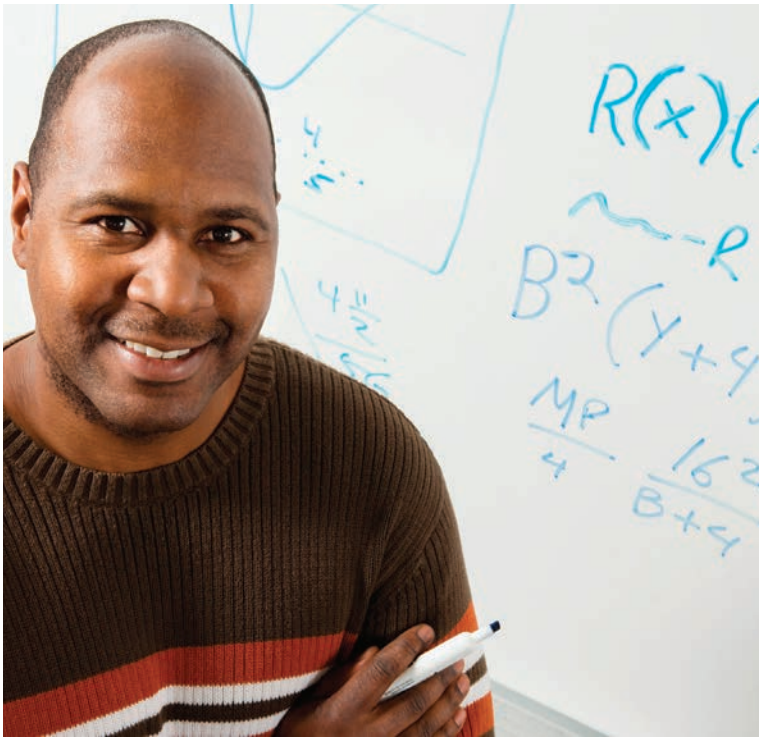
> "In enacting these regulations, Professional Engineers Ontario has recognized the wider range of work engineering technologists are qualified to perform, subject to meeting licensing requirements."
> Stephen Morley, C.E.T., OACETT past president

## PAVING THE PATH TO LICENSURE

The 2010 open for business PEA amendments also included a new section 20.1, setting out the conditions for a licence applicant to be accepted as an engineering intern, and a new section 40(3.2) protecting the engineering intern title and EIT designation. Like other of the PEA amendments, they were not immediately proclaimed, in this case pending regulations setting out the necessary academic requirements to be an engineering intern and engineering interns' rights and privileges.

Changes to section 32.1 of the regulation, effective July 1, 2015, permitted proclamation of the pending PEA amendments.

With these amendments, licence applicants who are enrolled in PEO's engineering intern training program and meet the academic requirements are officially recognized as being on the path to professional licensure with a protected title they can use to show their commitment to the profession. Σ



# A PEO COUNCIL WHO's WHO

*By Jennifer Coombes*

IF YOU HAVE been following our series of governance articles since they began in the July/August 2015 issue, you'll see we've covered several topics related to governance, but have not yet specifically tackled PEO's governance.

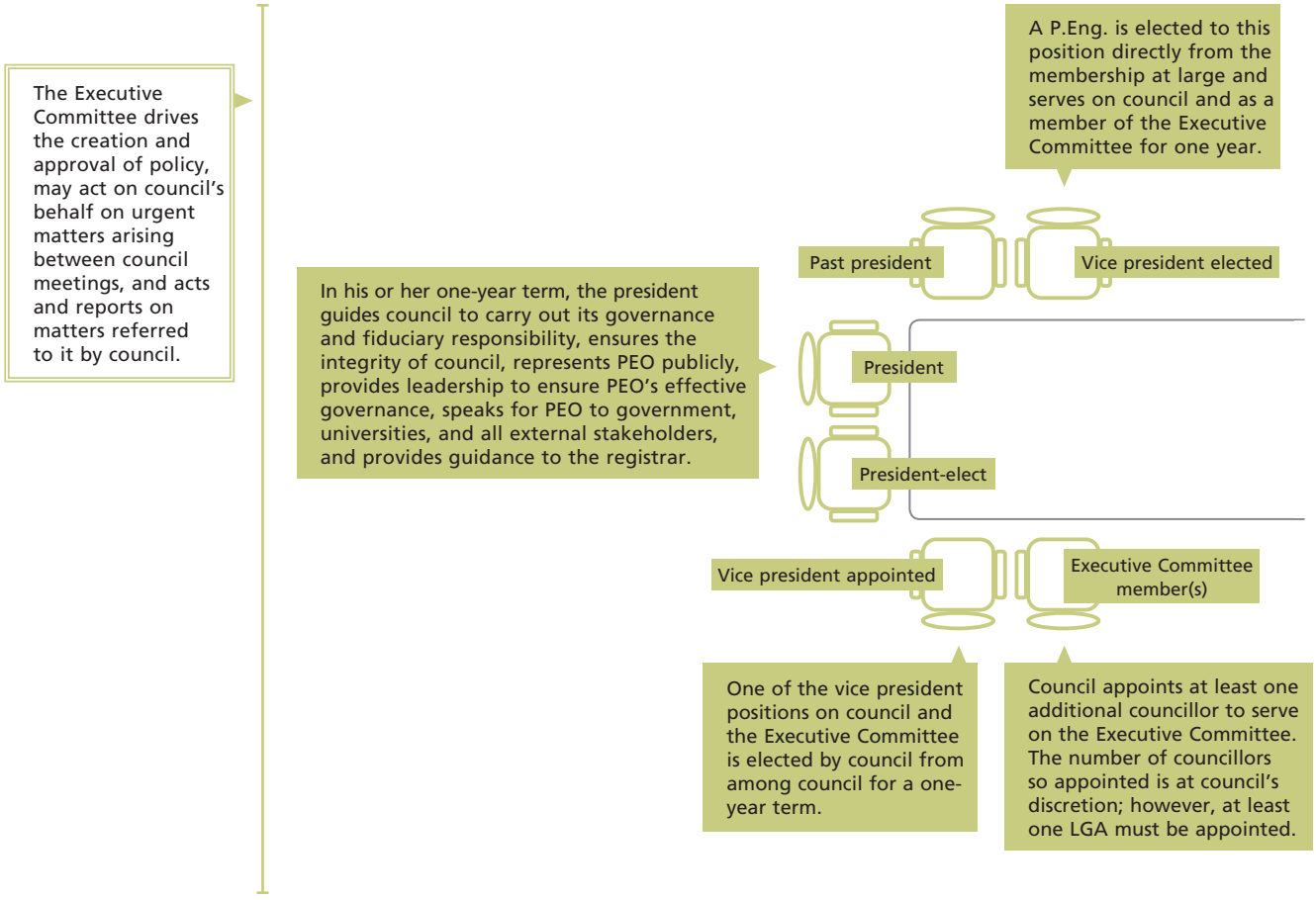
The first step in understanding how PEO is governed is to get to know more about council–the body that makes policy decisions for the regulation of professional engineering and PEO operations.

The composition of council is prescribed by section 2 of Regulation 941 under the *Professional Engineers Act* and includes up to 29 councillors, if all positions are filled.

Council comprises:

- the president;
- the president-elect;
- the past president;
- the vice president (elected);
- the vice president (appointed from among council);
- three councillors-at-large;
- 10 regional councillors; and
- up to 12 lieutenant governor-in-council appointees (LGAs).

The Executive Committee is made up of the president, the president-elect, the past president, a vice president who is elected by the membership, a vice president who is appointed from sitting councillors at the meeting of council immediately following PEO's



annual general meeting, and as many additional councillors as council deems appropriate, at least one of whom must be an LGA.

In addition to the elected Executive Committee positions and past president, the remainder of council is made up of three councillors-at-large, who are each elected from the membership at large, two regional councillors elected from each of PEO's five regions (for a total of 10) and 12 lieutenant governor-in-council appointees, seven of whom are P.Engs, and five of whom are non-engineers or lay members.

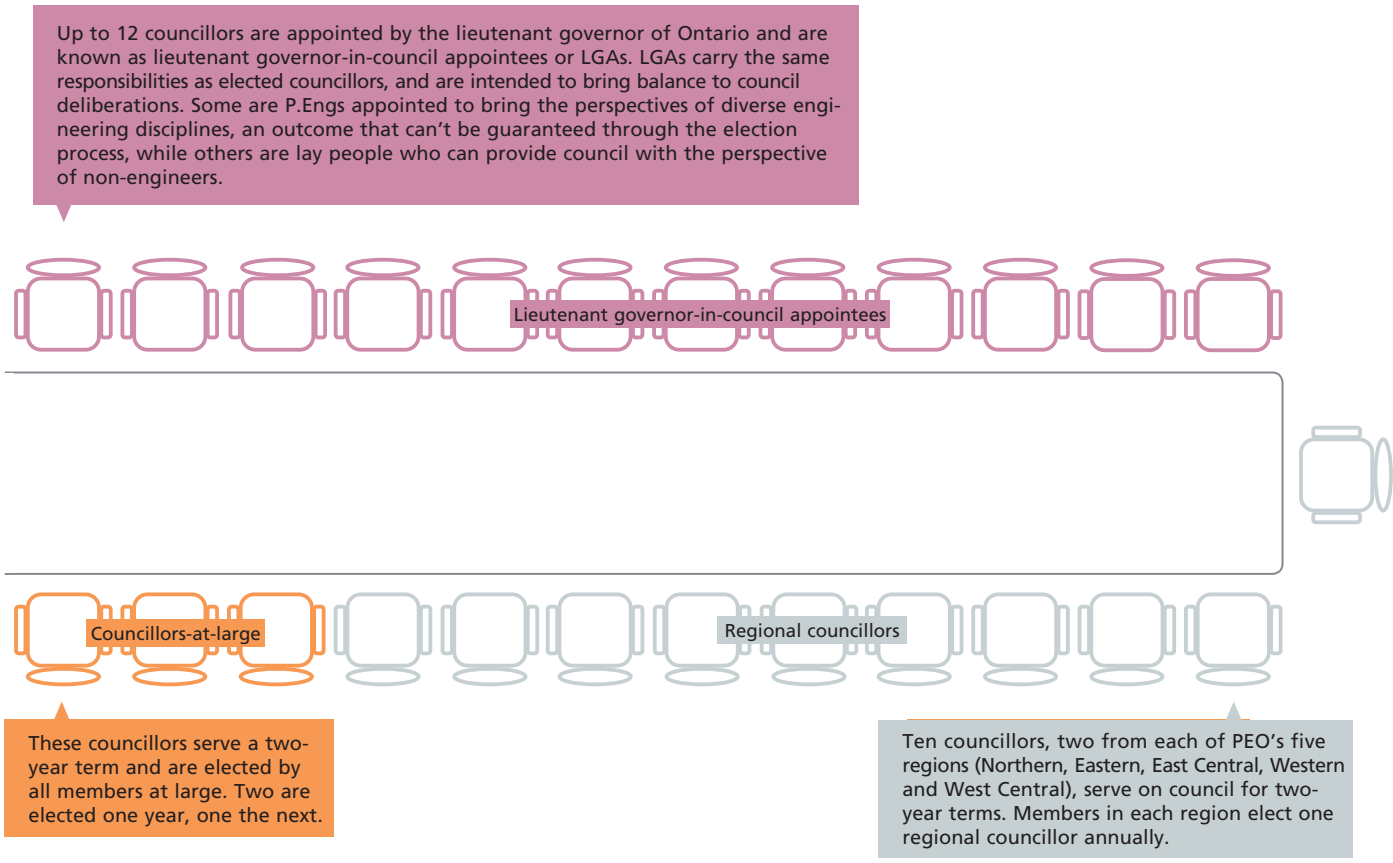
To borrow a little from the US Declaration of Independence, all PEO councillors are created equal. There is no difference in the obligations of elected or appointed councillors, except for the requirement that the membership of certain PEO committees comprise a specified number of elected and appointed councillors. All councillors must, at all times, hold the interests of the public paramount in their decision making. The public looks to PEO council for protection and leadership on issues affected by or affecting the profession.

Although 10 councillors hail from each of PEO's regions, these councillors do not have constituencies in the sense that members of parliament do. Rather, they are there to ensure council is aware of and considers regional differences in practice when it is making decisions. Ultimately, however, regional councillors, like all PEO councillors, have a fiduciary duty to PEO and must make decisions that serve and protect the public interest.

Anyone is eligible to seek election to PEO council as long as they are a licensed P.Eng. residing in Ontario. To become a candidate for president-elect, vice president or a councillor-at-large, a member must be nominated by at least 15 professional engineers, including at least one resident in each of PEO's five regions–Northern, Eastern, East Central, Western and West Central. To become a candidate for regional councillor, a member must reside in the region in which he or she wishes to be elected and must be nominated by at least 15 professional engineers who also reside in the region.

Each year, council appoints a Central Election and Search Committee to encourage members to seek nomination for election as president-elect, vice president or councillor-at-large, and Regional Election and Search committees to encourage members in each region to seek election as regional councillors.

Council meets at least four times each year. Σ



# DESIGN THINKING FOR REGULATORY POLICY, PART I

*By Jordan Max*

**IN THE FIRST** segment of this two-part series, I'll explore a relatively new policy tool–design thinking. The second part will focus on how design thinking can be applied to the public sector, government operations and policy-making. I'll also explain why we chose to pioneer practitioner-centred research in Ontario's professions regulator sector. (See November/December 2015, p. 25)

One of the new qualitative policy tools gaining increasing traction is design thinking methodology. Sometimes referred to as human-centred design, it is a fusion of analytical and intuitive approaches to complex problem solving. Design thinking originated with architects, urban planners and engineers as a method of "creative action." It was first adapted for business purposes by David M. Kelley, who founded design consultancy IDEO in San Francisco in 1991 (Brown). Richard Buchanan's 1992 article, "Wicked Problems in Design Thinking," expressed a broader view of design thinking as addressing intractable human concerns through design (Buchanan).

Since then, design thinking has been growing in popularity, application, scope and effectiveness. It has been used successfully by such companies as 3M, Apple, Coca-Cola, Deloitte, Disney, Ford, GE, Google, IBM, Intuit, Herman-Miller, Newell Rubbermaid, Nike, Pfizer, Pixar, P&G, Stanley Black & Decker, Starbucks and Starwood. A design thinking culture enables these companies, year after year, to design innovative new products, services or processes, or to improve existing ones, by understanding how their target users experience them.

## WHAT IS DESIGN THINKING?

The key features that distinguish design thinking are that it's:

- human (customer/client/patient)-centred;
- collaborative, participatory and interdisciplinary;
- iterative, with quick prototyping, validating and refinement informed by immediate participant and user feedback and discussion;
- interactive, time-bound, and dynamic (one to three days' duration); and
- visual, kinetic and experiential (using sketching, role playing, storyboards, modelling, etc.).

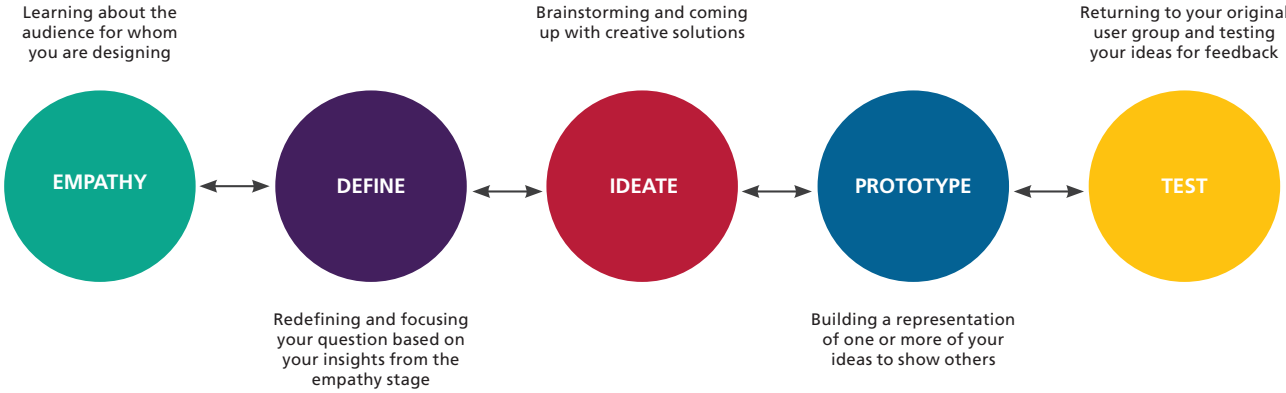
For those schooled in an analytical and logical approach to problem solving, involving gathering and boiling data, locking yourself in a room or lab to come up with a "eureka!" solution and hoping that it works, design thinking is quite different. Similar approaches are used in Agile software development. While there are many variations, it basically involves a five-step process, as illustrated in the diagram.

Design thinking starts with a challenge, typically prefaced by "How might we…?" questions. It's important that the question be open-ended enough to avoid solution bias, and including such constraints as time, price or other measures helps to unleash creativity among participants. One other thing of note is that the process is not always sequential and linear; sometimes insights and questions require taking a step back to validate or change earlier conclusions.

This five-stage process can be accomplished in a concerted two-day period, although it can be broken up where necessary to get additional information or to create working prototypes. What's more important is that individuals from across the organization participate in this exercise, bringing different vantage points, perspectives, skills and experience. The exercise also streamlines implementation planning by doing the up-front, integrated design work.

**Empathy–**Identify our current or potential users, and engage in research to explore the thoughts, feelings, frustrations, joys, motivations, etc., that are part of their interaction with the organization. This research makes use of interviews, observations, diary/journals, shadowing and focus groups. Findings are combined, examined for commonalities and differences, and different subpopulations are determined. There are two outputs to this phase. The first is personas, or composites of the subpopulations most relevant to the challenge, complete with a fictitious name, age and other relevant factors, and accompanied by a summary of that persona's unique interests, feelings, experiences, frustrations, etc. This is used to shape the other output: customer journey maps, which are documented diagrams of each persona's interaction with the organization throughout the life cycle of the product or service, starting from initial interest and moving through the purchase, use, customer support, referrals and future purchase stages. At each interaction point of the journey map, frustrations, or "pain points," are identified, as well as any positive surprises, or "pleasure points." The documentation of a journey map can take many forms (visual charts, storyboards, videos, skits, etc.), but it's important to focus on the individual(s) at the centre of the process, not on the process itself.

**Define–**Redefine and focus the initial question, based on the insights, personas and journey maps discovered in the previous phase, into actionable problems. Key personas, "pain points" and "pleasure points" in the journey maps are prioritized, and new challenges are identified, again using "How might we…?" questions. Prioritization is based on an organization's perceived value of addressing the questions.




**Ideate**–The rapid generation of ideas that answer the "How might we...?" questions. The key is to build on others' ideas, and explore alternatives and hybrids from other contexts or organizations (e.g. How would Google or Apple solve this problem?). The wilder the ideas, the better. When at least 50 different ideas have been generated, the group stops. Concept ideas are then clustered and placed into a 2 x 2 matrix of impact versus effort, which is used to identify the priorities through participant votes.

**Prototype**–Rapidly building idea concepts, incorporating as many of the selected clusters as desirable, then seeking feedback from the users and team. These prototypes are intentionally crude, and can be built cheaply using everyday objects. It is helpful to describe the prototype to others and how it might work. The feedback on what works, what doesn't, and what needs to be tweaked or changed is incorporated into subsequent versions, to the point where a working prototype can be built.

**Test**–Use and feedback of the working prototype(s) are sought from users in real time. Inevitably, further refinements are incorporated into the final product, process or service.

## ADVANTAGES AND DISADVANTAGES OF DESIGN THINKING

Some of the key advantages of design thinking are that it:

- provides fresh insights and innovation, particularly on pervasive and "wicked" problems, by delving into root causes;
- combines both analytical (left brain) and creative (right brain) skills, using lateral thinking and association;
- provides holistic understanding across an organization and faster operationalization, since this is done at the front end;
- enables quicker fails and rapid ideation with minimal investment of resources; and
- provides actionable, tested solutions to validated user problems.

There are, of course, some disadvantages with design thinking:

- To be successful, it needs a corporate culture of innovation, creativity and healthy criticism, otherwise it runs the risk of being just another "flavour of the month" management tool;
- Since the majority of professionals are better at optimizing (25 per cent) and implementing (44 per cent) solutions than in generating (17 per cent) and conceptualizing (20 per cent) problems (Basadur), design thinking requires outside facilitators to get it started and internal champions to sustain its use;
- It takes more time than traditional market research or data mining, involves more people at the front end, and timelines are less predictable than purely analytical methods;
- It embraces uncertainty, which may threaten the purely analytical types who want replicable processes and outcomes;
- The user-centred focus challenges existing organizational structure, processes and biases, which will be threatening for some participants;
- It takes time and patience to master the process;
- It is not a panacea for all of an organization's woes and challenges; and
- There are legitimate reasons not to focus exclusively on users, whether for public safety reasons or because it may stifle creativity.

## FURTHER READING

The following resources about design thinking may be helpful:

- *A More Beautiful Question*, by Warren Berger;
- *Change by Design*, by Tim Brown;
- *Creative Confidence*, by Tom Kelley;
- Design Thinking Documentary (video);
- FastCo Design Thinking (blog);
- www.dmi.org (articles, videos, slides); and
- www.ideou.com and www.ideo.com (tools and case studies). Σ

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Jordan Max is PEO's manager, policy.

# REGULATION LESSONS TO BE LEARNED FROM OTHER JURISDICTIONS

*By Andrew Tapp*

WITH PEO WORKING toward an evidence-based approach in its regulatory efforts, it's often instructive to review how regulation is accomplished in other jurisdictions. Two reports released last summer offer PEO food for thought: *Rethinking Regulation*, a report by the Professional Standards Authority (the UK's independent body on the well-being of healthcare users) and *Occupational Licensing: A Framework for Policy Makers*, a report from the U.S. Department of the Treasury, the Council of Economic Advisors, and the Department of Labor.

## RETHINKING REGULATION

*Rethinking Regulation* examines the problems of health regulation in the UK and proposes new ways of solving them. The main issue with regulation there, according to the report, is a lack of knowledge on how regulations impact public safety. Regulatory bodies in the UK have evolved piecemeal over hundreds of years in response to a variety of circumstances and, consequently, are often very different from each other. This diverse system is not only expensive and hard to quantify, but also slow to change. Regulations are products of government and changing them takes time. Change in the healthcare system, by contrast, is happening at an ever-accelerating rate.

To begin fixing the system, the authors advocate using risk as a common measure for determining the necessity of regulation, and that "organizational and other arrangements should accordingly be constructed on a proper assessment of the risks that arise from the practice of the different professions." Using this method of "regulatory assurance," the amount of regulatory force employed goes up in proportion to the risk presented by the regulated profession. For example, it may only take an official code of conduct to protect the public from the practice of personal care workers, but doctors should still be subject to legislation. The authors are working on a reliable "risk matrix" tool for measuring professional practice risk that will help ensure professions are regulated correctly.

The role of a regulator is to set the correct standards for competence and behaviour, and ensure these standards are met. As there is little evidence that standards alter the behaviour of regulated professionals, regulators must also embrace a preventive role, determining what behaviours and outcomes are desired and what interventions are needed to produce them. The authors provide some examples of tools that could be used to achieve this, such as the creation of "reflective spaces" where professionals can talk about issues without fear of recrimination, and including registered professionals themselves in the process as the regulators' eyes and ears. Overall, a regulatory system should be flexible, transparent, based on shared ideals, trusted, efficient and focused on evidence.

PEO has already started to implement some of the changes recommended in this report. For example, in PEO's strategic plan we're placing an emphasis on evidence-based regulatory policy and on considering regulation alternatives other than legislation. We should keep this report's recommendations in mind as we continue to improve engineering regulation and implement changes, such as a recommendation from the Elliot Lake Commission of Inquiry that advocates creating a structural engineering specialist designation.

We must ensure these changes are implemented transparently, efficiently and in a way that doesn't cause harm. For example, while the practice of engineering in general is "high risk," the rationale for subjecting it to a high level of regulatory

force (statutory regulation), subjecting a subset of engineers to further force could lead to *over*-regulation, which results in unnecessary costs, demotivated professionals and, perhaps, even increased public harm. In this situation, the use of less forceful regulatory tools, such as volunteer registers of accredited professionals, may be sufficient to maintain public safety when used to distinguish between groups of professionals that are already subject to stringent regulation.

## OCCUPATIONAL LICENSING

*Occupational Licensing: A Framework for Policy Makers* reviews the history of occupational licensing in the United States, outlines the problems facing it, and presents some possible solutions. The report is broad, covering all licensed occupations in the US, and shows how the percentage of Americans in these jobs has grown from about 5 per cent in the 1950s to over 25 per cent today.

While the report is clear that licensing can benefit consumers and the public when it is warranted, the report also describes what can make licensing undesirable when unneeded. Licensing can lead to reduced employment in licensed professions, lower wages for unlicensed workers with similar levels of education and experience, and an increase in the cost of consumer goods and services, anywhere from 3 to 16 per cent. Already disadvantaged groups are also disproportionately affected by licensing; immigrants in licensed professions often have trouble finding employment in the US, and those with criminal records (by some estimates as many as one in three Americans) can be denied a licence even if their infraction had nothing do with the profession.

Which professions are licensed, and even how these professions are licensed, varies enormously state to state. These professional licensing differences lead to poor professional mobility between states (a problem that has mostly been solved in Canada), and also prevents a professional from taking advantage of new technology. For example, a licensed healthcare worker in one US state may wish to fill a needed service gap in others through telepractice, but must first acquire a licence for every state in which a patient resides. Additional barriers include differing scopes of practice between states and state-specific educational certification that limit the options professionals have for obtaining licences or fulfilling professional development requirements.

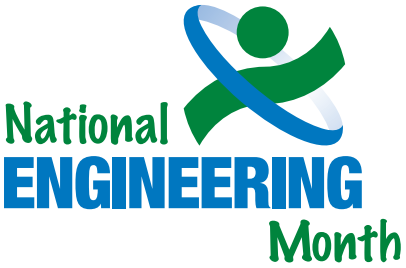
The report details several ways to improve licensing:

- use alternative forms of professional regulation for low-public-risk professions;
- ensure licence requirements are tied to public safety;
- develop simpler licensing processes;
- allow professionals an unrestricted scope of practice; and
- prevent licensing from rendering certain groups (immigrants, veterans, those with criminal records unrelated to their profession) unemployable in their field.

The authors also believe licensing schemes should be subject to extensive cost-benefit analysis and sunrise and sunset reviews, stressing that sunrise reviews might be the more important of the two as it is far more difficult to eliminate licensing systems than implement them. The report also states that there should be more public representatives on licensing boards, and professional mobility should be improved through harmonizing state requirements and forming arrangements that make it easier for professionals to practise in multiple states.

Canadian licensing, in general, and PEO, in particular, has already made some progress toward achieving these goals, especially in the area of practice mobility. The report's emphasis on carefully analyzing the cost-benefit of regulatory change is also mirrored by PEO's commitment to evidence-based policy. As PEO considers making changes to how licensing works in the province, care must be taken to ensure these changes do not increase licensing's burden. Σ

Andrew Tapp is PEO's policy analyst.




# 2016 ONTARIO EVENT HIGHLIGHTS

National Engineering Month (NEM) is a Canada-wide, month-long 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 nearly 200 events staged by volunteers from our engineering student and professional communities. 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) will team up to offer great opportunities to have fun, learn and give back to the community. Come join in! You can sign up to volunteer, take your family to an event, visit nemontario.ca to follow the action throughout March, or follow us on social media at facebook.com/nemontario, and Twitter and Instagram on @nemontario.

The following is a partial list of the events planned and hosted by PEO chapters during National Engineering Month 2016. Please refer to nemontario.ca/events for a complete list.

## ETOBICOKE

### ENGINEERING IDOL 2016

**March 5, University of Toronto Bahen Centre** PEO's Etobicoke Chapter is hosting its ninth annual Engineering Idol competition. Teams from 10 selected high schools will compete to create a prosthetic hand capable of performing several tasks. Students will brainstorm creative ways of using pneumatic, hydraulic, electrical and mechanical methods to facilitate finger and hand motions. Contact Andrew Demeter, P.Eng., ar.demeter@gmail.com, 416-505-8433.

## LONDON

### CITY OF LONDON LUNCHEON

**February 29, London Hilton** Our kickoff luncheon is an event where our city engineer will address an audience on the past year's and upcoming year's engineering projects. The event is open to the public and is a great way to show how engineering shapes the world around us and how it plays a part in our everyday lives. Contact Ian Cheng, P.Eng., icheng@j-aar.com, 519-701-6220.

### LABATT BREWERY TOUR

**March 3, Labatt London** A brewery tour and presentation by resident engineer Scott Durnin, P.Eng., with an emphasis on engineering in manufacturing from a brewing engineer's perspective. Contact Syd Van Geel, P.Eng., syd.vangeel@rogers.com, 519-852-4629.

### FRAUNHOFER-UWO PROJECT CENTRE

**March 24, Fraunhofer-UWO Project Centre** The Fraunhofer Project Centre for Composites Research (FPC @ Western) is a joint venture between Western University and the Fraunhofer Institute of Chemical Technology (ICT) in Pfinztal, Germany. The FPC @ Western develops, tests, validates and characterizes new, lightweight materials and advanced manufacturing processes at industrial scale. By combining Fraunhofer's latest global technologies and Western's strengths in materials engineering, the FPC @ Western proactively addresses the needs of its industry partners. Contact George Biljan, P.Eng., gjbiljan@gmail.com, 519-281-4388.

## OAKVILLE

### THE WIDE WORLD OF ENGINEERING

**March 5, Holy Trinity Catholic School** The chapter will be hosting a day-long event at a local high school. The day will comprise three activities: speed engineering, lunchtime mini activities, and a design challenge. Contact Shannon Pole, EIT, education@peo-oakvillechapter.ca, 289-440-1886.

## OTTAWA

### UNIVERSITY OF OTTAWA OUTREACH EVENT

**March 10, University of Ottawa** An outreach event for engineering students to permit a better appreciation of professional engineering accreditation as well as a mentoring opportunity to learn from experienced engineers. Contact Sharon Barr, P.Eng., sharonb@vrmeng.com, 613-563-2100.

### CANADIAN SPACE AND AVIATION MUSEUM KAPLA EVENT

**March 12, Canadian Space and Aviation Museum** Working individually or in groups, participants are challenged to build examples of real-life aviation or space-based vehicles and objects to permit evaluation on structure stability, mechanics and innovation. Contact Sharon Barr, P.Eng., sharonb@vrmeng.com, 613-563-2100.

### CARLETON UNIVERSITY LUNCH & LEARN EVENT

**March 14, Carleton University** Senior experienced engineers share their stories and experiences as pro-

fessional engineers and the future outlook for the industry. Students are then encouraged to share their ideas and career plans and enquire about future opportunities. Contact Sharon Barr, P.Eng., sharonb@vrmeng.com, 613-563-2100.

CARLETON UNIVERSITY OUTREACH EVENT
**March 16, Carleton University**
Outreach event for engineering students to permit a better appreciation of professional engineering accreditation, as well as a mentoring opportunity to learn from experienced engineers. Contact Sharon Barr, P.Eng., sharonb@vrmeng.com, 613-563-2100.

UNIVERSITY OF OTTAWA LUNCH & LEARN EVENT
**March 17, University of Ottawa**
Senior experienced engineers share their stories and experiences as professional engineers and the future outlook for the industry. Students are then encouraged to share their ideas and career plans and enquire about future opportunities. Contact Sharon Barr, P.Eng., sharonb@vrmeng.com, 613-563-2100.

## PETERBOROUGH

2016 NATIONAL ENGINEERING MONTH DESIGN CHALLENGE
**March 16, Evinrude Centre** This year's event will be a solar car challenge, where the students will build a small solar-powered car. Students will be provided the necessary materials to build a solar-powered vehicle to travel down a course. We will discuss with the students the challenges of solar power (energy and power density) and also give them examples of how to tailor their designs for the challenges that will be presented (flat and inclined tracks). Contact Daniel Manns, P.Eng., daniel.manns@ge.com, 705-939-6278.

## SAULT STE. MARIE

SAULT STE. MARIE ENGINEERING MONTH EVENT **March 6 to 13, Sault Ste. Marie Station Mall** PEO's Algoma Chapter will host a series of engineering outreach activities in various local schools throughout the week leading up to the March 5 mall event. On Saturday, March 12, it will host an annual engineering day at the mall. This includes engineering displays from local businesses, a team math challenge, colouring contests, robotics displays and other exciting interactive displays. Contact Michael Paciocco, EIT, mcpaciocco@yahoo.ca, 705-949-1033, ext. 206.

## SUDBURY

BRIDGE BUILDING 2016 **March 1, Science North** Our annual bridge-building event is back again. Prepare your balsa wood bridges ahead of time with your class, or at home, and attend the day of the event to test their strength! Contact Jeff Shaw, EIT, jeffkshaw@gmail.com, 705-618-4386.

NEM MALL ENGINEERING DISPLAYS
**March 5, New Sudbury Centre** Showcasing with interactive displays some engineering wonders and achievements in our everyday life and several professions, such as mining, security and safety, and health care. Informing and engaging the public and school children about the steps to becoming an engineer. Showcasing Sudbury Chapter newsletters, banner and year-round activities through images and videos. Partnership with local engineering faculty volunteers to convey engineering promotional messages. Contact Francois Nzotungwanimana, P.Eng., francnzo@gmail.com, 705-618-4386.

## THUNDER BAY

PEO STUDENT TEAM DESIGN COMPETITION **March 4, Nordmin Engineering Ltd.** Team design competitions, such as catapult design and operation and testing, and accuracy/distance competition. Contact Phil Riegle, P.Eng., philip.riegle@tetratech.com, 807-624-5458.

RESEARCH AND INNOVATION MALL EVENT **March 5, 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@tetratech.com, 807-624-5458.

## TORONTO

DESIGN CHALLENGE 2016 **March 23, Sir William Mulock Secondary School**
Team event for grades 7 and 8 students in York Region. Contact Lui Tai, P.Eng., lui.tai@peoyork.com, 905-284-8076.

## WATERLOO

FIRST ROBOTICS PARTICIPATION
**March 18, University of Waterloo**
Interaction 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

WINDSOR-ESSEX ENGINEERING MONTH **Throughout March in Windsor**
Activities include a poster competition, high school design competition, events at Canada South Science City, and an awards presentation luncheon. The program is administered by the Windsor-Essex Engineering Month Committee with representation from OACETT Essex Chapter, St. Clair College, the University of Windsor, and municipal and private firm volunteers. The activities promote public awareness of engineering/technology issues to multiple age groups. The theme chosen for 2016 is "Engineering and biomedical innovations." Contact Susan Jennings, C.E.T., sjennings@stclaircollege.ca, 519-972-2727, ext. 4611.

# P.ENGs RECOGNIZED FOR ACHIEVEMENTS

*By Nicole Axworthy*

Levente Diosady, PhD, P.Eng., and Xuemin Shen, PhD, P.Eng., have been named fellows of the Royal Society of Canada.

Molly Shoichet, PhD, LEL, received the 2015 Fleming Medal and Citation from the Royal Canadian Institute.

THE ROYAL SOCIETY OF CANADA, the senior national, bilingual council of distinguished Canadian scholars, humanists, scientists and artists, recently announced its Class of 2015 new fellows. Three Ontario P.Engs are included under the academy of science, applied science and engineering division. Levente Laszlo Diosady, PhD, P.Eng., professor, faculty of applied science and engineering, University of Toronto (U of T), is a renowned food engineer whose research is focused on developing technologies for fortifying foods with micronutrients to prevent micronutrient deficiencies. His technology for double fortification of salt with iron and iodine, which already cured over one million children of anemia, will be phased in by several states in India shortly. Xuemin Shen, PhD, P.Eng., professor, department of electrical and computer engineering, University of Waterloo, has gained a worldwide reputation as a researcher in resource management and information security for wireless communication networks. His research contributions have set the directions for others in the research community, and led to innovative networking algorithms/protocols and novel analytical techniques and models for engineering solutions. Jesse Zhu, PhD, P.Eng., professor, department of chemical and biochemical engineering, Western University, is a world-renowned expert in particle technology and multiphase systems with over 300 journal publications and over 20 granted patents. Several technologies from his research have been successfully converted to commercial applications in the chemical, materials, environmental and pharmaceutical industries.

Molly Shoichet, PhD, LEL, university professor, U of T, and Canada research chair in tissue engineering, recently received the 2015 Fleming Medal and Citation from the Royal Canadian Institute to recognize her "contributions to the public understanding of science." Among her many projects, Shoichet founded Research2Reality (R2R), which uses digital media and short videos to communicate cutting-edge research performed in Canada and spark nationwide awareness. The project is supported by six research-intensive universities, the Ontario government and Discovery Science Channel.

Recently, Engineers Canada honoured the recipients of its 2015 scholarship program. Hélène Dutrisac, P.Eng., is a recipient of a 2015 Engineers Canada-Manulife Scholarship worth $12,500. Dutrisac is pursuing a doctorate in civil engineering at McGill University. Her research focusing on how buildings resist earthquake ground motions is expected to permit more efficient and refined seismic design of earthquake-resistant structures. Stephanie Whitney, P.Eng., is a recipient of an Engineers Canada-TD Meloche Monnex Scholarship worth $7,500. Whitney is pursuing a doctorate in social and ecological sustainability at the University of Waterloo. Her research in energy conservation marketing and behaviour will help reduce home energy consumption through awareness-raising. Each year, in partnership with Manulife and TD Meloche Monnex, Engineers Canada awards six prizes totalling $60,000 to professional engineers returning to university.

Winners of the 2015 Canadian Consulting Engineering Awards have been announced. The awards are presented jointly by the Association of Consulting Engineering Companies–Canada (ACEC) and *Canadian Consulting Engineer* magazine to recognize engineering firms and their projects that have demonstrated high quality, inno-

Hélène Dutrisac, P.Eng., and Stephanie Whitney, P.Eng., are recipients of 2015 Engineers Canada scholarships.

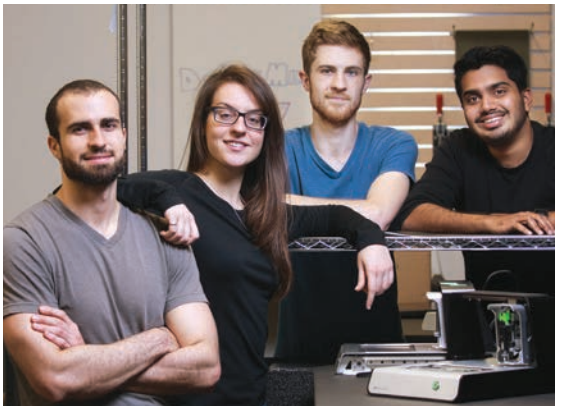
vation and technical excellence. The Schreyer Award, presented to a project that best demonstrates technical excellence and innovation, went to Stephenson Engineering with Cast Connex for the Queen Richmond Centre West in Toronto. The Tree for Life Award, presented to a project that best demonstrates outstanding environmental stewardship, went to Hatch Ltd. for the Forrest Kerr 195 MW Hydroelectric Power Project in northwest British Columbia. The Engineering a Better Canada Award, presented to a project that best showcases how engineering enhances the social, economic or cultural quality of life of Canadians, went to SNC-Lavalin for the Halifax Central Library. The Outreach Award, presented for a company's role in donating its time and/or services for the benefit of a community or group either in Canada or on the international stage, went to Hatch Ltd. and Hatch Mott MacDonald for the Hatch and Hatch Mott MacDonald Canadian Outreach Program. Awards of Excellence in the buildings category went to Aercoustics Engineering for the Thunder Bay Consolidated Courthouse and Fast + Epp for the Mountain Equipment Co-op head office in Vancouver, BC. In the transportation category, Awards of Excellence went to Associated Engineering and CH2M for the Calgary International Airport runway and City of Calgary airport trail tunnel, and WSP and Parsons Brinckerhoff for St. Patrick's Bridge (now George C. King Bridge) in Calgary. In the water resources category, Awards of Excellence went to Golder Associates for the Recovery and Resilience: Flood Mitigation Innovation project in Calgary, and for the Ruskin Dam in Mission, BC, and to Stantec Consulting for the Orleans watermain link horizontal directional drilling in Ottawa. In the environmental remediation category, an Award of Excellence went to Dillon Consulting for the Outboard Marine in situ environmental remediation in Peterborough. In the natural resources mining, industry and energy category, Awards of Excellence went to Golder Associates for the Giant Mine remediation project, mine support services, phase one, in Yellowknife, NT, and to Knight Piesold for the Kokish River hydroelectric project near Port McNeill, BC. In the international category, an Award of Excellence went to Golder Associates for the Caring for the Past: Blackfoot Crossing Historical Park project at the Siksika Nation site near Cluny, AB.

Hatch Ltd. was recognized as one of Canada's Safest Employers for 2015 at the fourth annual Canadian Occupational Safety Awards gala in Toronto. Presented by Thomson Reuters and *Canadian Occupational Safety* magazine, the annual award recognizes outstanding accomplishments in promoting health and safety in the workplace. Hatch was the gold recipient in the mining and natural resources category.

Hatch Ltd. also received the 2015 Outstanding Corporation Award for Philanthropy from the Association of Fundraising Professionals. Hatch is the first engineering, technology and project delivery firm to receive this recognition since the category's inception in 1989. The Royal Ontario Museum governors, McMaster University and The Princess Margaret Cancer Foundation nominated the company for its ongoing contributions to education, health and community initiatives to create positive change.

The 2015 Ontario Wood WORKS! Awards were recently handed out to Ontario engineering firms to recognize people and organizations that, through design excellence, advocacy and innovation, are advancing the use of wood in all types of construction. In the environment category, Dialog won for the Bill Fisch Forest Stewardship and Education Centre in Stouffville. In the northern Ontario excellence category, Lavergne Draward and Associates won for the École Ste. Marguerite Bourgeoys kindergarten addition in Kenora, ON. Moses Structural Engineers won the Engineer Wood Advocate Award for its leadership in timber engineering.

For the first time, a Canadian team has taken top spot as the international winner of the 2015 James Dyson Award. The team is made up of University of Waterloo graduates Jesús Zozaya, Alroy Ameida, James Pickard and Katarina Ilic. Their project, Voltera V-One, is a custom circuit board printer that allows a user to go from concept to reality in minutes. Voltera V-One uses the same rapid prototyping principles that underpin 3-D printing: It lays down conductive and insulating inks to create a functional, two-layer circuit board. But it's also a solder paste dispenser, allowing components to be added to the board and reflowed by a 550-watt heater. This enables users to create prototype circuit boards quickly and cheaply. The team was awarded $54,000 and the university department received $9,000 from the James Dyson Foundation. The James Dyson Award is an annual contest open to



University of Waterloo graduates, from left, Jesús Zozaya, Katarina Ilic, James Pickard and Alroy Almeida are international winners of the 2015 James Dyson Award.

university students or recent graduates studying product design, industrial design and engineering. The contest challenge is to design something that solves a problem.

The 2015 recipients of the Schulich Leadership Scholarships have headed off to university across Canada to pursue studies in science, technology, engineering or mathematics (STEM). Daniel McInnis of Ottawa, who is attending U of T, received an $80,000 undergraduate scholarship, given to students pursuing engineering degrees. Created by Canadian business leader Seymour Schulich, the scholarship program encourages high school graduates to embrace STEM disciplines in their future careers.


U of T student Daniel McInnis has received an $80,000 Schulich Leadership Scholarship to pursue STEM studies.

## CALL FOR ENTRIES

Engineers Canada is accepting entries for the 2016 scholarships program. Six scholarships totalling $60,000 will be awarded to professional engineers returning to university. The deadline for applications is March 1, 2016. Additional information is available at www.engineerscanada.ca/scholarship-program. Σ

# A SUSTAINABLE ELECTRICITY POLICY FOR ONTARIO

*By Charles Park*

The following paper is the winning entry of the Ontario Centre for Engineering and Public Policy's 2015 Student Essay Competition in the undergraduate category.

Park mentions the Ontario Power Authority (OPA), which was still in existence when his paper was written. In January 2015, the OPA merged with the Independent Electricity System Operator (IESO).

This paper has been edited for length. To view the original, please visit www.peo.on.ca/index.php/ci_id/29079/la_id/1.htm.

ELECTRICITY IS THE LIFEBLOOD of our civilization. The generation, transmission and distribution of electricity to consume in daily activities together mark one of our greatest endeavours in both scale and impact. Ontario's electricity policy should be grounded in sustainability, which balances the social, economic and environmental consequences of any initiative.

Electricity is consumed in a just-in-time manner. It is more expensive to store than to manufacture on a large scale because of the equipment and materials involved and due to losses in the energy-conversion process. Despite the research into, and technological advancements with, storage technologies, Ontario's electricity system is primarily planned, designed and operated to respond to varying demand by dispatching various types of generators at an equilibrium quantity of energy in a provincial energy market.

## DEMAND-SIDE LESSONS

To reduce demand and flatten the peaks in energy usage, the Ontario government has implemented policies incorporating conservation and measures aimed at changing customer behaviour. We can draw three general lessons from a review of these initiatives. The first lesson is the need for meticulous benchmarking and commitment to cost-benefit analysis prior to project implementation–something the Ministry of Energy did not address, despite cost concerns raised by the Ontario Energy Board (OEB) in its implementation plan and requests from the Independent Electicity System Operator (IESO) for a business case.

The second lesson is the establishment of stronger governance and project-management structures to facilitate the oversight and coordination of all relevant industry stakeholders' efforts to minimize redundant and costly operations, as seen in the case of functional overlap between data centres at the distribution and provincial levels.

The third lesson is to communicate carefully to ratepayers about these program structures and related costs, as well as to commit to customer service. Ratepayers are, ultimately, the beneficiaries of a government initiative.

## SUPPLY-SIDE LESSONS

Nuclear energy generates the majority of Ontario's energy–in fact, 61.5 per cent of all energy generated in Ontario (excluding imports) from October 2013 to December 2014. Hydroelectric resources follow nuclear at 24 per cent of energy generated, followed by gas and oil, and wind and biofuel, all beneath 10 per cent. Coal is no longer a component of Ontario's supply mix, having been phased out starting in April 2014. Ontario's existing capacity exceeds maximum demand by at least 8 GW.

Nuclear power generation is highly inflexible and energy from renewables is unpredictable. Hydroelectric and gas-power generation are highly flexible and can cater to both base load and peaking needs. Ontario's supply-side policies have focused on removing coal from the energy mix, introducing the *Green Energy and Green Economy Act* (GEGEA) to support renewable technologies, and energy pricing strategies.

Based on the rollout of Ontario's supply-side policies, there are three practical lessons for the future. The first is to have as independent an advisory body as possible to ensure policy decisions are made with sufficient cost-benefit analysis in mind, as seen by the interplay among

the Ontario Power Authority (OPA), the OEB, and the ministry during renewable procurement.

The second is to implement contract structures that better reflect market conditions (like the OPA's recommendation on degression rates for the solar feed-in tariff program) to encourage more competitive procurement between renewable generators and bring downward pressure on system costs.

The third lesson is to engage in public consultation and education prior to policy implementation. This way, the public can have a realistic expectation of the consequences of any policy initiative, green or not, prior to the long-term supply commitment.

## LOOKING FORWARD

Ontario's electricity sector will have to undergo many iterations of modernization to address our future needs. By applying the previous lessons from policy implementation on the demand and supply sides, Ontario can work towards a more sustainable electricity policy for the future. The following sections explore promising opportunities to do so.

### Ontario capacity auction

Ontario's previous method of procuring supply through long-term (typically 20-year) contracts with generators has been effective in placing us in a strong supply situation, but all too often at the loss of cost-effectiveness, as illustrated in the previous review of supply-side policy. Ontario's demand situation also highlights how economic and technological changes influence the consumption of electricity. Long-term contracts, as currently structured, cannot provide the cost-effective flexibility to match yearly changes in supply and demand.

A capacity auction would be an innovative way to streamline cost-effectively the energy procurement process. Neighbouring jurisdictions have implemented open auctions that allow supply and demand resources to provide capacity. In such markets, system operators secure capacity for only three to five years ahead. This leaner approach to procurement will facilitate greater competition in the existing system. Over the next few years, the IESO will move forward with the design of a capacity auction by engaging various stakeholders in the sector.

### Strategic carbon pricing

In line with the GEGEA, pricing carbon to curtail its use is another powerful way to combat climate change. The government could adopt a more market-oriented approach to pricing carbon as opposed to direct taxation, thereby letting the consumers of carbon decide how much they value it. For instance, the biggest use of fossil fuels is in the transportation sector, not electricity generation. By capping greenhouse gas emissions and allowing an industry with lower emissions (like the electricity sector) to sell their extra allowances to larger emitters (like transportation), emission reductions can take place within a specified timeframe and a true market price. Ideally, revenues from selling carbon credits could then be channelled into investments that spur technological innovation. Opponents to cap-and-trade may argue that the ubiquitous nature of carbon makes it difficult to silo different industries and, thus, effectively raises costs for everything. Nevertheless, like the capacity auction, careful design consideration and consultation with affected stakeholders may lead to a more efficient, market-based solution.

### Energy storage

Exploring competitive methods to procure grid-level storage technologies is another potential game changer in future electricity policy, on both the supply and demand sides. It can smooth out fluctuations of intermittent resources like solar and wind to help mitigate surplus base-load generation, provide critical system reliability services like voltage and frequency support, and defer the need for long-term supply investment. Currently, the only large-scale, grid-connected storage facility is the 174-MW-capacity Sir Adam Beck Pump Generating Station that flows water for energy during peak hours and pumps water to a reservoir during off-peak hours. The IESO plans to procure an additional 50 MW of storage capacity across a wide portfolio of privately owned technologies, including flywheels, hydrogen-fuel-powered cells, large-scale lithium ion batteries, and many more. Like any novel technology, there are regulatory hurdles to its widespread adoption in the energy market, which must be addressed through effective, private-public partnerships and meticulous cost-benefit analysis unaffected by a political agenda.

### Microgrids

Microgrids are islanded, small-scale versions of a centralized electricity system that service a local and, typically, remote community. Microgrids have a limited presence in Ontario, but it is a grid development worth considering for future power system needs. Microgrids have a proven case for reliability. During Hurricane Sandy, key buildings in New York remained lit due to a self-sufficient microgrid system.

Motivating the potential benefits of a microgrid merits a brief discussion about Ontario's transmission system. The increased penetration of renewables in the next decade will require a commensurate investment in updating and expanding transmission and distribution systems to connect loads with remote and widely dispersed renewable energy generators. These investments can soar to several billions of dollars based on cost estimates provided in the 2013 Long-Term Energy Plan. Such costs would again be borne by the ratepayer via increased delivery charges–an add-on to the steep increase in the costs recovered through the Global Adjustment.

**FUTURE POLICIES SHOULD BE GROUNDED IN METICULOUS, COST-BENEFIT ANALYSIS; STRONGER GOVERNANCE AND PROJECT-MANAGEMENT STRUCTURES ARE NEEDED TO FACILITATE THE OVERSIGHT AND COORDINATION OF STAKEHOLDERS; AND COMMUNICATION TO RATEPAYERS ABOUT PROGRAM STRUCTURES AND A COMMITMENT TO CUSTOMER SERVICE ARE IMPERATIVE.**

While these grid developments progress, there are three technological innovations, which over a similar timeframe may challenge ratepayers, especially in remote communities, to consider disconnecting from the grid and subscribing to a potentially more cost-effective microgrid implementation. The first is the declining cost of solar: from 1977 to 2014, solar panels declined in cost from $77 per watt to just under $1 per watt, with grid parity in reach within a decade. The second development is cheaper storage solutions. According to Navigant Research, revenue from advanced batteries for utility-scale, energy-storage applications will grow from $228 million in 2014 to $17.8 billion in 2023. The third advancement concerns the development of low-voltage DC power networks offering alternative ways to distribute home-grown energy sources to household devices. The convergence of these three developments allows for a more consumer-centric paradigm of electricity consumption that may influence the direction of traditional electricity policy, which is modelled after centralized generation. As noted in the previous demand-side policy review, these trends relate to the need for future policy implementations to prioritize customer service.

### Evolution to a consumer-centric smart grid

A consumer-centric paradigm shift aligns with Ontario's efforts to promote conservation and demand management by providing ratepayers transparent access to their energy consumption data, which enables them to monitor and control their electricity demand proactively. This stance requires Ontario to develop its position as an innovation leader. Through Ministry of Energy initiatives like the $50-million Smart Grid Fund launched in 2011 and a second round of funding in July 2013, Ontario aims to commercialize smart grid ventures in the areas of data management, grid automation and behind-the-meter services, and to help foster interoperability among communication devices. Another key initiative to further build on is the Green Button (www.greenbuttondata.org). This provides customers with access to their electricity consumption information in a standardized format and also facilitates third-party data access to developers to provide innovative software solutions that add value to the consumer experience.

## CONCLUSION

Ontario is at a crucial point in time, promising many changes to the sector over the next few decades. On the demand side, we developed a culture of conservation and energy efficiency, which curbed demand levels despite increases in economic activity. The government's implementation of the Smart Metering Inititative highlights three lessons: future policies should be grounded in meticulous, cost-benefit analysis; stronger governance and project-management structures are needed to facilitate the oversight and coordination of stakeholders; and communication to ratepayers about program structures and a commitment to customer service are imperative.

On the supply side, we phased out coal and decided to integrate renewable energy into the generation mix at a large scale. This has contributed to high electricity costs and technical challenges with surplus baseload generation, which may be mitigated by the shortfall in energy generation through nuclear refurbishment. The government's implementation of supply-side policies illustrates another three lessons: an independent and apolitical advisory body would ensure policy decisions are backed by objective analysis rather than biased political directives; procurement methodologies should reflect changing market conditions and enhance competition among participants; and public consultation and education prior to policy implementation is crucial.

Only by interdisciplinary co-operation among various fields of expertise in both private and public sectors–engineering, economics, social sciences, information technology, business, and law and regulatory development–can Ontario survive with a sustainable electricity policy. Σ

Charles Park is a fourth-year engineering student at the University of Toronto.

# COUNCIL APPROVES CPD GUIDING PRINCIPLES AND PROGRAM ELEMENTS

## 503RD MEETING, NOVEMBER 19, 20, 2015

*By Jennifer Coombes*

AT ITS NOVEMBER meeting, council approved the guiding principles and basic program elements of the Continuing Professional Development, Competence and Quality Assurance (CPDCQA) Task Force's final report (www.peo.on.ca/index.php?ci_id=29313&la_id=1). The report is the culmination of 18 months of work by the task force to develop a proposed program of continuing professional development (CPD) that it believes would be effective, pragmatic, improve the regulation of professional engineering and recognize the diversity of practitioners' needs and resources. The plan also incorporates feedback from six town hall meetings held in the fall of 2015.

In formulating the plan, the task force developed a framework that it believes:

- recognizes the licence of both practising and non-practising engineers;
- focuses on maintaining provision of competent engineering services rather than introducing a bureaucratic hurdle;
- ensures CPD requirements are based on the risk the work of each licence holder presents to the public and the profession;
- encourages licence holders and employers to adopt risk-mitigation measures; and
- improves on programs implemented by regulators elsewhere in Canada.

With the CPDCQA's work now complete, council stood down the task force and has approved creating a new task force that will be responsible for finalizing a risk review form, the continuing professional development requirement algorithm, and criteria for acceptable technical activities. A terms of reference for the task force will be presented to council for approval at its February meeting. The task force is to comprise eight PEO members (a majority of whom are sitting councillors). Council decided at its September 2015 meeting that PEO members will have to ratify any mandatory elements of a PEO CPD program through referendum (*Engineering Dimensions*, November/December 2015, p. 37).

More information about PEO's CPD plans, including a backgrounder and other reference materials, is available on the Continuing Professional Development webpage, www.peo.on.ca/index.php?ci_id=29312&la_id=1.

### BUDGETS APPROVED

Council has approved the 2016 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 $25.5 million and total expenses at $25.3 million, leaving a surplus of $216,000 for the year. The forecasted revenue represents an increase of $1.1 million or 4.5 per cent over the 2015 forecasted revenue, which is mainly due to:

- an increase in application, registration, exam and other licence fees of $647,000 due to an anticipated increase in number of examinations written and Certificate of Authorization applications and registrations;
- an increase in P.Eng. licence fees of $219,000 due to growth in the number of P.Eng. licences issued, based on the historical trend; and
- an increase in PEO headquarters revenues of $216,000 due to vacant space being leased.

PEO engineering licence fees, which are the lowest of any province in Canada, will be frozen again for the eighth consecutive year. For the sixth consecutive year, all other fees will also remain unchanged.

Budgeted expenses for 2016 are expected to increase by $973,000. The forecasted increase in expenses is due largely to:

- an approved 3 per cent increase in merit increases for staff and CPI adjustments;
- an increase of $469,000 in amortization due mostly to the completion of phase one of Aptify, PEO's new membership database application;
- an increase of $118,000 in postage and courier fees due to a postal rate increase in January and increases in postage for *Engineering Dimensions*, as a result of a council decision to send the paper version to all members who don't request the digital edition;

- an increase of $87,000 in PEO occupancy costs as building common area maintenance costs and storage and other office maintenance costs have increased; and
- an increase of $56,000 for chapters, largely due to a Regional Councillors Committee decision to increase chapter allotments by 10 per cent.

The increased expenses will be partially offset by reductions of:
- $167,000 in costs of computers and telephones due to savings from employing a new supplier to host and manage PEO's IT infrastructure;
- $133,000 in contract staff costs due to a reduction in IT support;
- $63,000 in costs for legal services due largely to a lower legal reserve for corporate matters and an increase in in-house legal work; and
- $61,000 in consultants costs due to consultants not being required for the Continuing Professional Development, Competence and Quality Assurance Task Force, PEO communications audit and policy development research, which used the services of consultants in 2015.

The capital budget for 2016 is $1.4 million, which comprises information technology (IT) ($927,000), capital improvements to PEO headquarters ($477,000) and office furniture ($20,000). Major IT expenditures for the year include replacing the audio-visual provider and equipment to enable a reliable recording of academic and experience requirements interviews, updating local area network hardware, updating the internal facing intranet and replacing an older budgeting computer program. Capital improvements scheduled for 40 Sheppard include updating elevator hydraulics, painting the underground garage walls, replacing the insulated glazing of some exterior windows, replacing exterior doors, paving the entrance to the underground parking lot and restoring the building's exterior walls.

## 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, 2017. 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 never been in an operating overdraft position.

## OCEPP DISCONTINUED

Based on an extensive analysis of PEO's Ontario Centre for Engineering and Public Policy (OCEPP), council has decided to discontinue the program. Its proposed 2016 $145,000 labour and program budget will now be returned to PEO reserves.

OCEPP has operated since October 2008 with a mission to engage engineers in the development of public policy; ensure public policy development takes into account appropriate technical requirements; develop innovative solutions to public policy problems based on technology; and help engineering professionals translate complex technical issues into publicly accessible information.

The focus of the centre has changed over the past few years, according to *OCEPP Future: Appraisal of Options*, a report issued last May, which states: "no one has been clear about the purpose of the centre's activities." The report was discussed in depth at the September 2015 council plenary session.

Several options for OCEPP's future were offered to council. The first option would have provided opportunities for P.Engs to voice positions on public policy issues. The second would have required a strategic alignment of the centre with PEO's core regulatory function. The third would have seen OCEPP function as an independent think tank–the purpose originally envisioned when the centre was first launched.

According to the report, the first option "has a high demand on PEO resources yet produces nothing of value for PEO as there is no correlation between the PEO regulatory mandate and the work of external authors presented by OCEPP." The second "is also unviable. Retaining a separate entity with its own board within a PEO department is structurally unworkable." The third option would require PEO to provide substantial funding as the sponsoring body over a significant period of time to create a self-sustaining think tank.

Based on this analysis, the report recommends discontinuing OCEPP and refocusing PEO on other avenues to include engineers in public policy debate. Council agreed with the report's findings and stood down the OCEPP Advisory Board with thanks.

## NEW GUIDELINE FOR FORENSIC ENGINEERS

Council has approved a practice guideline for professional engineers who practise forensic engineering, offer professional forensic engineering services, or conduct forensic engineering investigations. The *Guideline for Professional Engineers Providing Forensic Engineering Investigations*, developed by PEO's Professional Standards Committee, "addresses forensic engineering practice and provides information on how practitioners should carry out forensic engineering activities in an ethical and legal manner." The guideline is available at www.peo.on.ca/index.php/ci_id/1834/la_id/1.htm. Σ

# [ PRODUCT FILE ]

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**Mr. Campbell Chow, M.Eng., P.Eng.** has been appointed Managing Director of the firm. Campbell received his undergraduate and graduate degrees from the University of Alberta. Campbell joined Thurber's Edmonton office in 1993 and was appointed as a Principal in 2005. He has served in a variety of technical and management roles in the Edmonton office and was the Branch Manager from 2002 to 2014. He has provided specialist geotechnical and construction materials engineering services for transportation, industrial, infrastructure and commercial projects throughout Alberta including projects at the Edmonton International Airport and the Anthony Henday Ring Road. Campbell is based in Thurber's Edmonton office.

**Mr. David Tara, M.Sc.A., P.Eng.** has been appointed President and Chairman of the Board. David received his undergraduate and graduate degrees from the University of British Columbia and Université de Sherbrooke respectively. David joined the firm's Vancouver office in 1990 and was appointed as a Principal in 2002. David's expertise encompasses high strain dynamic testing of piles, foundation investigation and design for bridges, buildings, land development projects, transportation and municipal infrastructure. He has worked on major projects including the award winning Richmond Olympic Oval and the Pitt River Bridge. David Practises in British Columbia, Alberta and Saskatchewan and is based in Thurber's Vancouver office.

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## AD INDEX



# DID YOU KNOW?

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If you have resigned your licence or it has been cancelled for nonpayment of fees, there is a graduated reinstatement system in place. Fees and obligations increase based on the length of time your licence has been cancelled.

For full details, see *Reinstatement Requirements–An Informative Guide* under Reinstatements in the Forms & Publications section of www.peo.on.ca.

# [ PROFESSIONAL DIRECTORY ]

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DEADLINE FOR MAY/JUNE 2016 IS MARCH 25, 2016.
DEADLINE FOR JULY/AUGUST 2016 IS MAY 30, 2016.

# [ LETTERS ]

## STICKING WITH THE ESSENTIALS

It is surprising that nobody has commented on the photograph of VFD and pumps shown on page 11 of the May/June 2015 issue of *Engineering Dimensions*, showing installation of electrical equipment near motors–a moisture and oil environment of pumps. This is asking for trouble. Electrical equipment should be housed separately. Although the photograph is not very clear, the motors are installed near a wall with very little working space around them. It would be difficult to replace them when they burn out. Also, life span of the pressure gauges on the discharge of the pumps is very short due to vibration. No comments about the orientation of the valves. Also, the operators should have been wearing hard hats, eye and definitely ear protection. These are "bread and butter" issues and should be taught to electrical and mechanical engineers who want to go into the building and plant construction industry.

There has been a seismic shift in the economy, which is now 70 per cent services. Yet people in power who have never had their ankles dirty at a job site keep making rules for the proletariat. With this type of training, the designation of EIT should be discarded to the graveyard of long dead gods as it is left over from the Industrial Revolution, when the world has moved on. Nowadays, employers want an engineer to start from hour one with no questions asked. They cannot afford to pay and wait for a number of years for him or her to come full steam. These issues do not require delta-y, complex numbers, p.u. values, circle diagrams, vector algebra, Z transforms, ZOH, or orthogonal functions for systems and control, etc., and should be included in the curriculum of the first year. Universities should teach essentials and discard non-essentials.

With no schooling of process modeling and stochastic controls, chemical engineers (the ones I have met) have almost abandoned the paper and pulp industry, as evidenced by very few publications from Canadian authors in *Pulp & Paper Canada*. Here, like in Bhopal, India, tribal affiliations are more important and P.Eng. or an engineering degree with knowledge of GPC has no value. This partly explains the decline of the industry. Model-based control, such as DMC or GPC, has been very popular in petrochemical industries since the early 1980s.

Time has long passed for the need for a separate designation of professional building and plant electrical engineer, specifically when they form a big part of the membership.

I was chair of what is now Lake-of-the-Woods/Atikokan Chapter for a number of years. I advised people to go for services like IT, law, finance, pharmacy, dentistry or veterinary or medical science where monetary value is much higher, demand greater, no red tape or EIT requirements, especially when third-world countries are turning out engineers like rabbits.

Yash P. Sharma, P.Eng., Winnipeg, MB


## RETURN TO PRINT

I used to look through each print issue, reading certain articles. I have only attempted to open the new digital edition twice, because it is so difficult to use. Here are some suggestions for the next time you decide to go digital:

- Don't use the print document format for an online magazine. The page-by-page format is terrible. Each article should be a separate web document, and separately downloadable as PDF. If you must include ads and other short items, tack them on to each article. Don't make the reader shamble through every page, and pretend that we've seen the ad because we struggled past it. You might check out CNET.com for a well-organized online magazine.
- Don't ignore mobile devices. Computers are no longer the primary web browsers.
- On my iPad Air, the single-page format results in really tiny print. I can zoom, but then must scroll around to follow the print-oriented, two-column layout.
- I tried to use the grid layout to vector to a page, but it won't scroll (Chrome on IOS), so it only includes the first 30 or so pages.
- I tried to download the PDF, but could not save it for offline reading. You have to allow this if you hope to be read.

I could have told you all this earlier, but I expected that vanishing readership would tell the tale. I'm very happy to see that council has decided to reinstate the print edition.

Peter McMorran, P.Eng., Yorktown, VA

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 jcoombes@peo.on.ca.

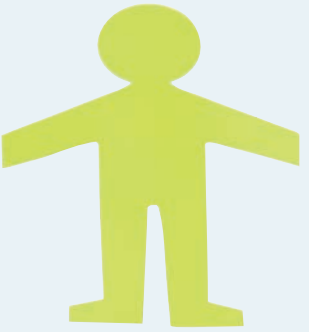
# [ LETTERS ]

## DECREASE IN DISCIPLINE?

I was quite shocked and concerned by the absence of a Gazette section in the November/December 2015 edition of *Engineering Dimensions*. With a community of more than 80,000 PEO licence and certificate holders and likely thousands of complaints received by PEO every year from the public, surely the number of investigations conducted should be significant such that Discipline Committee hearings are being held regularly and the Gazette section can publish details of at least one Discipline Committee hearing every two months. In my 28 years as a PEO member, I cannot ever remember an issue of *Engineering Dimensions* without a Gazette section. The first thing I have always read in every issue of *Engineering Dimensions* is the Gazette section because I want to learn from and avoid the mistakes of my peers.

Is PEO providing sufficient resources to the investigators and Discipline Committee to follow up on complaints from the public? Are the complaints from the public being investigated as thoroughly as in the past? Are Discipline Committee hearings being prosecuted as rigorously by PEO as in the past? In my opinion, disciplinary penalties have more often than not been lighter that I would have expected in the circumstances (a proverbial slap on the wrist in most cases). Our statutory responsibilities as a self-regulated profession may be at stake if PEO does not maintain (or enhance) a rigorous process and outcomes for complaints.

David J. Baigent, P.Eng., Burlington, ON



## ENGINEERS AS ENVIRONMENTALISTS

Referring to the November/December 2015 issue of *Engineering Dimensions*: the articles on materials engineering were very informative. One important aspect of all newly created products is eventual disposal. They all wear out or become outdated and are subject to disposal. Quite often this means going to a landfill. As engineers, we should be custodians of the environment and I would like to think that the developers of engineered materials are also considering how their creations will eventually be recycled in an environmentally friendly manner.

Ed Trask, P.Eng., Cornwall, ON

## WHOM TO CONTACT AT PEO

Association staff can provide information about PEO. For general inquiries, simply phone us at 416-224-1100 or 800-339-3716. Or, direct dial 416-840-EXT using the extensions below.

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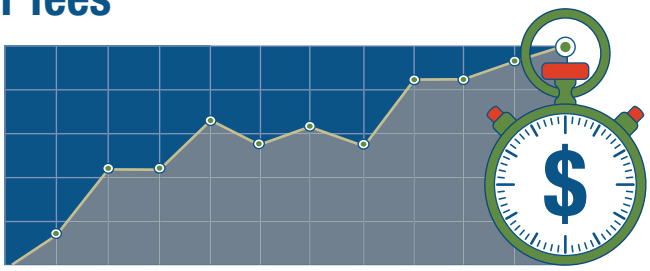

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