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JULY/AUGUST 2016

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RISK, ACCOUNTABILITY, AND PUBLIC TRUST

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

RECENTLY, my attention was drawn to an article in the June 29 edition of the *Toronto Star* under the headline "B.C. to end self-regulation of real estate industry," with the tagline "Premier Christy Clark says a report shows that self-regulation of the industry must end because consumers are being put at risk." The article went on to say:

British Columbia's real estate industry no longer deserves the privilege of self-regulation and will have that authority stripped away, Premier Christy Clark announced after a damning report concluded the sector had lost the public trust. Clark said Wednesday that the province will hire a new superintendent of real estate, who will take over the rule-making and oversight powers that have been held by the Real Estate Council of B.C. since 2005. "The real estate sector has had 10 years to get it right on self-regulation and they haven't," Clark told a news conference. "So we are going to end the right of the real estate sector to self-regulate."

The announcement comes a day after an independent advisory group tasked with restoring consumer confidence in the industry released a report with 28 recommendations, including hefty fines for misconduct. The report did not make a recommendation on self-regulation, but it said a self-regulatory regime works when members of the profession hold themselves and each other to a higher standard than anyone else would. "Each member of a self-regulating industry needs to be part of the compliance regime and report misconduct promptly," it said.

Now I'm not suggesting that the engineering profession anywhere in Canada should expect the same fate as B.C.'s real estate industry. For the most part, I believe we engineers have maintained public confidence and trust for more than 90 years, and I am proud to be able to say that the engineers I know and have worked with over the years have been exemplary in their acceptance of responsibility to serve and protect the public interest. But as Engineers Canada President Chris Roney, P.Eng., BDS, FEC, points out, this development in B.C. does reinforce the fact self-regulation is a privilege, not a right.

In our efforts to assimilate emerging disciplines, such as software engineering (which, arguably, emerged nearly 40 years ago), within the practice of professional engineering, we are often questioned what it is that distinguishes the practice of professional engineering–for which a licence to practise is required–from the practice of unlicensed people who may have similar technical backgrounds and experience. This can be an especially sensitive issue when many established practitioners in the emerging discipline lack formal education or credentials in it, having learned "on the job." We all know folks who have studied the same subjects we studied, and who have acquired the same domain of knowledge we have, but without ever obtaining licensure as professional engineers. Most of them are probably honest, responsible people to boot. So what's the case for licensure?

In my University of Toronto days, I often found myself trying to explain to students the extra value they would get out of an engineering degree program, as compared to an arts and science program that covered the same basic science (chemical engineering vs. honours chemistry, or computer engineering vs. computer science, for example). My answer usually included something about the additional exposure engineering students receive to the practical applications of the basic science they are studying. But for me, the biggest difference was what we sometimes referred to as the engineering method: the disciplined approach to problem solving, to defining problems and requirements properly, and to assessing and mitigating against risks of failure and harm. Almost from my very first day as an undergraduate engineering student, I was taught to think about the consequences of getting it wrong, with real examples of lessons learned by some of my predecessors in the profession to which I aspired. The difference was we engineering students were being conditioned to become

professionals who would have to take personal responsibility for our work and its consequences.

In the 40-plus years since graduation, I have become even more convinced that this taking of personal responsibility is the essence of professionalism. No one else is going to watch over us and catch our mistakes. The buck stops here! If we don't protect public safety, or the environment, who will? At the end of the day, it is impossible to achieve the same outcomes for society by replacing professional competence with systems of checks and balances, codes and standards, third-party inspections, or other forms of output regulation. That's why I believe our system of professional self-regulation delivers the best possible value to society when compared to other possible regulatory schemes.

So what are the implications of this questioning of the appropriateness of self-regulation–with its licensing and exclusive rights to practise–for us as professional engineers? Let me suggest a couple of things.

First, we need to promote aggressively our value proposition as licensed professionals who accept accountability for our work and its impact on public safety, prosperity, and well-being. When I think of the serious public consequences of the engineering work that is taking place daily out of sight and mind of most members of the public, I find it ironic that a government zeros in on dishonest real estate agents as putting the public at risk. We are running out of time to educate the public at large, and lawmakers in particular, of the critical role engineering plays in their day-to-day lives, and of the many ways professional engineers are safeguarding them and protecting their interest.

Second, we need to adopt systematic reviews of our respective engineering practices to identify, evaluate, and mitigate against factors in our work and our work environments that may represent risks to the public. PEO's Continuing Professional Competence Program (CP)^2 Task Force is developing a self-assessment tool to assist us in this task. Remember: practice risk analysis and mitigation is an essential component of professionalism in general, and of the engineering approach in particular.

Finally, we need to increase our vigilance against and our intolerance for unethical behaviour within our ranks. It would appear that unethical behaviour, not technical incompetence, caused the B.C. real estate industry to lose its privilege of self-regulation. It is my observation that most complaints against professionals, including engineers, deal not with incompetence but rather with professional misconduct. Of the three fundamental requirements for professional licensure (knowledge, skill and character), I assert that character is the most important. As Zig Ziglar used to say, "Folks don't care how much you know until they know how much you care." Whether we think it fair or not, we professionals must hold ourselves to a higher standard of ethical behaviour than the average member of the public if we hope to maintain public trust.

The bottom line is this: the privilege of professional self-regulation is ours to lose. So far we have enjoyed it for more than 90 years. Let's do what it takes to maintain it for the next 90! Σ

PRACTICE RISK ANALYSIS AND MITIGATION IS AN ESSENTIAL COMPONENT OF PROFESSIONALISM IN GENERAL, AND OF THE ENGINEERING APPROACH IN PARTICULAR.

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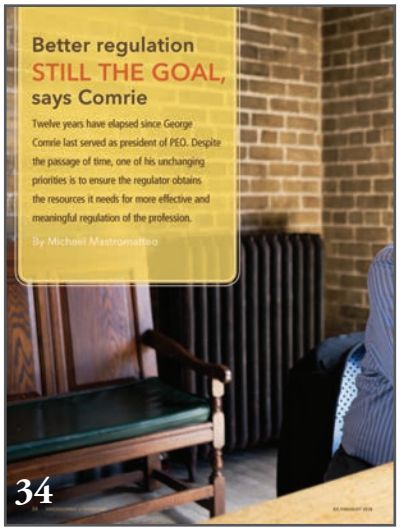

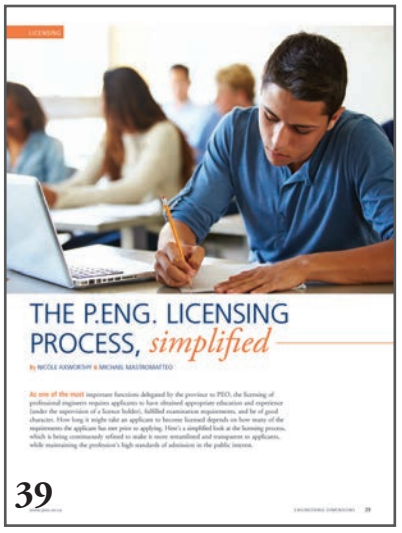

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LETTING GEORGE DO IT (SORRY, I COULDN'T RESIST)

Michael Mastromatteo
Associate Editor

SO HOW DO YOU like us so far? Last issue in this space, we talked about the launch of the *Engineering Dimensions* website (engineeringdimensions.ca) and its role as an engaging supplement to the existing print and digital editions.

Whether you prefer your PEO news in print or electronic format, we strongly recommend that you check out the *Engineering Dimensions* web edition and let us know what you think.

If it's the month of July on the calendar, then it's new president profile time in the PEO universe. President George Comrie, P.Eng., FEC, took over from outgoing President Thomas Chong, P.Eng., FEC, at PEO's annual general meeting in April, and made a firm commitment to stay true to the regulator's core objectives.

Comrie last served as president in 2004-2005, so it is interesting to read his musings on the engineering regulatory landscape 12 years ago, and take note of what has changed and what has remained the same (p. 34).

It's not by coincidence that a George Comrie profile appears in the same issue as our main feature presentation on PEO's licensing process. For several years, Comrie was chair of the Licensing Process Task Force (LPTF) and currently chairs the Licensing Committee. So, the new president takes more than passing interest in what the regulator is doing to maintain the integrity of the licensing system, while ensuring the process is fair, consistent, transparent and accountable.

We've heard you prefer charts, diagrams and flow charts to banks of text, so we hope you will appreciate our visual representation of how a P.Eng. licence application proceeds from first application to newly licensed P.Eng. (p. 39).

Finally, this will be the last issue of *Engineering Dimensions* that involves Connie Mucklestone as publisher and director of communications. After 38 years with PEO, Connie is taking a much deserved early retirement. Come our September/October issue, David Smith, PEO's current manager of communications, and a PEO communications staffer for the past 13 years, will be at the helm.

As PEO Registrar Gerard McDonald, P.Eng., noted to staff recently: "For most of us, Connie, in addition to her regular duties, is our resident PEO historian and archivist, and her institutional knowledge and guidance will be sorely missed. While we are saddened that Connie will be leaving us, we are heartened that she is doing so to spend more time with her husband, Bruce, who has also recently retired. I know you will all wish to join me in thanking Connie for her contribution to PEO over the years."

All the best, Connie, and thanks for all your efforts over the last 38 years. Σ

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Professional Engineers Ontario

THIS ISSUE: There is still some confusion surrounding PEO's licensing process, so we're devoting this issue to a simplified review of how would-be members go from applicant to newly minted P.Eng. We also feature new PEO President George Comrie, P.Eng., FEC, and his key priorities for Ontario's regulator.

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New president to build on REGULATORY PRIORITIES OF PREDECESSOR

By Michael Mastromatteo

PEO President George Comrie, P.Eng., FEC, sporting the regulator's chain of office, paid tribute to outgoing President Thomas Chong, P.Eng., FEC, April 30 during the annual general meeting in Toronto. At right, Annette Bergeron, P.Eng., FEC, chair of the Continuing Professional Competence Program (CP)^2 Task Force, gave members an update on the regulator's latest efforts to develop a continuing professional development system.

IT SHOULD BE A SEAMLESS transition from one PEO president to the next if the comments at the regulator's April 30 annual general meeting are an indication.

Thomas Chong, P.Eng., FEC, bowed out of his year of service as PEO president by recounting some of his efforts to improve PEO's core regulatory functions. Meanwhile, incoming President George Comrie, P.Eng., FEC, in his welcoming remarks also pledged to focus his resources primarily on licensing and regulatory roles.

There was much talk of collaboration among all stakeholders as Chong gave way to Comrie, the latter now serving his second term as president of PEO. Comrie first headed PEO council in 2004-2005.

"Council supports the idea that in a self-regulating profession, like engineering, each member has a part to play in its regulation," said Chong.

Comrie also seems to prefer the collaborative way. "You should know that Thomas [Chong] is a collaborative leader," he said. "He and I have worked closely together this past year to build cohesion among our executive leadership as we try to address the important issues facing our profession. I plan to continue that collaboration in the coming year with Thomas, with our new president-elect, Bob Dony, and with our registrar, Gerard McDonald."

As the first member of a visible minority to lead PEO, Chong emphasized diversity and inclusiveness as hallmarks of his presidential term. He described the regulator as an up and coming "inclusion champion" by drawing on the talent and resources of its diverse group of member-volunteers.

He later outlined some of the accomplishments of the past year, including progress with the PEO strategic plan, the rollout of the licensed engineering technologist (LET) designation, and the successful launch of the regulator's new Aptify database. The latter occurred on April 1 after nearly three years of trial and testing.

Chong also cited the 10 per cent increase in funding to PEO's 36 chapters as another high point of the past year.

A year of progress, Chong suggested, was blunted only by news late last year of the Ontario government's decision to abandon plans to repeal the industrial exception, section 12(3)(a) of the *Professional Engineers Act*.

"The repeal is not red tape, as some have suggested, because it serves to protect the public interest and promotes safety. If repealing the industrial exception were to save just one life, wouldn't it be worth it?" Chong asked. "I believe good engineers reduce costs, improve productivity and protect the health, safety and well-being of Ontarians. Engineering must be viewed as an investment for the future of any wealth-generating enterprise, not as a cost of production."

The annual general meeting is also a forum for other members of the engineering community to celebrate the profession and discuss the value of self-regulation. Special guests at this year's meeting were Digvir Jayas, PhD, P.Eng., FEC, then president, and Kim Allen, P.Eng., FEC, CEO, Engineers Canada; Karen Chan, P.Eng., then president and chair, and Sandro Perruzza, executive director, Ontario Society of Professional Engineers; Mike Wrinch, PhD, P.Eng., FEC, president, and Ann English, P.Eng., CEO and registrar, Association of Professional Engineers and Geoscientists of British Columbia; Steve Hrudey, PhD, P.Eng., FEC, president, Association of Professional Engineers and Geoscientists of Alberta; Margaret Anne Hodges, P.Eng., FEC, president, and Dennis Paddock, P.Eng., FEC, then executive director and registrar, Association of Professional Engineers and Geoscientists of Saskatchewan; Len White, P.Eng., FEC, CEO and registrar, Engineers Nova Scotia; Bruce Potter, P.Eng., past chair, Consulting Engineers of Ontario; David Thomson, C.E.T., CEO, Ontario Association of Certified Engineering Technicians and Technologists; Alan Korell, P.Eng.,

FEC, executive director, Municipal Engineers Association; and Ramesh Subramanian, PhD, P.Eng., chair, Council of Ontario Deans of Engineering.

Several engineering interns and students also took part in the annual meeting, including Hannah Ehtemam, EIT, Parnian Jadidian, EIT, and Jake Lipohar, president of the Engineering Student Societies' Council of Ontario.

Also bringing greetings to PEO members were Doris Chee, president, and Aina Budrevics, acting executive director, Ontario Association of Landscape Architects. This was their first PEO annual meeting. President Chong participated in the OALA's conference in Niagara Falls April 1 to 2.

Each of the guests echoed the value of engineering community stakeholders all working to promote the value and visibility of professional self-regulation.

A key part of PEO annual meetings is discussion of submissions made by PEO members. There were four submissions for this year's meeting. AGM submissions are not binding on PEO council, but are viewed by council as expressions of member concerns.

The assembly approved a submission by Peter Broad, P.Eng., FEC, that PEO continue discussions with the Ontario government and other parties to "ultimately eliminate" the industrial exception and align PEO with other engineering regulators. PEO is the only regulator in Canada with an industrial exception clause in its engineering act.

Members defeated a submission by Pappur Shankar, P.Eng., that PEO representatives on the board of Engineers Canada be elected as part of PEO council elections. The current custom is that council elects PEO's Engineers Canada representatives.

Also defeated was a submission from Ray Linesman, P.Eng., FEC, calling on PEO's proposed continuing professional development (CPD) program to be renamed "continuing professional education" to align with the wording of recommendation 1.24 of the Bélanger Commission report into the partial collapse of a rooftop parking deck at Elliot Lake's Algo Centre Mall in 2012. The Linesman submission also called for a referendum of the board members of PEO's 36 chapters, rather than a member-wide referendum, to approve mandatory components of any CPD program.

A fourth submission, also from Linesman, called on PEO to make results of its membership satisfaction survey known to members. The submission was withdrawn when it was understood that council will soon make public the results of the satisfaction survey.

This year's annual meeting included a report from PEO Registrar Gerald McDonald, P.Eng., who presented financial and licence issuing statistics, and updated members on progress with the latest strategic plan. All AGM delegates received a copy of the registrar's report in their registration packages.

As in 2015, this year's event included a brief update from Annette Bergeron, P.Eng., FEC, on the regulator's efforts to implement a continuing professional development/competence assurance program. Bergeron, chair of the recently created Continuing Professional Competence Program $(CP)^2$ Task Force, said it's important for the regulator to begin collecting more data on practitioners' continuing education and post licensure efforts to remain current. "What the task force wants to do is to offer something new and different and not to repeat the mistakes of the past," Bergeron said in her report.

The $(CP)^2$ Task Force is expected to make its final report to council in November 2016.

Just prior to handing over the ceremonial gavel and chain of office to the incoming president, Chong saluted retiring members of the 2015-2016 council. Recognized for completing their council terms were David Adams, P.Eng., FEC (past president), Serge Robert, P.Eng. (Northern Region councillor), Len King, P.Eng. (Western Region councillor), Nick Colucci, P.Eng. (East Central Region councillor), Charles Kidd, P.Eng. (Eastern Region councillor), and Rebecca Huang, LLB (lieutenant governor-in-council appointee).

As his first duty as president, Comrie welcomed newly elected and returning council members: Thomas Chong, past president; Bob Dony, PhD, P.Eng., president-elect; Pat Quinn, P.Eng., FEC, vice president (elected); Christian Bellini, P.Eng., councillor-at-large; Michael Wesa, P.Eng., FEC, Northern Region councillor; Guy Boone, P.Eng., Eastern Region councillor; Noubar Takessian, P.Eng., FEC, East Central Region councillor; and Danny Chui, P.Eng., FEC, West Central Region councillor.

In his opening remarks, Comrie emphasized leadership development, succession planning, more training for volunteers, and stepped-up government relations work as keys to his term of office. He also cited the competence assurance program, emerging disciplines and exclusive scopes of practice as major items on the presidential radar screen.

"Capturing emerging disciplines or sub-disciplines of engineering practice, such as communications infrastructure engineering, is tremendously important," Comrie said. "If we do not begin regulating these scopes of practice, which clearly fall within the definition of the practice of professional engineering in our act, while they are still emerging, we will be left behind and they will end up in the domain of unlicensed practice and be regulated by others."

The new president believes he's taking over on a high note, despite anticipating a heavy workload in the areas of licensure, complaints and discipline, enforcement, professional guidelines and standards.

"My hope is to maintain momentum and to build on the good work that has been accomplished this past year," Comrie added. "When people suggest that our president's one-year term is too short to accomplish much, I usually tell them that it is not the role of the president to impose his or her vision or agenda on the organization for a year. In my estimation, those who have tried that in the past have failed. Rather, I see the president as having three years to influence PEO's leadership to adopt and work towards a shared vision."

No clear path for innovators to next big thing

By Michael Mastromatteo

Canadalandshow.com host Jesse Brown was keynote speaker at the April 30 luncheon that followed PEO's annual general meeting. The one-time technology journalist, who also co-founded the Bitstrips social media cartooning app, said engineers are poised for new influence as society moves to greater interconnectedness via the "Internet of things."

Instant data collection is making it difficult for innovators and technically savvy entrepreneurs to predict where the next big communications breakthrough will be.

Nonetheless, says blogger and journalist Jesse Brown, engineers stand ready to gain prestige and influence by seizing the momentum generated by the new "Internet of things."

Brown, host of the influential Canadaland journalism website, was keynote speaker at PEO's April 30 annual general meeting luncheon.

A one-time technology writer, Brown gained notoriety for developing a website and podcasts dedicated to journalism about journalism. In that role, he broke ground by reporting new details on such topics as the Jian Ghomeshi sexual assault allegations, and other stories often involving high-profile Canadian journalists.

He regards his website as an example of how the Internet and interconnectedness are changing business models. He said many of the larger traditional industries, including newspapers and magazines, are streamlining operations as smaller, more readily connected companies offer products and services to the market.

"It's really quite amazing today to see all the disparate types of information that can be connected to find solutions," Brown said. "In fact, it's often the case that once you connect a thing to the Internet, it's rarely the problem you're trying to solve that has the biggest impact."

Brown cited the development of the smart phone–already considered old technology–as a device unleashing untold applications to collect information.

At the same time, Brown urged engineers to help steer communications technologies in the right direction. "The data exists today for all kinds of purposes that we haven't even dreamed of yet. And this is where engineers will be making their presence felt. Just as the electric motor was a big game changer 120 years ago, today it's new applications that enable more interconnections that will be the key."

The Internet of things is also disrupting traditional business models, Brown added. He said that rather than expending enormous resources bringing a single product or service to market, today's innovators and entrepreneurs make small investments in dozens of new ideas. "In that way, it's okay if nine out of 10 new ideas don't succeed," Brown said. "It's the one new idea that does succeed that could become the 'next big thing.' We shouldn't be afraid of failure. Failure really is not as scary as we used to think it was. We should not be afraid to have nine straight failures if that's what it takes to give rise to that one success that makes a difference."

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Former PEO presidents RECEIVE SPECIAL AWARDS for decades of service

By Jennifer Coombes

PEO President George Comrie, P.Eng., FEC, congratulates Nicholas Monsour, P.Eng., FEC (top), and Walter Bilanski, P.Eng., FEC (bottom), for their decades of service to the profession.

AT THE ANNUAL meeting luncheon, two special awards were presented for extraordinarily long volunteer service to the engineering profession.

Nicholas Monsour, P.Eng., FEC, was presented an award for 50 years of continuous service to the profession. At 90, he remains an active volunteer. After becoming licensed in 1956, Monsour participated in the chapter system and then on council as a Western Region councillor, second vice president and first vice president. He became PEO president in 1984. Through the years, Monsour has contributed his time and expertise to many PEO committees and, in 1988, was invested as a Companion (the highest honour) in the Order of the Sons of Martha (now the Order of Honour). In 1994, he was elected to council again as vice president and served as an LGA on council from 1999 to 2005.

Walter Bilanski, P.Eng., FEC, received an award at PEO's annual general meeting luncheon for 45 years of volunteer service to the profession. Bilanski is a four-time PEO president (1971, 1977, 1998 and 2007)–the first person ever to serve in the role four times. Bilanski was honoured for his commitment to creating a more inclusive, accessible profession and championing enhancements to the education requirements for licensure. He was also recognized for his role in establishing the province's engineer advocacy body, the Ontario Society of Professional Engineers. Bilanski retired from volunteer service in May 2011.

PEO presents award for academic achievement

George Comrie, P.Eng., FEC (left), presents the 2016 V.G. Smith Award to Anthony Bernard Kacer, P.Eng. The award is presented annually to a professional engineer who was licensed during the past year by writing technical exams and who had the highest mark in any three examinations. Kacer, a graduate of Fanshawe College's electronics engineering technology program and the University of Western Ontario's physics program, completed seven technical exams with an average of 81 per cent. He was licensed on January 16, 2015.

VOLUNTEER COLLABORATION touted as best path to problem solving

By Michael Mastromatteo

Optimizing use of PEO volunteers, particularly through the chapter system, highlighted discussion April 29 at this year's Volunteer Leadership Conference–the kick-off event to PEO's annual general meeting weekend.

Operating under the theme "Challenging the status quo," the conference examined ways in which PEO chapters and committees can work more effectively to help the regulator reach its core objectives.

This year's leadership conference was organized around four main discussion points: the licensure assistance program, the structured internship program, succession planning/term limits, and the advisability of conducting experience requirements interviews at local chapters.

"These topics have been developed to help us look for new ways of conducting some of our operations," said incoming President George Comrie, P.Eng., FEC, at the outset. "In a way, we're hoping to find synergy among volunteers, elected officials and staff members in bringing new ideas forward."

Each of the discussion groups at the conference was led by specially selected moderators.

The conference's keynote speaker was Eric Bergman, a communications consultant with special expertise in putting together effective presentations. Awarded "master communicator" by the International Association of Business Communicators, Bergman is author of two influential publications, *The Presenter's Toolbox* and *The Engaging Public Participation Presentation*.

Bregman outlined for PEO volunteers the differences between symmetrical (two-way) and asymmetrical (one-way) communication techniques. He said the two-way message is most effective simply because it allows for feedback for both the sender/speaker and the listening audience.

"Two-way symmetrical communication improves understanding and builds better relationships," he said. "This model is ultimately more effective because it puts equal emphasis on sender and receiver in the communication process. In other words, the person or group receiving the information is at least as important as the person or group sending it."

Bergman has developed the "Q ratio," which he describes as a metric for the "relative interactivity" of a presentation. The greater the number of questions asked by the audience–and answered by the presenter–during a presentation, the higher the Q ratio, and presumably the more effective and better understood the presentation.

Eric Bergman offered advice for effective communications to participants at the April 29 Volunteer Leadership Conference, which preceded PEO's annual general meeting.

Following the keynote address, participants completed work on the main discussion topics and presented their findings and recommendations to the entire group.

Then PEO council member Nick Colucci, P.Eng., FEC, vice chair of the Regional Councillors Committee, offered closing remarks, calling the conference "well planned," and citing feedback from several participants "that this was the best they've ever attended."

Christopher Kan, P.Eng., FEC, chair of the Volunteer Leadership Conference Organizing Committee, said the discussion topics reflected priorities expressed by PEO volunteers and task force members.

Much of the input for the conference program, he added, came from PEO's Advisory Committee on Volunteers workshops, which bring together various volunteers to share best practices on the regulator's administrative, governance and communications procedures.

Kan was impressed with the enthusiasm and commitment of conference participants. "There is a general feeling that we all want PEO to succeed in becoming the best engineering regulator it can be," he said.

He added that PEO is looking for opportunities for committees and chapters to work together to develop solutions for problem areas. "We believe that by working together, committee and chapter members can see the benefits of collaboration on specific issues," Kan said. "We hope that more new members will join the rank of volunteers and more members will be more engaged in PEO business as they see the results of collaboration efforts."

ORDER OF HONOUR recipients celebrated at gala

By Jennifer Coombes

PEO honoured newly inducted Order of Honour recipients, bottom row, left to right: Paul Charles DiNovo, P.Eng., FEC, Syd Van Geel, P.Eng., FEC, Angela R. Scott, P.Eng., FEC, Dennis Woo, PhD, P.Eng., Martha Stauch, Stephen Jack, P.Eng., and Raymond Hong, P.Eng., FEC. PEO Awards Committee members are, top row, left to right: Michael Ball, P.Eng., FEC, Daniel Couture, P.Eng., FEC, Helen Wojcinski, P.Eng., FEC, Rakesh Shreewastav, P.Eng., FEC, Clare Morris, P.Eng., FEC, Ross Gillett, P.Eng., FEC, Nancy Hill, P.Eng., LLB, FEC, and John Severino, P.Eng., FEC.

Seven extraordinary individuals were invested into the PEO Order of Honour April 29 at the Fairmont Royal York Hotel. All of the awardees recognized at the gala embody tremendous volunteer spirit and have given freely of their time over many years to help strengthen the engineering profession in Ontario.

Paul Charles DiNovo, P.Eng., FEC, and Stephen Jack, P.Eng., were elevated to the rank of Officer, while Raymond Hong, P.Eng., FEC, Angela Scott, P.Eng., FEC, Syd Van Geel, P.Eng., FEC, and Dennis Woo, PhD, P.Eng., were inducted as Members. Martha Stauch, who served for six years on PEO council as a lay lieutenant governor appointee, was made an Honorary Member of the Order of Honour.

The evening was attended by several special guests, including Digvir Jayas, PhD, P.Eng., FEC, then president, and Kim Allen, P.Eng., FEC, CEO, Engineers Canada; Karen Chan, P.Eng., then president and chair, and Sandro Perruzza, CEO, Ontario Society of Professional Engineers; Bruce Potter, P.Eng., then chair, and Barry Steinberg, P.Eng., CEO, Consulting Engineers of Ontario; Mike Wrinch, PhD, P.Eng., FEC, president, and Ann English, P.Eng., CEO and registrar, Association of Professional Engineers and Geoscientists of British Columbia; Steve Hrudey, PhD, P.Eng., FEC, president, and Mark Flint, P.Eng., then CEO, Association of Professional Engineers and Geoscientists of Alberta; Margaret Anne Hodges, P.Eng., FEC, president, and Dennis Paddock, P.Eng., FEC, then executive director and registrar, Association of Professional Engineers and Geoscientists of Saskatchewan; Len White, P.Eng., FEC, CEO, and Rosalie Hanlon, P.Eng., professional development officer, Engineers Nova Scotia; Boris Martin, CEO, Engineers Without Borders; Jake Lipohar, president, Engineering Student Societies' Council of Ontario; Doris Chee, president, and Aina Budrevics, acting executive director, Ontario Association of Landscape Architects; Reg Russwurm, president, and Alan Korell, executive director, Municipal Engineers Association; Stephen Morley, C.E.T., past president, and David Thomson, CEO, Ontario Association of Certified Engineering Technicians and Technologists; and Alan Shaw, president, and Aubrey LeBlanc, chief administrative officer, Ontario Building Officials Association.

A video message from Premier Kathleen Wynne praised engineers for the role they play in the province to protect the public.

President Thomas Chong, P.Eng., FEC, who acted as emcee for the pre-dinner portion of the evening, presented the 2016 PEO President's Award to Carol Layton, former deputy minister of transportation. The award is presented to non-engineers who have demonstrated extraordinary support for the engineering profession. Layton was selected for the 2016 award because she was a key supporter of the Ontario Public Service Women in Engineering Mentoring Initiative, a program that provides guidance to engineering students in their final year of studies through a volunteer-driven, virtual, mentoring network, providing opportunities and support for women entering the profession.

In accepting the award from President Chong, Layton said: "I want to express how deeply

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honoured I am to receive this year's President's Award. I was really privileged to have served 36 years with the Ontario government and 13 years as a deputy minister. It really was meaningful to be at the helm of the ministry when it celebrated 100 years in service to the province. And I had the great honour to hire the first female chief engineer for the province, Suzanne Beale [P.Eng.].

"Working at the Ministry of Transportation has provided me a lot of my exposure to the different fields of civil engineering–structural, geotechnical, construction, traffic–and I have really witnessed the value in encouraging and empowering the P.Engs we had at the ministry to bring innovative ideas to the table. I enjoyed my exposure to the personalities of engineers. I think one principle that joins all engineers is a commitment to the public safety as their paramount duty. We have the safest roads in the country, if not in North America–really in the top 10 in the world. And that's not just about laws, that's also about engineers and the value of what they bring."

Nancy Hill, P.Eng., LLB, FEC, chair of PEO's Awards Committee, was emcee for the awards presentations. She said on behalf of PEO: "Tonight we celebrate those, who through their voluntary service to Professional Engineers Ontario, have helped shape the engineering profession."

Following are selections from the award recipients' acceptance speeches.

"It is really a great honour to be deemed worthy of being appointed an Officer of the Order of Honour. I found that PEO, and Ontario engineers, are respected around the world. That's why Hatch, AECON and SNC have been so successful. There are firms in Oakville that employ thousands of engineers. They have helped cushion the devastating effect of the drop in manufacturing in Ontario. As members of PEO, all of you should be very proud of the part you have played in establishing that reputation."

Paul Charles DiNovo, P.Eng., FEC

"I've come rather late to the field of volunteerism and I was given to wondering what really prompted me to do this. And I can't help thinking, I've spent a lot of my career working with PEO and then OSPE, and inevitably through my contact with literally hundreds of volunteers over my career with both organizations, there are a couple of things that I recognized they all shared. They all seemed to enjoy all their volunteer participation. The second one was that, for the most part, they all had the feeling that whatever activity they were involved in was in some way going to make the profession a little bit better. That was my 'aha' moment."

Stephen Jack, P.Eng.

"I never really thought of myself as being the volunteer type of person, but 20 years ago my boss 'voluntold' me to participate. I've been involved ever since and I've found it to be a very rewarding experience. So, I guess it just goes to show that there's a little bit of volunteer in all of us. Sometimes it just takes a little bit of encouragement. Congratulations to all the other award recipients."

Raymond Hong, P.Eng., FEC

"It is humbling to be standing in front of all of you tonight. I almost didn't become an engineer. Even though I've always been drawn to math, science and building things, I didn't even know what an engineer was until Grade 10 when an engineer visited a friend's physics class. Reflecting back, even though I'd never met that engineer, I was profoundly influenced by their volunteering and doing education outreach. It changed the direction of my career goals forever. And although I volunteered in a number of ways throughout the past 15 years, focusing on education outreach has always been my passion.

"I'm a true believer that volunteering gives back to you as much as you give to others. The feeling that we're making a difference not only in our communities but also to our profession is truly inspiring."

Angela R. Scott, P.Eng., FEC

"I'd like to thank fellow engineers who have supported me throughout my career. As it said in the video I wanted to be an engineer at a young age. I'd go with my dad to the office, to Labatt. Of course he wouldn't let me drink back then. But it did spark my interest in engineering. With guidance and support, I completed my engineering degree and now practise. Many engineers have mentored me over the years and through their guidance I've grown and prospered."

Syd Van Geel, P.Eng., FEC

"Without PEO I would not be here. Without this amazing organization I would not have the opportunity to be in front of you. Through the York Chapter, I've been able to do things that I love to do for many years. I started volunteering in 2007 when I moved from New Brunswick to Ontario and the first person I came across was Edward Poon [P.Eng.]. I said I want to volunteer, I just transferred my licence over and he said, 'well, come to the meeting.' I tried it, I loved it and ever since then I've been with the chapter. I love volunteering. It's the only way that allows you to interact with a lot of people, inspire them and learn from them. The other thing is friendship."

Dennis Woo, P.Eng., FEC

"This past November when I received the letter saying that I was to be an honorary member of the PEO Order of Honour, both my husband Warren and I shed a few tears. We were both so touched that an organization made up of friends and

colleagues that we've come to know and respect would bestow such an honour on me. I'm humbled to be in the company of such worthy recipients tonight. So, tonight I want to take the chance to say thank you. My learning curve was huge as I sat on council as a new public appointee and I learned about the many issues that are integral to the engineering profession. I thank you for accepting me, listening to a non-engineer's point of view, and teaching me so much about your profession. It is said that you make a living by what you get, but you make a life by what you give."

Martha Stauch

G. GORDON M. STERLING AWARD RECIPIENT IS GEORGE CROUCH

This year's Sterling Award recipient, George Crouch, EIT, is fascinated by planning and policy, and has been involved in transformational city building projects through his work as an engineering intern with Deep Foundation Contractors Inc. Crouch has led construction teams on several leading mega-projects, including as a site superintendant to the Eglinton Crosstown LRT and, previously, as assistant site superintendant on the Toronto Transit Commission Vaughan Metropolitan Centre subway station. He has also demonstrated leadership within the engineering profession through volunteer work. In particular, he represents young Toronto civil engineers on the Canadian Society for Civil Engineering (CSCE) National Young Professionals Committee and on the CSCE Toronto Section Executive Committee. On accepting his award, he said: "I'd like to express my profound gratitude that you selected me for this award... This award was created to carry on the legacy of Gordon Sterling [P.Eng.], who, from what I've read, exemplified the dedication to professional service, engagement and excellence that allows the self-governing profession to truly advance the public interest. I'm honoured to be in a room with PEO's Order of Honour inductees... I hope that the leadership course I've taken and continue to take will equip me well as I continue to work, seek licensure and follow in the footsteps of the outstanding engineers recognized this evening."

Innovative elements of proposed CPD program taking shape

By Michael Mastromatteo

PEO's Continuing Professional Competence Program (CP)^2 Task Force is entering the second half of its 10-month-long effort to develop an innovative, risk mitigation-based continuing professional development program for membership.

Established in February to further the work of its 2015 predecessor, the task force is due to present its recommendations to PEO council in November or December 2016.

Task force chair Annette Bergeron, P.Eng., FEC, recently returned from Portugal, where she attended the International Association for Continuing Engineering Education (IACEE) conference.

The IACEE is an international group in support of lifelong engineering education and training.

At the Portugal conference, Bergeron presented a paper on PEO's risk mitigation-based approach to a continuing professional development (CPD) program, and gathered material from other associations about their experience with CPD initiatives.

Bergeron also discussed with council the latest work of the (CP)^2 Task Force at council's annual workshop retreat June 3 to 4 in Picton, Ontario.

At a June 13 interview with *Engineering Dimensions*, Bergeron said international participants were intrigued by the risk to the public approach PEO is working to develop into its proposed CPD effort. She said representatives from other engineering jurisdictions also expressed surprise that Ontario has yet to establish any form of CPD for members.

"They were impressed that we're now looking to implement something unique and innovative in Ontario, and that we now have an opportunity to avoid the 'cookie-cutter' approach to CPD that others have attempted in the past," Bergeron said.

She said the Portugal experience will help PEO's task force better understand what sort of technical training and updating might be recognized in PEO's proposed program.

"I've been saying all along that PEO has very little knowledge of what members are currently doing with respect to CPD and we're still keen on gathering all the right elements of what should constitute an effective and meaningful program for members," she added.

Over the summer, the (CP)^2 Task Force will continue working to refine a questionnaire for licence holders to determine the level of risk to the public inherent in their engineering practice environment. This risk will determine how much professional development PEO might recommend a practitioner undertake in a given year.

A beta online practice environment and risk mitigation questionnaire is undergoing focus group testing, prior to being made available for all PEO licence holders to try out.

"We want to make sure we get your feedback before any decisions are made, so the task force's marching orders are to continue work on the risk review and the website, and lastly provide guidelines to licence holders to help you with your annual reporting," Bergeron told attendees at the PEO annual general meeting April 30.

Lisa Miller, C.E.T., LET, is presented with her licensed engineering technologist certificate by OACETT President Bob van den Berg, C.E.T. (left), and PEO President George Comrie, P.Eng., FEC (right).

PEO awards first Ontario licensed engineering technologist

By Nicole Axworthy

ON MAY 12, PEO, in collaboration with the Ontario Association of Certified Engineering Technicians and Technologists (OACETT), presented Ontario's first licensed engineering technologist (LET) designation to Lisa Miller, C.E.T., LET, of Toronto.

The creation of the LET class of limited licence was one of several amendments to Regulation 941/90 of the *Professional Engineers Act* that became effective on July 1, 2015. It permits a PEO limited licence holder who is also a certified engineering technologist (C.E.T.) and a member of OACETT to apply for this class of limited licence and, if approved, use the protected title of licensed engineering technologist and LET designation. PEO's limited licence allows holders to perform professional engineering work within a defined scope of practice. (See "Licensing, Certificate of Authorization changes strengthen regulation of professional engineering," *Engineering Dimensions*, January/February 2016, p. 34.)

"HAVING A LIMITED LICENCE WILL ENABLE ME TO SEAL ALTERNATIVE SOLUTION REPORTS"

Lisa Miller, C.E.T., LET

"I'm pleased PEO has formally recognized the important role played in the profession by a valued member of the engineering team in Ontario," says PEO President George Comrie, P.Eng., FEC. "The LET class of limited licence serves to embrace and strengthen this team through fair, but demanding, licensing requirements that are consistent with our mandate of regulating and advancing the practice of engineering to protect the public interest."

Miller is a senior associate at LRI Engineering Inc., Canada's largest wholly-Canadian-owned engineering firm specializing exclusively in fire protection engineering, building and fire code consulting and emergency planning services. "Having a limited licence will enable me to seal Alternative Solution reports that we submit to the various building departments in Ontario as part of the permit application process, providing an additional resource to the group at LRI," she says. Miller graduated from Conestoga College's architectural construction program in 2003 and has been an OACETT member since 2005.

REPORT COULD BE FIRST STEP IN **IMPROVED BUILDING SAFETY PROGRAM**

By Michael Mastromatteo

AN ONTARIO HOUSING MINISTRY ADVISORY PANEL has recommended amendments to the building code to establish a regular timetable for building safety inspections in the province.

Its report also recommends which kinds of buildings should be inspected and the qualifications of practitioners undertaking the assessments.

The Building Safety Technical Advisory Panel (BSTAP), which included several PEO members, was established by the Ontario government in April 2015 in response to the Bélanger Commission of Inquiry into the June 2012 fatal mall collapse in Elliot Lake.

The advisory panel report was delivered to the housing ministry January 27, 2016.

Recommendation 1.16 of the Elliot Lake inquiry called on the housing ministry to convene a panel of experts to review the Ontario Building Code and determine the appropriate classes of buildings, grouped by risk and the consequences of their failure, and to make recommendations no later than 12 months from the October 2014 release of the report.

The partial collapse of the mall's rooftop parking deck killed two local residents and the subsequent inquiry unearthed significant deficiencies in the province's building safety regimen.

PEO helped the housing ministry recruit two engineers to the panel, Chris Roney, P.Eng., BDS, FEC, president of Roney Engineering in Kingston, and Will Teron, P.Eng., principal at Tacoma Engineers in Guelph. Neither engineer represented PEO on the panel.

Other panelists were recruited from Consulting Engineers of Ontario, the Ontario Association of Architects, the Ontario Building Officials Association and private industry.

The BSTAP's experts met eight times between April and December 2015 to develop an inspection system and timetable for Ontario buildings. The work included developing an effective risk-screening evaluation tool to prioritize new and existing buildings for inspections, identifying qualifications for those conducting risk screening evaluations and structural adequacy assessments, and establishing structural adequacy assessment timelines.

Roney, a former PEO councillor who is president of Engineers Canada, said the panel's recommendations dovetail with PEO's recommendations to the Bélanger Commission on how structural adequacy assessments should be carried out, and by whom.

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"Commissioner Bélanger recommended that all buildings be periodically assessed by a suitably qualified structural engineering specialist," Roney told *Engineering Dimensions*. "Bélanger originally grappled with the problem of ensuring these assessments were carried out by engineers who had the proper training and experience, since he heard plenty of evidence during the inquiry that many of the engineers involved [with the Elliot Lake mall], and who held themselves out as qualified, were, in fact, not suitably qualified. In response to this, PEO successfully argued that it should be the regulator's role to set the standards of qualification for professional engineers doing this kind of work and to accomplish that PEO could, with the government's concurrence, establish a structural specialist designation."

Roney added that the high number of buildings in Ontario and the limited number of structural engineering specialists made it a priority for the BSTAP to screen buildings to determine which ones are potentially higher risk and would be priority candidates for a structural adequacy assessment.

"[The] BSTAP actually borrowed from PEO's continuing professional development and competence assurance risk-based approach and applied it to the screening," Roney said.

Roney also pointed out that PEO, as a regulator, might have some work to do in advance of some of the BSTAP recommendations being implemented. This would include completion of standards for structural assessment and development of a structural engineering specialist designation.

"The BSTAP report does not specifically mention the concept of a structural engineering specialist and instead simply states a 'qualified professional engineer,'" notes Roney. "This is because PEO hasn't created this designation yet. However, Mr. Justice Bélanger was clear that PEO has a role to play in ensuring people doing these assessments are suitably qualified, since the way PEO has been doing things in the past, such as letting engineers self-declare their qualifications, is not acceptable, hence the recommendation for a specialist designation."

Roney said implementation of the BSTAP recommendations could have an impact on PEO's ongoing initiatives with continuing professional development. For example, if PEO fails to establish the specialist designation, the province might establish its own qualification requirements, since the lack of a PEO specialist designation was a key component of the Bélanger Commission's findings. "That would be very unfortunate since it really should be the role of PEO, as we argued," Roney said.

José Vera, P.Eng., PEO's manager, standards and practice, attended the BSTAP discussions as an observer.

Panel chair Tony Crimi, P.Eng., president of AC Consulting Solutions in Richmond Hill, said the high number of professional engineers on the panel gave a strong regulatory presence to proceedings. "The strong PEO presence came from the members, the invitation to a PEO staff person (José Vera) [to observe] and the acknowledgement that it is essential, and in the best interests of the people of Ontario, to work co-operatively, and synergistically, with PEO," Crimi told *Engineering Dimensions*. "The commission recommendations laid out specific roles for both groups, and in order to fulfill our obligations, it was critical that the output from both groups functioned cohesively. Consequently, items such as definitions, the uniqueness of Ontario's regulatory circumstances, capacity for effective implementation and enforcement, the number of qualified engineers and building officials, and the relative effectiveness of inspection regulations and practices in preventing building failures were all considered."

Crimi added that one of the biggest challenges to the panel's work at the outset was determining the size of the potential building safety situation in Ontario. This involved gathering information about building failures that had occurred throughout the world, and identifying what other jurisdictions were, and were not, doing to address the issues. It was recognized that there are a multitude of different issues that needed to be taken into consideration, so determining what was, and what was not, to be included, was important.

"This capacity of municipalities, engineers, architects and other building professionals to manage their responsi-

bilities was also an important consideration," Crimi said. "Once the panel decided to develop the risk screening evaluation tool to be used to determine if, and when, a professional engineer is needed to conduct a structural adequacy assessment, this provided a mechanism to resolve many of these concerns."

With the completion of the BSTAP report, the housing ministry is now considering how it might implement some of the building safety and building code related recommendations.

"The panel has concluded its work and submitted its recommendations to the government," said Conrad Spezowka, a spokesperson for the Ontario housing ministry. He said the panel report is one of many pieces the government is considering as it explores potential options to respond to the Bélanger Commission recommendations.

BSTAP RECOMMENDATIONS AT A GLANCE

The following are excerpts from the executive summary of the BSTAP report.

BSTAP developed a risk screening evaluation tool outlining generally acknowledged building elements that, if not properly maintained, could present a risk to public safety.

1. BSTAP recommends that:
   - 1.1 The Ontario government amend the *Building Code Act, 1992* and the Building Code to require that owners of prescribed buildings have their buildings evaluated by a qualified individual, using the Risk Screening Evaluation Tool.
   - 1.4 Within six years after the implementation of the requirement to complete the Risk Screening Evaluation Tool, the Ministry of Municipal Affairs and Housing engage an independent party to review the score values within the tool. This would serve to further validate the tool, access the possibility of exempting further buildings, or modify the inspection schedules set out in this report.

RECOMMENDATIONS FOR STRUCTURAL ADEQUACY ASSESSMENT CYCLES

BSTAP discussed when the initial structural assessment of a building identified as medium or high risk should occur, and how the subsequent structural assessment cycle should be determined.

2. BSTAP recommends that:
   - 2.1 The Ontario government amend the *Building Code Act, 1992* and the Building Code to require Structural Adequacy Assessments for new and existing buildings as per the schedules set out
   - 2.2 The Ontario government amend the *Building Code Act, 1992* and the Building Code to require that building permit applications for a new building include verification that a risk screening evaluation has been completed by a qualified individual.
   - 2.3 Risk screening evaluations be conducted on buildings outside of these set timelines, when a building owner applies for a building permit for an addition, change of use or extensive renovation.

RECOMMENDATIONS FOR RISK SCREENING EVALUATION AND STRUCTURAL ASSESSMENTS IN PRACTICE

BSTAP discussed the importance of ensuring that the practitioners and professionals using the Risk Screening Evaluation Tool and those professionals conducting Structural Adequacy Assessments be both qualified and accountable.

3. BSTAP recommends that:
   - 3.1 The Ontario government require that only qualified individuals conduct Risk Screening Evaluations and Structural Adequacy Assessments.
   - 3.2 The Ontario government require that all Structural Adequacy Assessments related to completing a Structural Adequacy Report be completed by a qualified professional engineer.
   - 3.3 The housing ministry enhance the building code's qualification and registration program for Building Code Identification Number (BCIN) holders with enforcement/oversight processes, to help ensure that BCIN holders are held accountable for their work and actions.
   - 3.4 The ministry incorporate a continuing education component into the building code's qualification and registration program to help ensure practitioners have up-to-date knowledge of Ontario's building code.

RECOMMENDATIONS FOR NEW DEFINITIONS AND TECHNICAL REQUIREMENTS

Part of the panel's mandate was to develop recommended definitions and technical requirements for structurally sound and safe buildings.

4. BSTAP recommends that:
   - 4.1 The definition of "structural sufficiency" be defined by Professional Engineers Ontario.

CHRIS RONEY ELECTED AS ENGINEERS CANADA PRESIDENT

By Nicole Axworthy

Chris Roney, P.Eng., BDS, FEC, took over as Engineers Canada president May 26.

LONGTIME PEO volunteer and former council member Chris Roney, P.Eng., BDS, FEC, has been appointed Engineers Canada president for the 2016-2017 term. Engineers Canada is the body comprising the provincial and territorial engineering regulators across the country.

For the past 18 years, Roney has served on PEO committees and task forces. Most notably, he was a leading member of, and spokesperson for, PEO's task force in response to the Algo Mall collapse in Elliot Lake. As a practising structural engineer and president of Roney Engineering Ltd., a Kingston, Ontario-based structural engineering consulting firm, Roney appeared at the Elliot Lake Inquiry as an expert and helped draft many of the PEO recommendations the inquiry ultimately adopted.

Since 2009, Roney has represented PEO on the Engineers Canada board and has been active on a number of Engineers Canada committees and task forces. He recently led a national task force studying the lessons to be learned from the Elliot Lake mall collapse, the Charbonneau Commission in Quebec, and the Mount Polley tailings storage facility breach in British Columbia.

Roney is also a member of the Ontario government's Building Advisory Council, and recently served on the Building Safety Technical Advisory Panel and chaired the Part 4 (structural) Technical Advisory Committee for the Ontario Building Code (OBC). He provides strategic advice on matters related to ongoing policy, administrative and technical issues related to OBC.

Roney became Engineers Canada president May 26 at its annual general meeting in Charlottetown, Prince Edward Island.

Materials experts still seek clues in Nipigon bridge failure

By Michael Mastromatteo

Ontario's engineering regulator is still awaiting news from the provincial transportation ministry regarding causes of the January 2016 failure of the newly-built Nipigon River Bridge.

Opened to traffic in November, the cable-stayed bridge was forced to close January 10 after part of the bridge deck separated from the road surface during a mid-winter storm.

The bridge was partially opened to traffic days later after the ministry completed emergency repairs.

A preliminary investigation determined that bolts on part of the new bridge's supporting structure broke off and allowed the deck to rise above the road surface. The Ontario Ministry of Transportation (MTO) sent samples of the broken bolts to two independent labs to determine the exact cause of the failure.

The two labs are Surface Science Western at Western University and the National Research Council (NRC) lab in Ottawa.

PEO has since been in touch with the transportation ministry regularly throughout its investigation into the bridge failure.

"We continue to be in communication with senior staff, including the assistant deputy minister at the transportation ministry on a regular basis," says Linda Latham, P.Eng., PEO deputy registrar, regulatory compliance. "We will be provided with information on MTO's failure report and the bolt testing results once available."

On its website, the NRC says experts in materials analysis and critical infrastructure have been analyzing some of the damaged bolts taken from the Nipigon bridge. Failure analysis will be carried out on the bolts used to hold together two sections of the cable-stayed bridge.

"Mechanical and structural failures occur when the load experienced by an object exceeds its capacity to support it," says Jon Makar, PhD, P.Eng., a research officer with NRC's civil engineering infrastructure section. "Failure analysis investigates why and how an object failed. Determining the cause of the failure can prevent further problems, improve designs, and/or help to assign responsibility for what happened."

Makar says all data will be drawn together by the analysis team to draw conclusions about what caused the failure. The analysis might show that the object under investigation was the ultimate cause of the failure. Or it might instead show that the object was performing normally and that the loads that caused the failure were higher than expected.

"In the latter case, further investigations will focus on structural behaviour of the whole system that contained the failed object, rather than the performance of the object itself," Makar adds.

Annemarie Piscopo, a spokesperson with the transportation ministry, told *Engineering Dimensions* June 1 that reports on the bolt testing and analysis should be available shortly. "Once the reports have been finalized and reviewed, the information will be made public," she said.

Any information received by PEO will be used to determine if engineering might have been a factor in the failure.

Foundation increases LEVEL OF SUPPORT TO UNDERGRADUATES

By Michael Mastromatteo

Boris Martin of Engineers Without Borders discusses the Leaders for the Future Award at the May 2 annual meeting of the Ontario Professional Engineers Foundation for Education.

The Ontario Professional Engineers Foundation for Education believes a 50 per cent increase in the amount of its scholarships is helping undergraduate students cope with the increasing cost of an engineering education.

The increase, announced in 2015, was discussed at length during the foundation's annual general meeting May 2 at PEO headquarters in Toronto.

The scholarships have been increased on average from $1,000 to $1,500 per recipient.

Among the guests attending the event were PEO Registrar Gerard McDonald, P.Eng., outgoing Ontario Society of Professional Engineers (OSPE) President and Chair Karen Chan, P.Eng., PEO Councillor Santosh Gupta, P.Eng., FEC, who also represents the Council of Ontario Deans of Education, and Zachary Muma, vice president of the Engineering Student Societies' Council of Ontario.

An additional guest was Boris Martin, CEO of Engineers Without Borders, which has partnered with the foundation with its Leaders for the Future Award.

Founded in 1959, the foundation has awarded more than $2.6 million in scholarships to 3044 engineering students over the past 57 years. The foundation awarded $153,000 to 117 students in 2015-2016. In a show of the engineering profession's diversity outreach, up to 30 per cent of foundation awardees are women.

In his welcoming remarks, McDonald said the foundation lets engineers put their dollars on the line in support of the next generation of practitioners. "It's a case of engineers looking out for their fellow engineers," he said.

Foundation President and Chair Marisa Sterling, P.Eng., is a former PEO enforcement officer, who is now assistant dean (inclusivity and diversity) at the Lassonde School of Engineering at York University in Toronto.

Award recipients Pirasanth Rajkumar (left), Rachel Braganza and Alexandre Seguin discussed the importance of the foundation's support at the meeting.

Sterling outlined some of the foundation highlights of the past year, including the increased scholarship funding and its stepped-up engagement with donors, student societies and professional associations.

This year's annual meeting including brief presentations from scholarship recipients, each of whom described how the cash awards help relieve the significant financial burden associated with engineering tuition. The foundation estimates that the cost of a typical engineering undergraduate education can run as high as $100,000.

The foundation for education is led by a board of directors from PEO and OSPE. The current board comprises Marisa Sterling, president and chair, Marta Ecsedi, P.Eng., FEC, Roger Jones, P.Eng., Zico Sarmento, PEO's director, information technology, Maria Iannone, PEO's administrative assistant, enforcement, and Rhonda Hall, a PEO receptionist. Representing OSPE are: Jane Huang, P.Eng., Steven Rose, P.Eng., FEC, Alourdes Sully, P.Eng., FEC, and Sue Tessier, P.Eng.

The foundation's board was scheduled to meet in June to elect a new executive for the coming year.

PEO members can donate to the foundation through the donation box on the PEO fee renewal form, or online at www.engineersfoundation.ca.

OSPE STILL LOOKING TO STEP UP ENGINEER ENGAGEMENT

By Michael Mastromatteo

Front row, from left to right: Ronald Clifton, P.Eng., Shelly Deitner, P.Eng., Sue Tessier, P.Eng., Karen Chan, P.Eng., Sandra Ausma, P.Eng., Emily Thorn Corthay, P.Eng., and Peter Marcucci, P.Eng. Back row: Helen Wojcinski, P.Eng., FEC, Jonathan Hack, P.Eng., Milica Radisic, P.Eng., Matthew Jelavic, P.Eng., Michael Monette, P.Eng., and Steven Rose, P.Eng., FEC.

OTTAWA ENGINEER Michael Monette, P.Eng., will lead Ontario's advocacy and member services organization into 2017.

Monette was elected president and chair of the Ontario Society of Professional Engineers (OSPE) at its annual general meeting May 3 in Toronto. He takes over for outgoing chair Karen Chan, P.Eng., who will remain on the OSPE board as an ex officio, non-voting member.

Monette was first elected to the OSPE board in 2005 and was elected president and chair in 2007 and then again in 2008.

The OSPE annual meeting was an opportunity for the organization to celebrate its accomplishments of the past 12 months, while outlining its objectives for the coming year.

OSPE made progress on its four main goals of creating new value for membership, raising public awareness of its objectives, contributing to public policy development and becoming more involved with other stakeholders in the engineering community.

Nonetheless, as OSPE CEO Sandro Perruzza pointed out, there are still challenges to overcome.

"What is holding us back, and what has always held this organization back, is the lack of engagement and involvement of the entire engineering community in this province," Perruzza said. "Most, if not all of you who are here today, are active OSPE members who participate to move our mandate forward. But there are still engineers out there who don't know who OSPE is, or what we do. There are engineers who don't see value in supporting their advocacy association. Or, there are engineers who are members of OSPE, but don't know the difference between us and PEO."

Perruzza said OSPE continues to work on ways to address this lack of engineer engagement, while targeting the rest of the engineering community in Ontario. "And I can tell you we have some exciting plans for 2016," he added.

Guest speaker for the OSPE meeting was Vic Fedeli, Conservative party member of parliament for Nipissing. In his remarks on the importance of engi-

Ontario Progressive Conservative party MPP Vic Fedeli was guest speaker at the May 3 OSPE annual general meeting.

neering to Ontario's economy, Fedeli cited the value of engineers advising government on policy options, particularly in the areas of energy and mining.

Fedeli criticized the provincial government for its tepid response to the Ring of Fire mineral development in northern Ontario, and its rush to develop wind and solar power without a proper business plan.

Fedeli referred to an OSPE-produced energy distribution white paper that highlighted some of the weaknesses in the provincial government's green energy initiatives. "If only the government had listened to you [OSPE], they might not have doubled down on their wind power program to produce energy that we currently don't need," Fedeli said.

Fedeli praised OSPE and engineers in general for their commitment to public policy input, adding that government, which often ignores the advice of experts, leaves itself vulnerable to the misallocation of resources.

"I applaud OSPE for the thoughtful and well researched reports that shine a light on many important public policy issues," Fedeli said. "This type of commentary is critically vital in shaping our province for the better [and] it is heartening to see individuals who are dedicated to driving this province forward."

A number of PEO officials attended the OSPE annual meeting, including new PEO President George Comrie, P.Eng., FEC, Registrar Gerard McDonald, P.Eng., and council members Changiz Sadr, P.Eng., FEC, Roger Jones, P.Eng., Bob Dony, PhD, P.Eng., Warren Turnbull, P.Eng., Marilyn Spink, P.Eng., and Christian Bellini, P.Eng.

"PEO council is strongly supportive of OSPE, strongly committed to the success of OSPE, and we are anxious to find ways where we can collaborate with OSPE to help them be successful in making engineering a more important force in our society," Comrie said in bringing greetings from PEO.

The 2016-2017 OSPE executive comprises Michael Monette, P.Eng. (president and chair), Jonathan Hack, P.Eng. (vice chair), Ronald Clifton, P.Eng. (treasurer), Sue Tessier, P.Eng. (secretary), Peter Marcucci, P.Eng. (director), and Karen Chan, P.Eng. (past chair).

Following official proceedings, OSPE executives presented a volunteer award to the partner of the late Mark Ernsting, PhD, P.Eng., and a certificate of meritorious service to outgoing chair Chan.

Peter Mallory, P.Eng. (left), is the new chair of Consulting Engineers of Ontario for 2016-2017. He takes over from Bruce Potter, P.Eng. (right).

NEW CHAIR ANNOUNCED AT **2016 CEO annual meeting**

By Jennifer Coombes

One of the first orders of business at the Consulting Engineers of Ontario (CEO) June 8 annual meeting was installing Peter Mallory, P.Eng., as the new chair of the board. Mallory, global project delivery and quality director for the water business group at CH2M, takes over from Past Chair Bruce Potter, P.Eng., president, BMROSS.

Mallory said he plans to continue the work already underway at CEO and to "try in my own way to influence the future of the organization in the direction all of you as the members of CEO… would like to see us go."

In particular, he has plans to strengthen CEO's local chapters as he sees properly supported chapters as key in fighting for fair procurement, terms and compensation.

Held at the Royal Canadian Military Institute in Toronto, the meeting was also a chance to convey CEO's key achievements over the past year and to discuss with members the association's vision and objectives, particularly concerning a new strategic plan cycle just getting underway.

Barry Steinberg, P.Eng., chief executive officer, outlined the successes of the organization, including CEO's *Conflict of Interest Guidelines for Consulting Engineering Services in Ontario*, which was published last June and has been distributed to MPPs, ministries, Infrastructure Ontario, municipalities, industry associations and others, with the goal of having the guidelines adopted by public sector clients.

Another success was the revision of the standard agreement for professional consulting services with the Municipal Engineers Association, to promote fair contract language.

Steinberg also reported on the association's first-ever Queen's Park Day and Ottawa City Hall Day in October and November, respectively, both of which raised CEO's profile among leaders at various levels of government.

At the annual meeting, attendees were also given an overview of the new Ontario Ministry of the Environment and Climate Change client account management system, which is expected to streamline the process for applicants and consultants applying for environmental compliance approvals (ECAs) or environmental activity sector registrations (EASRs).

Luncheon speaker Bruce Reynolds, senior partner and *Construction Lien Act* review counsel, Borden Ladner Gervais LLP, discussed the act's effectiveness, promptness of payment provisions, and the effectiveness of dispute resolution–issues he used to form the basis of a newly published report and set of recommendations submitted to the ministries of the Attorney General and Economic Development, Employment and Infrastructure.

QUEBEC BILL proposes immunity to compromised WHISTLEBLOWERS

By Michael Mastromatteo

Engineering associations across Canada are taking note of the Quebec government's introduction of special legislation aimed at providing better protection for practitioners calling attention to misconduct by themselves and their professional colleagues.

Bill 98, which was introduced in the Quebec national assembly in May, would make it easier for the province to investigate complaints of professional misconduct while protecting "whistleblowers"–even if the whistleblower in question may have taken part in the misconduct.

The legislation is part of the Quebec government's response to the Charbonneau Commission, which looked into corruption in the province's construction industry. Engineering firms were implicated in the investigation, and there was some concern that the international reputation of Quebec's engineering community had been damaged as a result.

The Charbonneau Commission was initiated in 2011 and delivered its report to Quebec Premier Philippe Couillard in November 2015.

In the explanatory notes section of Bill 98, the Quebec justice minister says the proposed legislation would allow a syndic (investigative body) to grant immunity from any complaint before a disciplinary council to a person who has sent information to the syndic

continued on p. 28

continued from p. 27

that a professional has committed an offense, but who is himself or herself a professional and party to the offence.

The bill would also make ethics and "professional conduct training" mandatory for applicants who are seeking admission to a profession, such as engineering.

In addition, the bill gives the province's Office des Professions more authority to begin its own investigations into ethical or professional misconduct. In the past, the professions office had to get approval from the Quebec justice ministry before opening an investigation into possible misconduct.

It's the immunity question, however, that is most concerning to regulators. In the latest *Grey Areas* newsletter of Steinecke Maciura LeBlanc, lawyer Erica Richler of the Toronto-based law firm said that while an immunity offer might assist regulators to gather otherwise difficult evidence from informants, it could become contentious in other areas.

The Steinecke Maciura LeBlanc firm, which has worked with PEO in the past, has expertise in regulatory affairs.

In an interview with *Engineering Dimensions*, Richler says if the bill goes forward, immunity to whistleblowers would be only from a regulator's disciplinary action. "In other words, the regulator could not protect an informant from possible civil, criminal or human rights claims," Richler says.

Richler also referred to the bill's introductory notes, which spell out that before granting immunity a syndic must consider such factors as the protection of the public, the importance of maintaining public trust in the members of the order (profession regulatory body), the nature and seriousness of the offence, reliability and importance of the alleged facts for the conduct of the inquiry, and the extent of the individual professional's participation in the offence under consideration.

PEO's advice regarding whistleblowing is captured in the January 2012 *Professional Engineering Practice* guideline. Under the Whistleblowing section (9.1) of the guideline, PEO recommends that if an engineer firmly believes the health and safety of any person is endangered by some element of an ongoing project, it may be necessary to report such concerns to an external authority.

"This is a risky proposition since the whistleblower is violating moral and legal obligations owed to the employer or client," the guideline reads. "No one should take this step without seriously considering whether it is necessary."

Whatever the fate of Bill 98, the Charbonneau Commission and its aftermath have required engineering associations to come to the defence of engineering regulation in Canada. In a statement released last fall after the release of the commission's recommendations, John Gamble, P.Eng., C.E.T., president and CEO, Association of Consulting Engineering Companies Canada (ACEC), said greater transparency and accountability will likely ensue.

"With respect to any wrongdoings by ill-intentioned individuals referenced in the report, ACEC reiterates that professional engineers are part of a regulated profession," Gamble said. "If there are individuals who acted unethically, either on behalf of themselves or their companies, ACEC expects that those responsible for such acts will be held accountable. Corruption will never be entirely eradicated without dealing with both the buyers and sellers. Therefore, we are pleased to see that the inquiry recognized the role of the public sector as well as the private sector in its recommendations and welcomes vigilance by all parties in ending corruption."

A FRIENDLY REMINDER TO KEEP US UPDATED!

It's important to let us know in a timely manner when your preferred address, or phone numbers–and especially **email addresses**–change. It's the only way we can make sure you receive PEO correspondence vital to maintaining your P.Eng. licence.

Under section 50 of Regulation 941/90, professional engineers and holders of limited, temporary or provisional licences, and Certificates of Authorization must update their information with us within 30 days of any changes.

Changes to information may be made online through PEO's secure web portal at www.peo.on.ca under the Pay Fees/Manage Account tab, or by emailing PEO's document management centre at **documentcentre@peo.on.ca.**

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 HOUSTON T. ENGIO, P.ENG., a member of the Association of Professional Engineers of Ontario, and HOUSTON ENGINEERING & DRAFTING INC., a holder of a Certificate of Authorization.

This matter was brought forward for a hearing before a panel of the Discipline Committee on August 3, 2011, and November 8, 2011, at the Association of Professional Engineers of Ontario at Toronto.

The allegations arose out of a complaint regarding the conduct of Houston T. Engio, P.Eng. (Engio or the member), and Houston Engineering & Drafting Inc., a holder of a Certificate of Authorization (Houston or holder), relating to provision of professional engineering services to Ontario Iron Railing Inc. (OIR) for a residential/commercial renovation project at 31 Dunlop Street, Barrie, Ontario. OIR was a subcontractor to Altrima Corporation (Altrima), the general contractor on the project. 1442968 Ontario Ltd. (owner) was the owner of the property.

At commencement of the hearing on August 3, 2011, the counsel for the member and the holder filed a motion with the panel requesting adjournment of the hearing due to, among other things, the death of the member's aunt on July 23, 2011, his attendance at her funeral out of the country, and his inability to meet with the counsel to prepare for the hearing upon his return to Canada.

Following submissions by both parties, the panel ordered that the hearing be adjourned to November 8 and 9, 2011.

When the hearing reconvened on November 8, 2011, counsel for the association and counsel for the member and the holder filed an Agreed Statement of Facts and a Joint Penalty Submission, both dated November 8, 2011. There were no witnesses called in the course of these proceedings.

THE ALLEGATIONS

The Association of Professional Engineers of Ontario (PEO) alleged that Houston T. Engio and Houston Engineering & Drafting Inc. are guilty of professional misconduct and/or incompetence as defined in the *Professional Engineers Act* (the act).

THE AGREED STATEMENT OF FACTS

The Agreed Statement of Facts (without attached documents) included the following:

1. At all material times Houston T. Engio, P.Eng. (Engio), also known as Thomas Engio, was licensed as a professional engineer pursuant to the *Professional Engineers Act*.
2. Houston Engineering & Drafting Inc. (Houston) was issued a Certificate of Authorization (C of A) on or about June 9, 2000. As of May 14, 2002, Engio was appointed the engineer responsible for the professional engineering services provided under the C of A.
3. In or about October 2004, Engio and Houston were retained by Ontario Iron Railing Inc. (OIR) to provide engineering services on a residential/commercial renovation project at 31 Dunlop Street, Ontario. Engio was requested to review structural steel works and provide welding and steel connection engineering design on the project. OIR was a subcontractor to Altrima Corporation (Altrima), the general contractor on the project. 1442968 Ontario Limited (owner) was the owner of the property.
4. In or about November 2004, Engio and Houston were retained by Altrima to carry out limited sprinkler, mechanical, electrical and plumbing review.
5. In or about January 2006, Engio and Houston were appointed by Altrima as the structural review engineer for the project pursuant to a Commitment for General Review filed with the city's building department.
6. During 2006, Engio and Houston filed the following reports with the city's building department:

(i) Undated–Basement Steel Columns and Structural Size Report;
(ii) March 23, 2006–1st, 2nd, 3rd and 4th Floor Structural Steel Size Report;
(iii) May 5, 2006–Whole Building Basement to Roof Structural Steel Report;
(iv) July 14, 2006–Whole Building Basement to Roof Structural Steel Report.

7. In or about December 2006, MINA Design Group Inc. (Mina) was retained by Altrima as the structural review engineer for the project, and the city of Barrie was advised of this in a letter from Altrima dated December 11, 2006.
8. The owner and Altrima terminated their contract in January 2007, after which Altrima was no longer general contractor for the project.
9. On or about March 2007, the City of Barrie (city) issued a "Stop Work Order" on the subject project.
10. The city inspected the subject project and found no deficiencies with the steel structure of the project. The city required Engio's signature verifying that the steel work complied with the applicable bylaws and codes. Engio refused to provide the necessary verification. If Engio were to testify, he would state that he still had to make further inspections, and payment issues were not resolved. If the representatives of the owner would testify, they would state that Engio and Houston had been paid in full up to that date.
11. On or about March 2007, Engio told one of the owner's employees that he (Engio) would not sign off on the work until he received further payment. The owner refused to make any payment to Engio at that time.
12. On March 14, 2007, Engio and Houston filed the following reports with the city's building department:
    (i) Electrical, Plumbing, Sprinkler, Emergency Alarm Progress Site Review 1;
    (ii) Plumbing Progress Report 1;
    (iii) Sprinkler and Emergency Progress Report 1; and
    (iv) Electrical Progress Report 1.
13. In August 2007, the owner sought an occupancy permit. Mina required a letter from Engio and Houston certifying that all as built steel connections (as inspected by Engio in 2006) were in general conformance with the design and shop drawings, and confirming that deficiencies in the steel erections had been rectified.
14. Engio, Houston and OIR insisted on payments totalling $16,000 before Engio would agree to provide the requested letter. The owner paid this amount in two cheques for $8,000 to Houston Engineering and Drafting Inc. and VN Engineering and Facility Planners Inc., an Engio company.
15. On August 30, 2007, Engio and Houston filed a Certificate of Substantial Completion Solely on Structural Steel and Miscellaneous Steel, which he signed and sealed, with the city's building department.
16. On August 31, 2007, Mina filed a General Review (Structural Certificate), attaching Engio's certificate, with the city's building department.
17. On November 5, 2007, the owner commenced an action against Engio and Houston claiming damages in the sum of $41,000 for costs allegedly incurred due to the delay in obtaining an occupancy permit. This action was never determined by the courts.
18. On or about December 5, 2007, Houston filed a construction lien against the subject property. The claim for lien alleged that Houston supplied services or materials to Altrima between October 12, 2007 and November 30, 2007, pursuant to a contract in the amount of $134,196, of which $92,196.00 was allegedly owed.
19. Houston alleged that it performed work on the project in connection with the construction of a fire escape staircase and as a subcontractor for Altrima. As a subcontractor, Houston alleged that it contracted directly with the owner to provide services for a commitment to generally review the structural steel work that was carried out on the site. In so doing, Houston was required under the Ontario Building Code (OBC) to review the construction of the building to determine whether the construction was in general conformity with the plans and other documents that formed the basis of the issuance of a building permit in accordance with the performance standards at the Ontario Association of Architects and/or Engineers. Houston alleged that it had received some direct payment from the owner.
20. Houston further alleged that since June 2007, it had been on the project site on several occasions doing inspections as required with the

OBC and had performed work during the months of October and November 2007.

21. The owner brought a motion to vacate the lien. In his sworn affidavit on the motion, among other things, Engio stated that he had entered into a written contract with Altrima on March 8, 2006, and appended the alleged contract as an exhibit. He also enclosed an invoice based on the contract dated December 1, 2007, which he stated he had delivered to Altrima. A copy of the alleged contract and invoice which Engio filed is attached as Appendix A to this agreement. John Nycz, the president of Altrima, testified that he had never seen the document before, and that the signature on the contract was not his. Engio would dispute this if he gave evidence.
22. On or about April 7, 2008, the Ontario Superior Court of Justice (court), Judge J. Di Tomaso, heard motions regarding the construction lien matter between Houston and the owner, on the basis of affidavit and cross examination evidence from the parties.
23. On or about April 17, 2008, the court issued a written decision on the construction lien matter between Houston and the owner and found, in part, the following:
    (i) Houston did not attend on the property after August 30, 2007, and if it did so, it was without any authorization or permission;
    (ii) Houston's alleged work performed in October and November 2007 had already been completed and certified by Houston and approved by the City of Barrie on August 31, 2007, when an occupancy permit was issued;
    (iii) The judge accepted Altrima's evidence that the contract dated March 8, 2006, that Houston claims to be owed money against, never existed;
    (iv) The owner never retained Houston directly;
    (v) The Commitment to General Review by Architects and Engineers dated March 9, 2007, on which Houston relied to say it was retained to do work by the owner directly, was admittedly altered by Houston after it was already signed by 144;
    (vi) The work was not undertaken to fulfill Houston's obligation under the OBC or any other obligation that Houston had as a professional engineer. Such a position is untenable in the face of evidence to the contrary;
    (vii) That the evidence is clear that Houston's claim for lien is without merit and fails to satisfy the *Construction Lien Act*. There are no triable issues warranting this matter to proceed to trial; and
    (viii) Costs were awarded to the owner.

24. Houston T. Engio, P.Eng., and Houston Engineering and Drafting Inc. admit that they:
    (i) Filed a meritless claim under the *Construction Lien Act*;
    (ii) Provided misleading documentation and testimony under oath in the Ontario Superior Court of Justice;
    (iii) Made meritless claims without the performance of the engineering services supporting the claim;
    (iv) Failed to meet the standards of practice required of professional engineers in respect of communications with clients, colleagues and officials; and
    (v) Acted in an unprofessional and dishonourable manner.

25. Houston T. Engio, P.Eng., is guilty of professional misconduct as defined in the *Professional Engineers Act*.

26. Houston Engineering & Drafting Inc. is guilty of professional misconduct as defined in the *Professional Engineers Act*.

PLEA OF THE MEMBER AND HOLDER

The member and holder pled guilty to the allegations set out in the Statement of Allegations. The panel acknowledged the plea and conducted a plea inquiry to ensure that the plea of the member was voluntary, informed, unequivocal and given without reservation. The member confirmed to the panel's satisfaction that he had made the guilty plea willingly, unequivocally and without reservation.

DECISION

The panel accepted the facts set out in the Agreed Statement of Facts as proven, and finds as follows:

Having considered the onus and standard of proof, the member's guilty plea, the joint submission of the parties and the panel's findings of fact as set out in the Agreed Statement of Facts dated November 8, 2011, the panel finds that the

member has committed an act of professional misconduct as alleged in the Statement of Allegations. In particular, Houston T. Engio, P.Eng., and Houston Engineering & Drafting Inc. are guilty of professional misconduct under section 28(2)(b) of the act as defined in section 72(2)(a) and (j) of Regulation 941.

REASONS FOR DECISION

Paragraph 24 of the Agreed Statement of Facts includes admissions by the member and holder as follows:

- Providing misleading documentation and testimony under oath in the Ontario Superior Court of Justice.
- Making meritless claims without the performance of the engineering services supporting the claim.
- Acting in an unprofessional and dishonourable manner.

The panel finds that these are admissions of professional misconduct pursuant to section 72(2)(j) of Regulation 941 and, with respect to that section of the regulation, the panel finds that the conduct is unprofessional and dishonourable.

Paragraph 24 of the Agreed Statement of Facts also includes the admission that, with respect to communication with clients, colleagues and officials, the member and holder failed to meet the standards of practice required of professional engineers and, therefore, the panel finds that this constitutes an admission of professional misconduct under section 72(2)(a) of Regulation 941.

PENALTY

The following Joint Penalty Submission was filed with the panel:

1. Engio shall be reprimanded and the fact of the reprimand will be recorded on the register.
2. Engio and Houston's licences shall be suspended for a period of six (6) weeks, commencing December 14, 2011, and running to January 24, 2012, inclusive.
3. It shall be a term and condition of the licence of Engio that he will successfully complete the PPE [Professional Practice Examination] within one (1) year of the date of the hearing.
4. The order of the Discipline Committee suspending Engio and Houston's licences shall be published, together with the names of the member and holder, pursuant to s. 28(5) of the *Professional Engineers Act*; and
5. There shall be no order with respect to costs. (Parentheses added)

The Joint Penalty Submission was signed by the parties.

Counsel for the association submitted that the association was satisfied that the Joint Penalty Submission was fair, reasonable and appropriate considering the admitted facts. Counsel for the member and holder submitted that the proposed penalty in this case was similar to penalties imposed in similar cases.

Following consideration of the Joint Penalty Submissions by the parties, the panel issued the following decision orally to the parties at the hearing on November 8, 2011.

The panel is of the view that the proposed penalty is appropriate and within the range of penalties for the professional misconduct admitted to by the member and holder and orders as follows:

1. Engio shall be reprimanded and the fact of the reprimand shall be recorded for an unlimited period;
2. Engio and Houston's licences shall be suspended for a period of six (6) weeks, commencing December 14, 2011, and running to January 24, 2012, inclusive;
3. It shall be a term and condition of the membef's licence that he shall write and pass the Professional Practice Examination, within one (1) year of the date of hearing;
4. The order and reasons of this Discipline Panel suspending Engio and Houston's licences shall be published, together with the names of the member and holder, pursuant to s. 28(5) of the *Professional Engineers Act*.
5. No costs are ordered.

Ishwar Bhatia, P.Eng., signed this Decision and Reasons for the decision as chair of this discipline panel and on behalf of the members of the discipline panel: Paul Ballantyne, P.Eng., Virendra Sahni, P.Eng., and R. Anthony Warner, P.Eng.

REGULATIONS THAT PROTECT THE PUBLIC ARE NOT RED TAPE

By Howard Brown and Blake Keidan

PEO remains committed to repealing the industrial exception, which allows unlicensed workers to carry out engineering acts on machinery or equipment in their employers' facilities.

PEOPLE OFTEN SEE the same thing but through a different lens.

In early June, the Ontario government introduced legislation that halted the proclamation of PEO's repeal of section 12(3)(a) of the *Professional Engineers Act*, often referred to as the industrial exception. The industrial exception allows unlicensed people to carry out engineering work on machinery or equipment in manufacturing facilities.

When it was announced in Finance Minister Charles Sousa's fall economic statement, PEO was disappointed. PEO has worked on removing this section for years.

"We are shocked the Ontario government has taken this course of action and feel misled by them," said PEO 2015-2016 President Thomas Chong, P.Eng., FEC. "In coming to its decision, the government held consultations to which PEO was not a party. This is 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."

PEO does not believe the repeal is a regulatory burden. It's smart legislation.

Regulations are designed to reduce and manage risks to public safety. Every industry has risks associated with how it operates. Determining which are reasonable and which should be managed through enforceable regulation is the role of government, a principle held by the Honourable Mr. Justice Todd Archibald, who was appointed justice of the Superior Court of Justice in 1999. Between 1992 and 1999 he was a partner at Borden Ladner Gervais LLP and practised in the fields of civil, criminal and environmental litigation. Justice Archibald is a prolific writer and teaches lawyers about key issues in regulation and other fields. His books are required reading for law students, lawyers and regulators. One of his books, co-written with lawyers Kenneth Jull and Kent Roach, is *Regulatory and Corporate Liability: From Due Diligence to Risk Management*. They write extensively about the reasoning behind regulatory law.

Justice Archibald discusses the tragedy at Lac-Mégantic as an example of the failure to anticipate risks and introduce relevant legislation.

"In Canada, only 500 car loads of crude were shipped in 2009, but by 2013 that number jumped to 160,000 car loads," wrote Justice Archibald. "When domestic North American oil production began to increase rapidly from 2008 onwards, producers starting looking for ways to get their product to refineries across the continent.

"In reality, no additional permissions were required in order to start sending unit trains of oil crisscrossing the country. Under the regulations in force at the time of the Lac-Mégantic derailment, there was no obligation on railways to modify shipping methods, test product volatility, or warn municipalities about the presence of potentially hazardous cargo. There was nothing in the law that differentiated between shipping a single tank car of crude oil or 100 of them."

Public safety is at stake and poor regulation is not something to be taken lightly. The same failure to anticipate regulatory consequences created an inadequate system of oversight and inspection, contributing to the Algo Centre Mall collapse in Elliot Lake.

On June 23, 2012, a segment of the parking deck collapsed at the Algo Centre Mall, sending metal and concrete debris crashing down through two floors of the shopping centre, injuring more than 20 people and resulting in the deaths of two people.

Hindsight shows us the value of filling regulatory gaps. Maintaining the industrial exception opens up the public to avoidable tragedies.

We need to examine how we regulate and understand potential risks that may arise based on what rules are in place. Events like these should underscore the need to evaluate, update and adapt current legislation.

Justice Archibald shows us where simple regulation fixes were overlooked and the consequences for those mistakes. We need to listen to wise counsel. 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.

Better regulation STILL THE GOAL, says Comrie

Twelve years have elapsed since George Comrie last served as president of PEO. Despite the passage of time, one of his unchanging priorities is to ensure the regulator obtains the resources it needs for more effective and meaningful regulation of the profession.

By Michael Mastromatteo

Outside of PEO, Comrie enjoys spending time at his residence in Whitestone, Ontario. Above, Comrie operates a band saw mill to cut logs into lumber, and boats and kayaks on Lake WahWashKesh.

In 2004, when George Comrie, P.Eng., FEC, last sat down to a president's interview with *Engineering Dimensions*, the burning issues of the day were making council more effective, and protecting PEO's regulatory authority from incursions by provincial government ministries.

"I am committed to improving PEO's governance and management by establishing a culture of execution and accountability," Comrie said in 2004. He also mused on the dangers of "drifting into irrelevance" without stepped-up, awareness-raising campaigns directed to both the provincial government and the public at large.

Fast forward 12 years, and one could argue that the same priorities still prevail. While the incursion issue appears resolved, due to the regulator's spirited government relations initiatives over the last decade, there is still a burning desire in the president's office for improved governance and regulatory optimization.

"One of the reasons I'm back doing this again is that I think we got way off track for a fair bit of the intervening period between my two terms. By way of example, PEO completely dropped the ball on implementation of the Licensing Process Task Force (LPTF) recommendations; got caught up in a huge internal conflict surrounding governance (election of the president, the judicial review, etc.) that over several years consumed everyone's energy and distracted us from more important pursuits; and lost its shared vision of what it wanted to accomplish," says Comrie. "I believe we have made some progress in managing council's agenda and how council deals with that agenda. I also believe council is getting back to where it was in 2004-2005 in terms of mutual respect, trust and co-operation. I suppose the lesson for PEO is that constant vigilance is required to make sure we don't get into the 'one step forward and two steps back' syndrome."

In his inaugural remarks at PEO's April 30 annual general meeting, just minutes after taking the ceremonial gavel from outgoing President Thomas Chong, P.Eng., FEC, Comrie said: "Continuous improvement of our regulatory rubric is a constant, ongoing challenge for any regulator, and we still have lots of work to do in the areas of licensure, complaints and discipline, enforcement, professional guidelines and standards."

And while the provincial government is less likely today to stray into PEO's regulatory domain, Comrie and others might argue that it is shortchanging the engineering community by stonewalling on much-needed regulatory enhancements–not the least of which is its decision to abandon plans to repeal the industrial exception.

Since Comrie last led PEO council, the Etobicoke Chapter veteran has never been too far removed from PEO activities. He chaired the LPTF, which delivered its final report in the fall of 2007, and remains an active member of the Communications Infrastructure Engineering (CIE) subgroup of the Emerging Disciplines Task Force (EDTF).

A concluding note in the final report of the LPTF echoes the continuous improvement imperative Comrie voiced at the AGM. "I believe PEO should adopt the Japanese concept of kaizen–continuous improvement of its services and processes to meet changing conditions," Comrie wrote back in 2007. "There will always be opportunities to improve this most important function (licensing process) within PEO's core mandate to serve the public interest."

CAPTURING POTENTIAL PRACTITIONERS

The EDTF work to define emerging disciplines or sub-disciplines of engineering practice, such as communications infrastructure engineering and nano-molecular engineering, has also influenced Comrie's priority list as he begins his second presidential term.

"If we do not begin regulating these scopes of practice, which clearly fall within the definition of the practice of professional engineering in the *Professional Engineers Act* (PEA), while they are still emerging, we will be left behind and they will end up in the domain of unlicensed practice and be regulated by others."

At the recently concluded PEO council retreat and workshop, Comrie led a workshop on the question of protecting and expanding rights to practise. The salient

point was that if fewer people and institutions care that engineering work is being carried out by those without a licence, how can PEO make a case that it requires additional resources to regulate the profession more effectively?

INNOVATING AND STRENGTHENING REGULATION

Another legacy issue is continuing professional development (CPD) and competence assurance for the profession in Ontario. Comrie had strong ideas on the issue back in 2004, which have become more pronounced over the years since.

Preferring terms like professional practice risk assessment and mitigation, Comrie says the work of PEO's Continuing Professional Competence Program (CP)^2 Task Force is an opportunity for Ontario's engineering community to innovate on the CPD file, after more than 10 years of inaction and indecision, enabling the regulator to be "much better attuned to the diverse needs and practice situations of our licensees than most CPD systems that are in place today in engineering and other professions."

> "I believe PEO should adopt the Japanese concept of kaizen–continuous improvement of its services and processes to meet changing conditions."

As a proponent of efficacy and continuous improvement, however, Comrie understands that CPD initiatives can succeed only if there is a clear understanding of the problem to be solved, and if members are fully informed of the implications of not doing anything.

"I accept the assertion that most professional engineers are likely already doing what they need to do to maintain currency in their respective practices," he says. "At the same time, I firmly believe the status quo is not a sustainable option. PEO cannot continue to require nothing of its members to maintain their licences other than payment of their annual dues. If we do nothing, we will continue to lose relevance and respect in the minds of government, of other professionals, and even of our own members."

In addition, he says, it is difficult for PEO to claim it regulates the profession when it has no reliable data on members' practice and when it has nothing to substantiate the assertion that members are maintaining their competence as professionals: "That's why, at the very least, we must begin to collect, on an annual basis, information on our licensees' scopes of practice and their inherent risks, as well as the actions they are taking to mitigate those risks, including continuing education."

Whether 12 years ago or today, new President George Comrie, P.Eng., FEC, firmly believes the end goal is effective and meaningful regulation of the profession.

As for the regulator's six-year odyssey to effect repeal of the industrial exception (section 12(3)(a) of the PEA), which allows certain acts of engineering in manufacturing settings to be carried out by unlicensed individuals, Comrie is obviously disappointed with the province's decision to back away from the repeal, but sees an opportunity for PEO to press the subject with government, given that government is expecting PEO's help to strengthen regulation of structural adequacy assessments in the wake of the Algo Centre Mall collapse in Elliot Lake.

DEVELOPING PEO's FUTURE LEADERS

The new president would also like to see attention paid by the regulator to leadership development and the more effective use of PEO's vast pool of volunteers.

"I am committed to democratic self-governance of PEO," he says, "but I don't believe it is reasonable for an organization like PEO to just assume that everyone who volunteers comes with the background and skills necessary to make an effective contribution. I have long felt that we could do a better job of ensuring that candidates for volunteer leadership in PEO have a solid common understanding of the mandate, roles and responsibilities, authorities, and procedures of the organization."

He would like to see the regulator give something back to its volunteers by investing in their leadership development. One way would be to provide enhancement in soft skills, such as facilitation, conflict resolution and team dynamics.

To this end, Comrie fully supports development of a series of online modules that will cover the important background information needed by new PEO volunteers. "My hope is that we can eventually build a comprehensive leadership development program that includes some hands-on workshop modules," he adds. "This initiative will help to ensure PEO has an adequate pool of skilled volunteer leaders for purposes of leadership succession. And the leadership skills our volunteers acquire will benefit them in their work and personal lives as well." As it stands, the plan is to develop two webinars in 2016 and three more in 2017. Topics being considered include an Introduction to PEO and How to Effectively Chair Meetings.

Comrie feels that as a volunteer-driven organization, PEO is obliged to cultivate and inspire future leaders: "We can't force volunteers to do anything. We can only inspire and empower them to work for shared common goals and we can only show them the way by example." Σ

FEMALE ENGINEERS AND STUDENTS WIN AWARDS

By Nicole Axworthy

Elizabeth Edwards, PhD, P.Eng., is a 2016 Killam Prize winner for her work in bioremediation.

Carol Hulls, PhD, P.Eng., is the winner of the 2016 Brighthouse Innovation Award in Teaching and Learning.

University of Toronto Professor **Elizabeth Edwards, PhD, P.Eng.,** has been named one of this year's Killam Prize winners. Edwards, who holds the Canada research chair in anaerobic biotechnology, is internationally known for her work in bioremediation, a field that applies micro-organisms to degrade and destroy toxic pollutants in soil and groundwater. In particular, her work focuses on chlorine-containing solvents, chemicals used as solvents in dry cleaning, industrial glues and various other commercial applications. Presented by the Canada Council for the Arts, the awards honour eminent Canadian scholars and scientists who are actively engaged in research.

The Northern Lights Award Foundation has announced the winners of the 2016 Elsie MacGill Northern Lights Award, the pinnacle aviation and aerospace award for women. The recipient of the Education Award is **Catherine Mavriplis, PhD, P.Eng.,** associate professor, mechanical engineering, University of Ottawa. The recipient of the Rising Star Award is **Holly Johnson, P.Eng.,** systems engineer, MDA Canada. Each year, the national not-for-profit foundation honours outstanding Canadian women who have made a significant contribution in their field and who continue to lay the groundwork for and attract other women to enter or excel in these industries.

Carol Hulls, PhD, P.Eng., continuing lecturer, faculty of engineering, University of Waterloo, is winner of the 2016 Brighthouse Innovation Award in Teaching and Learning from the Society for Teaching and Learning in Higher Education. Hulls is a founding member of the Engineering IDEAs Clinic, an initiative that incorporates hands-on activities into all engineering programs at Waterloo. She uses experimental learning in her classes, as well as other innovative techniques, including using a tablet PC instead of a chalkboard, and she records what she is writing on the screen and the audio of her voice so that students can see an idea as it's developed and hear the explanation. Established in 2012, the Brightspace Innovation Award celebrates and recognizes up to five postsecondary educators each year for innovative approaches that promote student-centred teaching and learning.

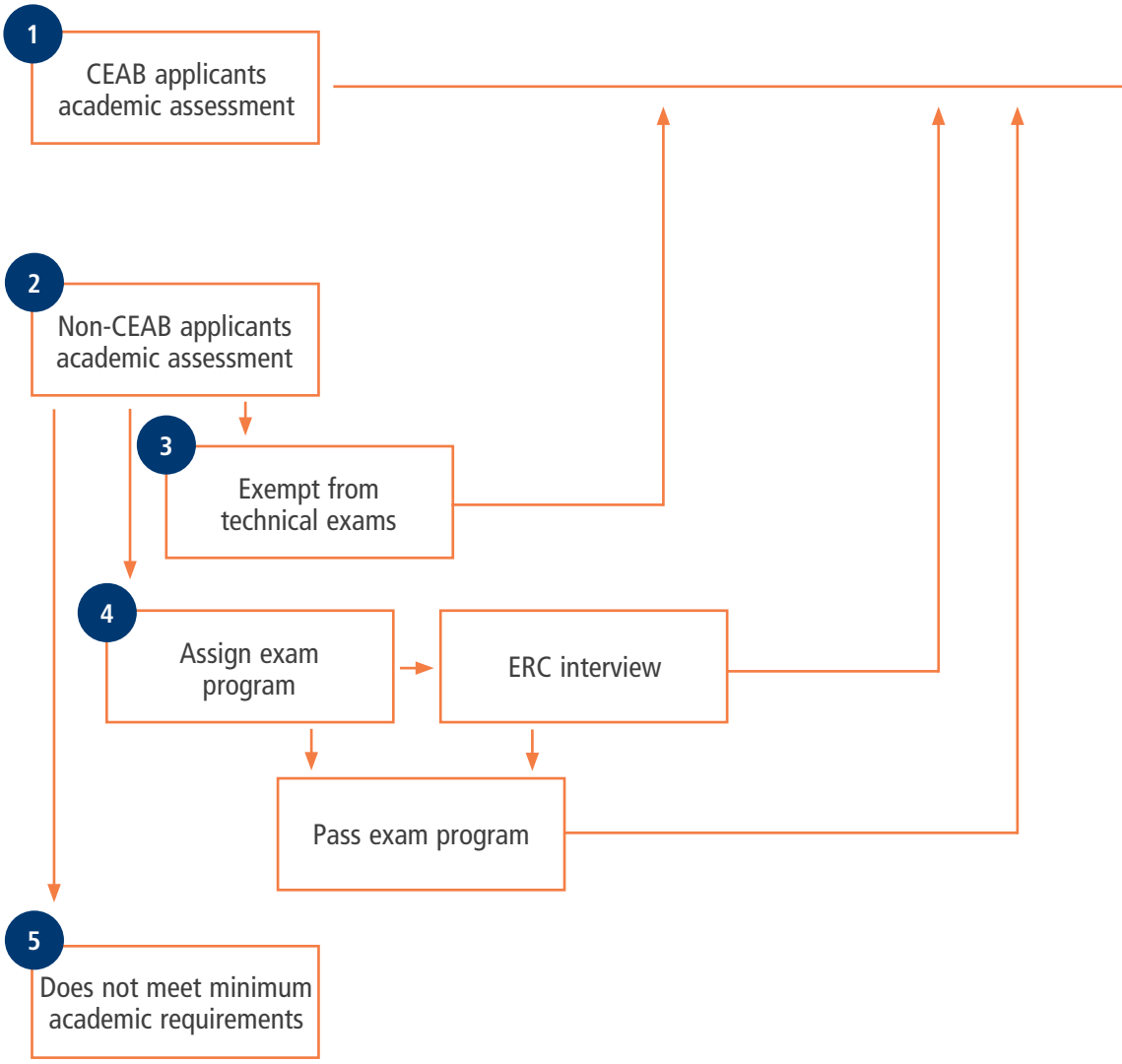
The Canadian Engineering Memorial Foundation (CEMF) has announced its 2016 scholarship recipients. **Laura Bingeman,** a second-year systems design engineering student at the University of Waterloo, has been named the 2016 Allstream Information and Communication Technology Engineering Award winner. The $5,000 scholarship is awarded annually to the most promising woman interested in the information and communication technology engineering field at the university level. **Sara Maltese,** a third-year civil engineering student at the University of Toronto and former CEMF undergraduate ambassador, has rejoined the list of CEMF scholarship recipients as the 2016 Marie Carter Memorial Undergraduate Engineering Scholarship winner. The $5,000 scholarship is awarded annually to the most promising woman interested in mechanical engineering at the university level. **Monica Kwong,** a third-year chemical engineering student at Ryerson University, is the recipient of the CEMF Rona Hatt Chemical Engineering Ambassador Award. The $5,000 scholarship is awarded annually to the most promising woman studying chemical engineering. **Alison Bayzat,** a third-year electrical engineering and society student at McMaster University, is the Ontario region winner of the 2016 CEMF Undergraduate Women in Engineering Scholarship. The $5,000 scholarship is awarded annually to the most promising woman in an accredited undergraduate engineering program in each region of Canada. Since 1990, CEMF has been promoting engineering as a career choice for young Canadian women through its extensive scholarship program. Σ

THE P.ENG. LICENSING PROCESS, *simplified*

By NICOLE AXWORTHY & MICHAEL MASTROMATTEO

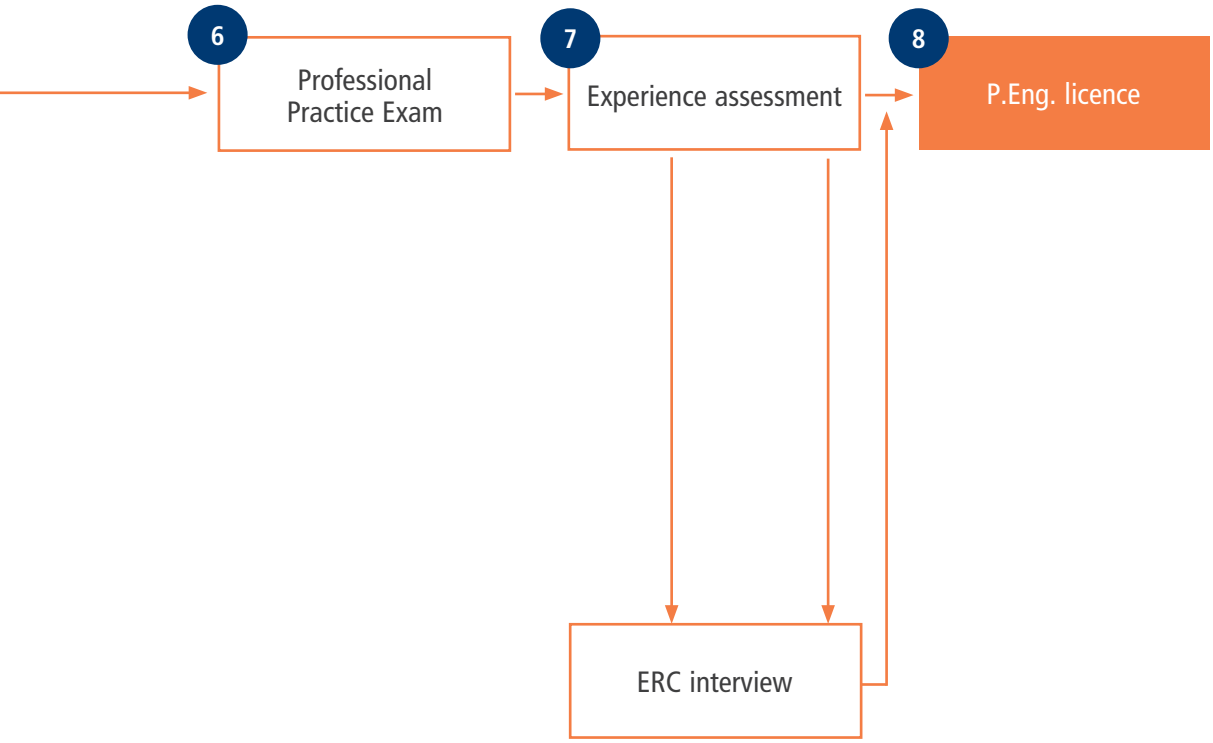
As one of the most important functions delegated by the province to PEO, the licensing of professional engineers requires applicants to have obtained appropriate education and experience (under the supervision of a licence holder), fulfilled examination requirements, and be of good character. How long it might take an applicant to become licensed depends on how many of the requirements the applicant has met prior to applying. Here's a simplified look at the licensing process, which is being continuously refined to make it more streamlined and transparent to applicants, while maintaining the profession's high standards of admission in the public interest.

PEO LICENSING *Model*



1. Applicants who have graduated from an engineering program accredited by the Canadian Engineering Accreditation Board (CEAB) have satisfied the first step of the licensing process–the academic requirements. They may advance to #6–writing the Professional Practice Exam (PPE). About 60 per cent of PEO applicants are CEAB graduates.

2. The academic qualifications of applicants who have graduated from programs not accredited by the CEAB must be individually assessed by PEO's Academic Requirements Committee (ARC) as to whether they meet the equivalent educational qualifications to a CEAB-accredited program for licensing. As a result of this assessment, these applicants advance to #3, #4, or #5.



3. Based on the ARC's assessment, about 33 per cent of non-CEAB applicants are exempted from having to write any of PEO's technical examinations. These applicants meet PEO's syllabus for their engineering discipline and typically hold a postgraduate engineering degree from a Canadian university with accredited engineering programs, or a bachelor of engineering degree from a university recognized in the Engineers Canada mutual recognition agreement known as The Washington Accord. The Washington Accord recognizes that the engineering program accreditation processes of the signatories are substantially equivalent, and program graduates are assessed by the ARC to determine if they are eligible for exemption. Exempt applicants advance to #6–writing the PPE.

4. Applicants who do not meet all of PEO's academic requirements through #1 or #3 are assigned a program of technical exams. These exams allow them to demonstrate whether they have an equivalent academic background and knowledge to that required for licensing. The minimum academic requirement to enter PEO's technical exam program is graduation from a three-year engineering technology program or a three-year university science program in a relevant field. PEO has two examination program streams: confirmatory or specific.

Applicants who are assigned a confirmatory program normally have a non-CEAB bachelor of engineering degree and meet the PEO syllabus for their specific engineering discipline. They are assigned four exams to demonstrate that the content of their engineering studies is at an

equivalent level to a CEAB-accredited engineering program. Applicants assigned to a confirmatory exam program who have more than five years of engineering experience may be referred to the Experience Requirements Committee (ERC) for an "outcomes" assessment interview to confirm if their knowledge, skills, ability to apply engineering principles and level of judgment warrant waiving the confirmatory exams.

Applicants who do not have a bachelor of engineering degree but meet PEO's minimum academic requirements are assigned a specific exam program to remedy identified deficiencies compared to the PEO syllabus. This exam program may comprise up to 18 exams and includes basic, technical and complementary exams, plus an engineering report. Applicants assigned a specific exam program who have at least 10 years of engineering experience may have their experience assessed through an ERC interview to determine if some or all of the assigned exams may be waived, with the exception of the basic studies exam and engineering report.

In 2015, ERC interviewed more than 1000 applicants, 55 per cent of whom were assigned confirmatory exams and 3 per cent of whom required specific exams.

Technical exams are offered twice each year at 50 centres located throughout Canada. Applicants may also contact PEO to arrange to write exams outside Canada. Currently, applicants may take up to eight years to write technical exams. Once applicants pass the exams assigned to them, they advance to #6.

5. A few applicants assessed by the ARC do not meet the minimum academic requirements to move forward with licensing and their applications are terminated.

6. The next step is successful completion of the PPE, a three-hour, closed-book exam that covers ethics, professional practice, engineering law and professional liability. All applicants must pass the PPE within two years of being assessed as meeting the academic requirements for licensing. The PPE is offered three times a year at 50 centres located throughout Canada. Applicants may also contact PEO to arrange to write the exam outside Canada. In 2014, more than 4000 applicants wrote the PPE at more than 30 locations in seven countries.

If an applicant fails the PPE three times, his or her application is closed.

If applicants have already satisfied the academic requirements and acquired the required 48 months of engineering experience when they apply, they may write the PPE right away.

7. All applicants are required to obtain 48 months of acceptable, verifiable engineering experience, at least 12 months of which must be completed in a Canadian jurisdiction under a licensed professional engineer. Up to 12 months of experience may be acquired after completing half of a CEAB degree or equivalent educational qualifications.

PEO assesses engineering experience against five, quality-based criteria: application of theory, practical experience, management of engineering, communication skills, and awareness of the social implications of engineering. Applicants must submit an experience summary and completed referee questionnaires for review and, if necessary, are scheduled for an experiential knowledge interview with the ERC.

8. Once applicants have satisfied all the licensure requirements, been approved by the registrar, and paid the applicable registration fees, they are licensed as professional engineers. In 2015, PEO issued 2448 engineering licences, the second highest one-year total on record. Σ

COUNCIL GETS FIRST LOOK AT MEMBER SATISFACTION SURVEY RESULTS

507TH MEETING, JUNE 23, 24, 2016

By Connie Mucklestone

ALMOST 90 PER CENT of PEO members responding to a recent Member Satisfaction Survey are licensed only in Ontario; 45 per cent have been professional engineers for more than 20 years; 70 per cent are Canadian educated. These are among the demographic findings presented to council during its plenary session on June 23.

A strategy of the 2015-2017 Strategic Plan, aimed at furthering development of a "sustainable, organization-wide, continuous improvement culture," the survey was conducted January 5 to February 5, 2016. A total of 57,870 licence holders received an eblast invitation to participate, with 3885 (6.7 per cent) completing the online questionnaire.

An overwhelming 90 per cent of survey respondents identified they have no connection to PEO aside from their P.Eng. licence, while 75 per cent reported not having attended a PEO chapter event in the past year. Of those who reported attending chapter events in the past two years, the most popular event types were social/recreational, professional development and professional networking.

Respondents had mixed views about the size and composition of PEO council, with 33 per cent indicating support for the current size and composition, 18 per cent indicating council is too big and wrongly composed, and 30 per cent indicating they don't know the best size and composition of council to carry out PEO's regulatory mandate. More than half of respondents (57 per cent) indicated support for term limits for volunteers on committees.

Respondents agreed PEO keeps them informed of government requirements regarding engineering practice (76 per cent), is interested in advancing professional engineering practice (74 per cent), and does a good job of protecting the public from incompetent and/or unethical professional engineers (65 per cent).

They also indicated PEO is doing a good job of disciplining licence holders for misconduct or incompetence (66 per cent), increasing understanding of professional regulation (63 per cent), fairly and impartially investigating complaints against licence holders (63 per cent), and enforcing against illegal practice or engineering title use (63 per cent).

Respondents rated the appropriateness of PEO's focus of resources lowest in the areas of pre-university education outreach, repeal of the industrial exception, communications and enforcement.

Results of the survey will be used as a baseline and as an input to the next PEO strategic plan. The Member Satisfaction Survey summary report is available at: www.peo.on.ca/index.php/ci_id/29920/la_id/1.htm.

INDUSTRIAL EXCEPTION RESEARCH RECEIVED

Council was presented the findings of the *Repeal of the Industrial Exception Data Gathering and Analysis Research Project* during its plenary session on June 23, and received the full research report at its meeting on June 24. The research project was aimed at "determining an evidence-based case to support the repeal of the industrial exception" through gathering and analyzing statistics, court prosecutions and Ministry of Labour investigations and engineering reports to find out whether workers were injured as a result of unlicensed employees doing engineering work for their employers on equipment and machinery used to make a product. Council discussed how PEO might follow up on the research report, which will be published to the PEO website.

NEW PEO GUIDELINE APPROVED

Council approved for publication a new guideline, *Structural Engineering Design Services for Buildings*, developed by a subcommittee of the Professional Standards Committee. To be published to PEO's website, the guideline offers best practices for engineers providing structural engineering services in buildings, emphasizing their duties to employers, clients and the public. It recommends ways to ensure responsibilities are clear when several practitioners provide structural engineering services for different aspects of a building.

TASK FORCE TO REVIEW COUNCIL COMPOSITION

Council approved establishing a task force to examine and make recommendations on the size and makeup of PEO council. Council also directed the registrar to draft a terms of reference and propose members for the task force, for its approval in September.

Council also increased the budget for an existing task force on term limits for council positions from $7,500 to $15,000.

2017 BUDGET ASSUMPTIONS APPROVED

Council has approved assumptions to guide development of PEO's 2017 operating and capital budgets. The operating budget is to be balanced with no increase in fees (for the eighth consecutive year). Net growth for full-fee professional engineers is assumed to be 1 to 1.5 per cent, while retirees and partial fee members are assumed to increase by 3.5 to 4 per cent. Salaries are assumed to increase by 3 per cent, comprising a consumer price index adjustment of 2 per cent and a 1 per cent merit pool. Non-labour expenses are assumed to increase at the forecast inflation rate of 2 per cent and all programs may be evaluated. It is assumed chapter spending may be outside the forecasted inflation rate, depending on business plans, bank balances and regional business demands. Council will have an opportunity to review a draft budget in September, prior to approval in November. Σ

CALL FOR NOMINATIONS

PEO's 2017 ORDER OF HONOUR

THE ORDER OF HONOUR is an honorary society of Professional Engineers Ontario. Its purpose is to recognize and honour those professional engineers and others who have rendered conspicuous service to the engineering profession in Ontario.

Inclusion in the order may be awarded by PEO council to members of the association who have served the profession diligently for many years and/or have made a substantial contribution to the operation of the profession or improvement in its status.

The Awards Committee invites members to submit nominations by the deadline, **October 14, 2016 at 4 p.m.** For nomination forms and guidelines, visit PEO's website at www.peo.on.ca/index.php/ci_id/2085/la_id/1.htm.

New members of the order will be invested at a special ceremony at PEO's annual general meeting in Thunder Bay next April.

Nominators should supply complete details on their nominee. Individual statements from each nominator must accompany the nomination.

Following is PEO's Service Award Honours List. (Only living members are listed. A complete list is available online at www.peo.on.ca.)

COMPANIONS

David W. Euler, P.Eng. '14
Diane Freeman, P.Eng. '14
Colin Moore, P.Eng. '14
Philip Maka, P.Eng. '13
Márta Ecsedi, P.Eng. '12
Robert Dunn, P.Eng.'10
Robert A. Goodings, P.Eng.'09
Nancy E. Hill, P.Eng., LLB '08
George R. Comrie, P.Eng. '07
Richard W. Braddock, P.Eng. '06
Kenneth C. McMartin, P.Eng. '06
Peter M. DeVita, P.Eng. '03
Christine Bell, P.Eng. '02
Michael A. Ball, P.Eng. '00
Barry Hitchcock, P.Eng. '00
Robert T.E. Gillespie, P.Eng. '98
M. Jane Phillips, P.Eng. '98
A. John Bate, P.Eng. '94
William Harold Kerr, P.Eng. '92
Nicholas Monsour, P.Eng. '88
Corrado (Cory) Comello, P.Eng. '87
Alex Kobelak, P.Eng. '83
J.E. (Tim) Benson, P.Eng. '81
Oscar J. Zanatta, P.Eng. '81
Murray N. Patterson, P.Eng. '80

OFFICERS

Paul Charles DiNovo, P.Eng. '16
Stephen Jack, P.Eng. '16
Christopher Yuen Fun Kan, P.Eng. '15
Robert Hindle, P.Eng. '14
Ross L. Judd, P.Eng. '14
Glenn Richardson, P.Eng. '14
Corneliu Chisu, P.Eng. '13
Ray Linseman, P.Eng. '12
David Robinson, P.Eng. '12
Gina P. Cody, PhD, P.Eng. '10
Seimer Tsang, P.Eng. '10
Colin S. Cantlie, P.Eng. '09
William R. Walker, P.Eng. '09
Denis Dixon, P.Eng. '08
Peter R. Frise, PhD, P.Eng., FCAE '08
Bruce E. Clarida, P.Eng. '07
Allen K. Lucas, P.Eng. '07
Argyrios Margaritis, P.Eng. '05
Maximus H. Perera, P.Eng. '04
Thadeus E. Wisz, P.Eng. '04
Katherine Crewe, P.Eng. '02
Keith Cross, P.Eng. '02
Ravi K. Gupta, PhD, P.Eng. '02
Eric Nejat, P.Eng. '00
L. Grant Boundy, P.Eng. '98
David W. Moncur, P.Eng. '98
Harry Angus, P.Eng. '96
Larry M. Galajda, P.Eng. '95
Cameran Mirza, P.Eng. '94
Peter Ridout, P.Eng. '94
R. Michael Jackson, P.Eng. '92
Murray C. Temple, P.Eng. '92
Robert Anthony Grant, P.Eng. '90
Jacob Jeswiet, P.Eng. '90
John F. McOuat, P.Eng. '89
David W. Smith, P.Eng. '89
Brian A. Young, P.Eng. '89
Lloyd Ellwood Saunders, P.Eng. '87
J. Dale Hagerman, P.Eng. '86
William Weinstein, P.Eng. '83
Ernest B. Creber, P.Eng. '82
Edmund J. Thompson, P.Eng. '82
William W. Hastings, P.Eng. '81

MEMBERS

Raymond Hong, P.Eng. '16
Angela R. Scott, P.Eng. '16
Syd Van Geel, P.Eng. '16
Dennis Woo, P.Eng. '16
Oscar R. Avila, P.Eng. '15
Michael Kwok-Wai Chan, P.Eng. '15
Tapan Das, PhD, P.Eng. '15
Sucha Singh Mann, P.Eng. '15
John Simmonds, P.Eng. '15
Vera Straka, P.Eng. '15
N. (Madu) Suthanan, P.Eng. '15
Amanda J. Froese, P.Eng. '14
Wanda Juricic, P.Eng. '14
Vasilj Petrovic, P.Eng. '14
Dennis B. Pupulin, P.Eng. '14
Gheorghe Bacioiu, P.Eng. '13
Haoxuan Sarah Jin, P.Eng. '13
Pappur Shankar, P.Eng. '13
Noubar Takessian, P.Eng. '13
Desmond Gomes, P.Eng. '12
Kam S. Leong, P.Eng. '12
Ranee Mahalingam, P.Eng. '12
Gary Mahony, P.Eng. '12
Gerry St. Denis, P.Eng. '12
Joseph Calabrese, P.Eng. '11
Ian Cheng, P.Eng. '11
Edward A. Grandy, P.Eng. '11
James Victor Morris, P.Eng. '11
Lawrence Pond, P.Eng. '11
Changiz Sadr, P.Eng. '11
Matthew Xie, P.Eng. '11
Otto Zander, P.Eng. '11
Kevin Blades, P.Eng. '10
Nicholas Colucci, P.Eng. '10
Nick D. Markettos, P.Eng. '10
Michael Pearsall, P.Eng. '10
Steven Vincent Rose, P.Eng. '10
Jüri Silmberg, P.Eng. '10
William David Wilder, P.Eng. '10
Richard G. Zytner, PhD, P.Eng. '10
R. Craig Doran, P.Eng. '09
Linda D. Drisdelle, P.Eng. '09
Allan P. Giacomelli, P.Eng. '09
Vilayil I. John, P.Eng. '09
Alan J. Korell, P.Eng. '09
Amity Man-Chun Lam, P.Eng. '09
R. Maxwell Morrow, P.Eng. '09
Edward Kai-Jee Poon, P.Eng. '09
Aziz Akhtar, P.Eng. '08
Geoff Clarkson, P.Eng. '08
Jeremy P. Cook, P.Eng. '08
Robert Gravelle, P.Eng. '08
C. K. (Ches) Jonys, PhD, P.Eng. '08
Matthew Ng, P.Eng., MBA '08
Barna Szabados, PhD, P.Eng. '08
Michael C. Wesa, P.Eng. '08
Anthony Bonney, P.Eng. '07
Alberto De-Santis, P.Eng. '07
Thomas A. Etches, P.Eng. '07
Daniela E. Iliescu, P.Eng. '07
Colin McLellan, P.Eng. '07
Bryan J. Parkinson, P.Eng. '07
William H. Veitch, P.Eng. '07
Malgorzata S. Zywno, P.Eng. '07
Jerry Dudzic, P.Eng. '06
Sean P. McCann, P.Eng. '06
Carolyn Adams, P.Eng. '05
Anthony Cecutti, P.Eng. '05
Judith Dimitriu, P.Eng. '05
Nickolay Gurevich, P.Eng. '05
Charles Kidd, P.Eng. '05
Michael Mastronardi, P.Eng. '05
Clare Morris, P.Eng. '05
David A. Richards, P.Eng. '05
Denise Spadotto, P.Eng. '05
John Turner, P.Eng. '05
Richard Weldon, P.Eng. '05
Holly Anderson, P.Eng. '04
George Biljan, P.Eng., MEng '04
Donald Grandy, P.Eng. '04
John Severino, P.Eng. '04
L. Paul Short, P.Eng. '04
Rohinton Nicholson, P.Eng. '04
Paul Ballantyne, P.Eng. '03
J. Don Chambers, P.Eng. '03
Patrick J. Quinn, P.Eng. '03
David C. Robinson, P.Eng. '03
Peter Schmidt, P.Eng. '03
Stephen Hong Tsui, P.Eng. '03
William R. Campbell, P.Eng. '02
Danny Chui, P.Eng. '02
John F. Clayton, P.Eng. '02
William Edwards, P.Eng. '02
John Glover, P.Eng. '02
Harold Melvin Harju, P.Eng. '02
Jana Havard, P.Eng. '02
Donald E. Haws, P.Eng. '02
H. Richard Patterson, P.Eng. '02
Leonard Brian Ross, P.Eng. '02
Richard Westwell, P.Eng. '02
Robert Douglas Hatfield, P.Eng. '00
Michel Labonté, P.Eng. '00
Paul T. Keenan, P.Eng. '98
Norbert Karl Becker, P.Eng. '96
William Peter Jablonsky, P.Eng. '96
Kevin Lockey, P.Eng. '96
James A. Breschuk, P.Eng. '95
Keitha Buckingham, P.Eng. '95
Franklin A. Holtforster, P.Eng. '95
Gerald Kenneth Strachan, P.Eng. '93
James Francis Hancock, P.Eng. '92
James R.H. Lowe, P.Eng. '92
James A.W. Moores, P.Eng. '92
Douglas Robert Barker, P.Eng. '91
Giuseppe Bonadie, P.Eng. '91
Chado Brcic, P.Eng. '91
Donald James McDonald, P.Eng. '91
Stuart Gordon Angus, P.Eng. '90
Peter Bojtos, P.Eng. '90
Lawrence Robert Lupton, P.Eng. '90
David C. Coll, P.Eng. '89
Brian L. Fenoulhet, P.Eng. '89
J. Gary Locker, P.Eng. '89
Eric J. Maki, P.Eng. '89
David H. Smith, P.Eng. '89
Brenden D.A. MacKinnon, P.Eng. '87
Thomas A. Fekete, P.Eng. '86
Emil Knebel, P.Eng. '86
Terje Henriksen, P.Eng. '85
Murray Delbert McLean, P.Eng. '85
Ernest Zucker, P.Eng. '85
Miro G. Forest, P.Eng. '84
Carl J. Christensen, P.Eng. '83
John M. Sargent, P.Eng. '83
William A. McCoy, P.Eng. '82
Roland J. Salvas, P.Eng. '82
Thomas G. Moore, P.Eng. '81
John G.D. Alexander, P.Eng. '80
Wm. O. Chisholm, P.Eng. '80
C. John Dunnicliff, P.Eng. '80
Michael R. Garrett, P.Eng. '80
Vimal Kochhar, P.Eng. '80
K.S. Senathirajah, P.Eng. '80

SONS OF MARTHA

The Sons of Martha Medal was discontinued in 1979 and replaced by the Order of the Sons of Martha, renamed the Order of Honour in 1994. Holders of the Sons of Martha are "ex-officio" Officers of the Order.

Raymond Kurkjian, P.Eng. '79
Allan D. McNabb, P.Eng. '79
Daniel C. Mucci, P.Eng. '79
Edwin M. Peto, P.Eng. '79
Michael Sava, P.Eng. '77
Richardus G. Van Heeswijk, P.Eng. '77
Arthur Leonard Braund, P.Eng. '76
James H. Flett, P.Eng. '76
Archie Zagrodney, P.Eng. '76
Richard Addison Hamilton, P.Eng. '75
Donald E. McGregor, P.Eng. '75
Morden S. Yolles, P.Eng. '74
Joseph K.A. Quittner, P.Eng. '72
H. Van Asperen, P.Eng. '70
Lois C. De Groot, P.Eng. '69
Michael A. Sutton, P.Eng. '68
Alan Gregson, P.Eng. '67

HONORARY MEMBERS

Martha Stauch '16
Catherine Redden '10
David J. Sims, Q.C. '06
Beverley J. Cockburn '98
Loreta Senin '95
Michael E. Royce '90
Mary Curtis '88
Hubert R. Whitehead '87
Joseph A. Bisceglia '86
W. Allan Campbell '86
R. Scott White '85
Stanley J. Friesen '81
Alexander L. McLoughlin '80

TAILORING GOVERNANCE STYLES FOR A PERFECT FIT

By Andrew Tapp

BOARDS HAVE AN IMPORTANT role to play in organizations. While the chief staff officer, who might be called the CEO, executive director, registrar or even president, oversees the day-to-day operations, boards look after an organization's governance, or "the processes and structures used to direct and manage an organization's operations and activities." Boards decide broadly who is responsible for what, and how accountability is to be achieved. The way a board operates is as unique as the organization it governs. But most have an operating style derived from an established governance model. The two most prominent of these models are the traditional and Carver models. What is PEO's governance style, and why?

TRADITIONAL MODEL

The traditional model of governance is the same one that corporations have been using since the 1700s: collective, structurally focused, and bylaw heavy. These organizations are built around organizational structures, which are the board's responsibility to define. Boards operating through a traditional model require numerous rules to keep board functions and staff functions separate and to stipulate how power is to be delegated. Because traditional governance models rely on function-based committees (such as licensing or finance), poorly constructed rules can result in a board directing staff without the mediation of the CEO, which can, in turn, lead to confusion.

Traditional models are also often built around representation by geographic area (such as PEO's chapters) or member type, which can lead board members to believe they must act in the interests of those they represent, resulting in thinking and attitudes that might be at odds with a board's mission of acting in the best interests of the entire organization. This tension is especially apparent in a self-governing regulator, where the goal is not primarily the good of the enterprise or of its members, but the good of the public.

In a traditional governance model, it is expected that board members will appear to be united to those outside the organization–in other words, the board is expected to be the voice of the organization and to speak with one voice.

CARVER MODEL

The most well-known alternative to the traditional model is the policy model, often called the Carver model after its chief spokesperson, John Carver. Rather than defining responsibilities, boards operating on the Carver model define an organization's end goals and create policies to guide the board and management as the organization pursues its goals.

According to John Carver, the ideal policy approach for boards is to develop "statements of limitation" for both governance and management. This technique gives both boards and management free reign within their respective spheres of influence, which both parties often find motivating.

A board's dependence on policy might prove to be a weakness, however, if a board focused on policy were to neglect other areas of governance. Policy is not a good vehicle for setting strategic organizational goals, for example, but should define if the CEO and/or board is responsible for strategic planning and budgeting.

Because of their focus on policy instead of operations, Carver model boards have few committees, making all policy decisions at the council level.

WHERE DOES PEO FIT?

No organization adheres absolutely to either the traditional or Carver model, nor should it. A governance model is meant to describe the manner in which a board will operate, rather than be an ideal to which the board is to aspire. Every organization will develop a mix of the features of a variety of governance models, developed in response to its own circumstances.

PEO's governance structure exhibits elements of both the traditional and Carver models. PEO has many committees built around the organization's functions, for instance, a trait of the traditional model, but also places a large emphasis on policy, a trait of the Carver model.

Similarly, PEO council has enunciated many specific bylaws and responsibilities, as one would expect from an organization governed through the traditional model, but has also clearly directed the senior management team to develop a strategic plan

(for council's approval), which is often the approach of an organization that has adopted a Carver governance model.

This hybrid governance style is a direct result of PEO's situation and history. As an established organization in existence since 1922, PEO understandably has many traits associated with the traditional model of governance. However, over that time PEO's mission has experienced change, providing the organization opportunities to reinvent itself. It is not surprising, then, that elements of the Carver model are also evident in its governance processes.

A hybrid model of governance is also not unique; in 2002 Mel Gill of Synergy Management Consulting Solutions studied 20 Canadian non-profits and found that none of them were governed in strict adherence to only one model.

IF IT AIN'T BROKE…

Acknowledging that it's not unusual that PEO's governance style is neither purely traditional nor purely Carver enables it to move from *reactive* governance to *proactive* governance.

For example, a traditional governance style would be best suited when council sees an advantage in taking a direct hand in the organization, while the Carver model would be the best fit for a council with a more hands-off approach. By knowing the models, PEO's governors can tailor the governance approach to fit their and the organization's philosophy.

Governance models provide a template for structural governance, and a way to direct an organization's growth. By understanding the value of each governance style, boards can develop more deliberate governance structures, pruning them into shape instead of letting their growth run wild, driven by outside events. Σ

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REFERENCES

Deloitte & Touche. *The Effective Not-for-Profit Board*. Canada: Deloitte & Touche, 1995. Print. P. 3

Macnamara, Doug and Banff Executive Leadership Inc. "Models of Corporate / Board Governance." *Leadership Accumen*, Issue 21. 2005. Web. 7 June 2015. www.banffexeclead.com

Gill, Mel. "Building Effective Approaches to Government." *Nonprofit Quarterly*. June 21, 2002. Web. 3 June 2016. https://nonprofitquarterly.org

Garber, Nathan. "Governance Models: What's Right for Your Board?". *Nathan Garber & Associates*, 1997. Web. June 7 2016. http://garberconsulting.com

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JULY 2016

JULY 17-20
Pipelines Conference,
Kansas City, Missouri
www.pipelinesconference.org

JULY 17-21
Pressure Vessels &
Piping Conference,
Vancouver, BC
www.asme.org/events/pvp

JULY 17-22
35th International
Conference on Coastal
Engineering,
Istanbul, Turkey
icce2016.com

JULY 17-22
International Conference
on Human-Computer
Interactions,
Toronto, ON
2016.hci.international

JULY 18-20
Optical Sensors Conference,
Vancouver, BC
www.osa.org

JULY 23-24
Particulate Systems in
Science & Technology
(seminar),
Easton, MA
www.grc.org

JULY 25-27
4th International
Conference on Biotech-
nology Engineering,
Kuala Lumpur, Malaysia
www.iium.edu.my/
icbioe/2016

AUGUST 2016

AUGUST 1-3
Unconventional Resources
Technology Conference,
San Antonio, TX
urtec.org/2016/Why-URTeC

AUGUST 14-18
Geo-Chicago 2016,
Chicago, IL
www.geoenvironment
conference.org

AUGUST 16-18
9th International Sympo-
sium on Resilient
Control Systems,
Chicago, IL
www.resilienceweek.com

AUGUST 20-22
International Conference
on Innovative
Engineering Materials,
Singapore
iciem.org

AUGUST 21-24
Additive Manufacturing &
3D Printing Conference
& Expo,
Charlotte, NC
www.asme.org/events/
am3d-conference

AUGUST 28-31
Commercialization of
Micro, Nano, and Emerging
Technologies Conference
& Exhibition,
Houston, TX
www.asme.org/events/coms

AUGUST 28-SEPTEMBER 1
SPIE Optics + Photonics
Conference,
San Diego, CA
spie.org/conferences-
and-exhibitions/
optics-and-photonics

AUGUST 29-31
International Low Impact
Development Conference,
Portland, MA
www.lidconference.org

SEPTEMBER 2016

SEPTEMBER 5-9
Urban Transitions 2016
Conference,
Shanghai, China
urbantransitionsconference.
com

SEPTEMBER 12-14
SPIE Photomask
Technology,
San Jose, CA
spie.org/conferences-
and-exhibitions/
photomask-technology

SEPTEMBER 13-16
SPACE 2016 Conference,
Long Beach, CA
www.aiaa-space.org

SEPTEMBER 14-15
Odour Management
Conference & Technology
Showcase,
Toronto, ON
odourconference.com

SEPTEMBER 26-30
International Pipeline
Conference & Expo,
Calgary, AB
www.ipcyyc.com

SEPTEMBER 28-30
Conference on Smart
Materials, Adaptive
Structures &
Intelligent Systems,
Stowe, VT
www.asme.org/events/
smasis

SEPTEMBER 28-OCTOBER 1
ASCE 2016 Convention,
Portland, OR
2016.asceconvention.org

Professional Engineers Ontario

2017 COUNCIL ELECTIONS CALL FOR CANDIDATES

All PEO members are invited to become candidates for the positions of **president-elect, vice president, councillor-at-large** and **regional councillor** (one for each of PEO's five regions) on PEO council.

1. Any member may be nominated for election to council as **president-elect, vice president** or **councillor-at-large,** by at least 15 other members. The nomination must include at least one member resident in each region. [Regulation 941/90, s. 14(1)]
   (a) The position of **president-elect** is for a one-year term, after which the incumbent will serve a one-year term as president and a one-year term as past president.
   (b) The position of **vice president** is for a one-year term.
   (c) The **councillor-at-large** position is for a two-year term. Two councillors-at-large are to be elected in 2017.

2. Any member residing in a region may be nominated for election to council as a **regional councillor** for that region by at least 15 other members who reside in the region. [Regulation 941/90, s.14(2) and s. 15.1(2)]
   (a) The position of **regional councillor** is for a two-year term.

A member nominated for election to council must complete a nomination acceptance form that states he or she is a Canadian citizen or has the status of a permanent resident of Canada and is a resident in Ontario. [Section 3(3) of the *Professional Engineers Act*] and consents to the nomination [Regulation 941/90, s. 15].

Nomination petitions for collection of nominators' signatures and nomination acceptance forms may be obtained from the PEO website at www.peo.on.ca, or Ralph Martin, PEO, 40 Sheppard Avenue West, Suite 101, Toronto ON M2N 6K9. Email: rmartin@peo.on.ca; Tel: 416-840-1115; 800-339-3716, ext. 1115.

Completed nomination petitions and nomination acceptance forms are to be sent only electronically and only to the chief elections officer, chiefelectionsofficer@peo.on.ca, by 4:00 p.m., December 2, 2016. No personal delivery of forms will be accepted.

For further information on becoming a candidate, please refer to the *2017 Council Elections Guide* posted on PEO's website.

2017 VOTING PROCEDURES

The 2017 voting and election publicity procedures were approved by the council of PEO in June 2016. Candidates are responsible for familiarizing themselves with these procedures. Any deviation could result in a nomination being considered invalid. Candidates are urged to submit nominations and election material well in advance of published deadlines so that irregularities may be corrected before the established deadlines. Nominees' names are made available as received; all other election material is considered confidential until published by PEO.

1. The schedule for the elections to the 2017-2018 council is as follows:

Date nominations open	October 24, 2016
Date nominations close	4:00 p.m., December 2, 2016
Date PEO's membership roster will be closed for the purposes of members' eligible to automatically receive election material[1]	January 11, 2017
Date a list of candidates, their statements and voting instructions will be mailed to members	no later than January 20, 2017
Date voting will commence	on the date that the voting packages are mailed to members, no later than January 20, 2017
Date voting closes	4:00 p.m., February 24, 2017

Note: All times noted in these procedures are Eastern Time.

[1] Members licensed after this date may call in and request that election information be mailed to them by regular mail, or, upon prior written consent by the member for use of his/her email address, via email, or via telephone.

2. Candidates' names will be listed in alphabetical sequence by position on the list of candidates sent to members and on PEO's website. However, the order of their names will be randomized when voters sign in to the voting site to vote.
3. A person may be nominated for only one position.
4. Nomination papers are to be submitted only by email (chiefelectionsofficer@peo.on.ca) for tracking purposes. Forms will not be accepted in any other format (e.g. fax, personal delivery, courier, regular mail).
5. Only nomination acceptance and petition forms completed in all respects, without amendment in any way whatsoever will be accepted.
6. Signatures on nomination papers do not serve as confirmation that a member is formally endorsing a candidate.
7. Candidates will be advised when a member of the Central Election and Search Committee has declared a conflict of interest should an issue arise that requires the consideration of the committee.
8. An independent agency has been appointed by council to receive, control, process and report on all cast ballots. This "official elections agent" will be identified to the members with the voting material.

9. If the official elections agent is notified that an elector has not received a complete election information package, the official elections agent shall verify the identity of the elector and may either provide a complete duplicate election information package to the elector, which is to be marked "duplicate," by regular mail or email, or provide the voter's unique control number to the voter and offer assistance via telephone. In order to receive such information via email, the elector must provide prior written consent to the use of his or her email address for this purpose.
10. Council has appointed a Central Election and Search Committee to:
    - encourage members to seek nomination for election to the council as president-elect, vice president or a councillor-at-large;
    - assist the chief elections officer as may be required by him or her;
    - receive and respond to complaints regarding the procedures for nominating, electing and voting for members to the council;
    - conduct an annual review of the elections process and report to the June 2017 council meeting.

11. Council has appointed a Regional Election and Search Committee for each region to:
    - encourage members residing in each region to seek nomination for election to the council as a regional councillor.
12. Candidates for PEO council may submit expense claims. The travel allowance to enable candidates to travel to chapter events during the period from the close of nominations to the close of voting will be based on the distance between chapters and the number of chapters in each region. Such travel expenses are only reimbursed in accordance with PEO's expense policy.
13. Council has appointed an independent chief elections officer to oversee the election process and to ensure that the nomination, election and voting are conducted in accordance with the procedures approved by council.
14. The chief elections officer will be available to answer questions and complaints regarding the procedures for nominating, electing and voting for members to the council. Any such complaints or matters that the chief elections officer cannot resolve will be forwarded by the chief elections officer to the Central Election and Search Committee for final resolution. Staff is explicitly prohibited from handling and resolving complaints and questions, other than for administrative purposes (e.g. forwarding a received complaint or question to the chief elections officer).
15. On or before the close of nominations on December 2, 2016, the president will appoint three members or councillors who are not running in the election as returning officers to:
    - approve the final count of ballots;
    - make any investigation and inquiry as they consider necessary or desirable for the purpose of ensuring the integrity of the counting of the vote; and
    - report the results of the vote to the registrar not later than March 10, 2017.
16. Returning officers shall receive a per diem of $250 plus reasonable expenses to exercise the duties outlined above.
17. Nomination papers are to be submitted only by email for tracking purposes. Forms will not be accepted by any other format (e.g. personal delivery, courier, fax or regular mail).
18. If a candidate withdraws his or her nomination for election to PEO council prior to the preparation of the voting site, the chief elections officer shall not place the candidate's name on the voting site of the official elections agent or on the list of candidates sent to members and shall communicate to members that the candidate has withdrawn from the election. If the candidate withdraws from the election after the electronic voting site has been prepared, the chief elections officer will instruct the official elections agent to adjust the voting site to reflect the candidate's withdrawal.
19. Voting will be by electronic means only (Internet and telephone). Voting by electronic means will be open at the same time the electronic election packages are sent out.
20. All voting instructions, a list of candidates and their election publicity material will be sent to members. All voters will be provided with detailed voting instructions on how to vote electronically. Control numbers or other access control systems will be sent to members by email after the election package has been sent out. The official elections agent will send out an eblast with the control numbers every Monday during the election period. Election material sent to members electronically or by mail will contain information related to the All Candidate Meetings.
21. Verification of eligibility, validity, or entitlement of all votes received will be required by the official elections agent. Verification by the official elections agent will be by unique control number to be provided to voters with detailed instructions on how to vote by the Internet and by telephone.
22. The official elections agent shall keep a running total of the electronic ballot count and shall report the unofficial results to the chief elections officer, who will provide the candidates with the unofficial results at the earliest opportunity.
23. Voters need not vote in each category to make the vote valid.

24. There shall be an automatic recount of the ballots for a given candidate category for election to council or bylaw confirmation where the vote total on any candidate category for election to council between the candidate receiving the highest number of votes cast and the candidate receiving the next highest number of votes cast is 25 votes or less for that candidate category or where the votes cast between confirming the bylaw and rejecting the bylaw is 25 votes or less.
25. Reporting of the final vote counts, including ballots cast for candidates who may have withdrawn their candidacy after the opening of voting, to PEO will be done by the returning officers to the registrar, who will advise the candidates and council in writing at the earliest opportunity.
26. Certification of all data will be done by the official elections agent.
27. The official elections agent shall not disclose individual voter preferences.
28. Upon the direction of the council following receipt of the election results, the official elections agent will be instructed to remove the electronic voting sites from its records.
29. Election envelopes that are returned to PEO as undeliverable are to remain unopened and stored in a locked cabinet in the Document Management Centre (DMC) without contacting the member until such time as the election results are finalized and no longer in dispute.
30. Elections staff shall respond to any requests for new packages as usual (i.e. if the member advises that he/she has moved and has not received a package, the member is to be directed to the appropriate section on the PEO website where the member may update his/her information with DMC).
31. DMC staff shall advise elections staff when the member information has been updated; only then shall the elections staff request the official elections agent to issue a replacement package with the same control number.
32. Elections staff are not to have access to, or control of, returned envelopes.
33. After the election results are finalized and no longer in dispute, the chief elections officer shall authorize the DMC to unlock the cabinet containing the unopened returned ballot envelopes so that it may contact members in an effort to obtain current information.
34. After the DMC has determined that it has contacted as many members whose envelopes were returned as possible to obtain current information or determine that no further action can be taken to obtain this information, it shall notify the elections staff accordingly and destroy the returned elections envelopes.
35. Nothing in the foregoing will prevent additions and/or modifications to procedures for a particular election if approved by council.
36. The All Candidate Meetings will take place the week of January 9, 2017.
37. All questions from, and replies to, candidates are to be addressed to the chief elections officer:

By email:
chiefelectionsofficer@peo.on.ca
By letter mail: Chief Elections Officer
c/o Professional Engineers Ontario
101–40 Sheppard Avenue West
Toronto, ON M2N 6K9.

The Election Publicity Procedures form part of these Voting Procedures.

2017 ELECTION PUBLICITY PROCEDURES

IMPORTANT DATES TO REMEMBER

Deadline for receipt of publicity materials for publication in *Engineering Dimensions* and on PEO's website, including URLs to candidates' own websites	4:00 p.m., December 12, 2016
Deadline for submission of material for eblasts of candidate material to members	1. January 12, 2017–1st eblast 2. January 26, 2017–2nd eblast 3. February 9, 2017–3rd eblast
Dates of eblasts to members	1. January 19, 2017 2. February 2, 2017 3. February 16, 2017
Dates of posting period	January 2017 to February 24, 2017
Dates of voting period	January 20, 2017 to 4:00 p.m., February 24, 2017

Note: All times indicated in these procedures are Eastern Time.

1. Names of nominated candidates will be published to PEO's website as soon as their nomination is verified.
2. Names of all nominated candidates will be forwarded to members of council, chapter chairs and committee chairs, and published on PEO's website, by December 6, 2016.
3. Candidates will have complete control over the content of all their campaign material, including material for publication in *Engineering Dimensions*, on PEO's website, and on their own websites. Candidates are reminded candidate material is readily available to the public and should be in keeping with the dignity of the profession at all times. Material will be published with a disclaimer. The chief elections officer may seek a legal opinion prior to publishing/posting of any material if the chief elections officer believes campaign material could be deemed libelous. The chief elections officer has the authority to reject the campaign material if so advised by legal counsel.
4. Candidate material may contain personal endorsements provided there is a clear disclaimer indicating that the endorsements are personal and do not reflect or represent the endorsement of PEO council, a PEO chapter or committee, or any organization with which an individual providing an endorsement is affiliated.
5. Candidates will have discretion over the presentation of their material for the purpose of publishing in *Engineering Dimensions*, including but not limited to font style, size and effects, and are each allocated the equivalent of one-half page, including border, in *Engineering Dimensions* (6.531 inches wide x 4.125 inches in height) in which to provide their election material. A template for this purpose is available at www.peo.on.ca. If candidate submissions do not include a border, one will be added, as shown on the template. If submissions exceed the bordered one-half page, they will be mechanically reduced to fit within the border.
6. Candidates will be permitted to include a photograph within their one-half page.
7. All material for publishing on PEO's website and in *Engineering Dimensions* must be submitted to the chief elections officer at chiefelectionsofficer@peo.on.ca in accordance with Schedule A attached. Candidates shall not use the PEO logo in their election material.
8. Candidates' material for publication in *Engineering Dimensions* and on the website, including URLs to candidates' own websites, must be forwarded to the chief elections officer at the association's offices or via email at chiefelectionsofficer@peo.on.ca no later than December 12, 2016 at 4:00 p.m. and in accordance with Schedule A attached. Candidate material will be considered confidential, and will be restricted to staff members required to arrange for publication, until published on PEO's website. All candidates' material will be published to PEO's website at the same time.
9. If campaign material is submitted by a candidate without identifying information, PEO staff are authorized to contact the candidate and ask if he/she wishes to resubmit material. If campaign material is received by the chief elections officer and returned to the candidate for amendment to comply with the election publicity procedures, and the amended material is not returned within the prescribed time, staff will publish the material with a notation explaining any necessary amendments by staff.
10. Candidate publicity material will be published as a separate insert in the January/February 2017 issue of *Engineering Dimensions* and to PEO's website in January 2017 and included in any hardcopy mailing to eligible voters with voting instructions. Links to candidate material on PEO's website will be included in any electronic mailing to eligible voters.
11. Candidates may publish additional information on PEO's website, provided they email their material to the chief elections officer in the format set out in Schedule A. This material must be received by the chief elections officer no later than December 12, 2016.
12. Candidates may submit updates to their material on PEO's website once during the posting period. Any amendments to a candidate's name/designations are to be considered part of the one-time update permitted to their material during the posting period. Candidates

may include links to PEO publications, but *not* a URL link to a third party, in their material on PEO's website. Links to PEO publications are not considered to be to a third party. For clarity, besides links to PEO publications, the only URL link that may be included in a candidate's material on PEO's website is a URL link to the candidate's own website.

13. Candidates may post more comprehensive material on their own websites, which will be linked from PEO's website during the posting period. Candidates may include a URL to third parties *only in material published on their own websites*–not in material appearing in *Engineering Dimensions*, published on PEO's election site (i.e. the 1000-word additional information candidates' may submit), or included in an eblast of candidate material.
14. PEO will provide three group email distributions to members of candidate publicity material beyond the material published in *Engineering Dimensions*. Material to be included in an eblast must be submitted to the chief elections officer at chiefelectionsofficer@peo.on.ca in accordance with Schedule A.
15. Candidates are responsible for responding to replies or questions generated by their email message.
16. The chief elections officer is responsible for ensuring that all candidate material (whether for *Engineering Dimensions*, PEO's website, or eblasts) complies with these procedures. Where it is deemed the material does not satisfy these procedures, the chief elections officer will, within three full business days from receipt of the material by the association, notify the candidate or an appointed alternate, who is expected to be available during this period by telephone or email. The candidate or appointed alternate will have a further three full business days to advise the chief elections officer of the amendment. Candidates are responsible for meeting this deadline. Should a candidate fail to re-submit material within the three-business-day period, the candidate's material will be published with a notation explaining any necessary amendments by staff.
17. PEO will provide candidates the opportunity to participate in All Candidate Meetings, which will be held at PEO offices during the week of January 9, 2017. The All Candidate Meetings will be video recorded for posting on PEO's website. On the day of the first All Candidate Meeting, an eblast will be sent to members announcing that these video recordings will be posted on the PEO website within two business days.
18. Caution is to be exercised in determining the content of issues of membership publications published during the voting period, including chapter newsletters. Editors are to ensure that no candidate is given additional publicity or opportunities to express viewpoints in issues of membership publications distributed during the voting period from January 20, 2017 until the close of voting on February 24, 2017 beyond his/her candidate material published in the January/February issue of *Engineering Dimensions*, and on the PEO website. This includes photos (with or without captions), references to, or quotes or commentary by, candidates in articles, letters to the editor, and opinion pieces. PEO's communications vehicles should be, and should be seen to be, non-partisan. The above does not prevent a PEO publication from including photos of candidates taken during normal PEO activities, e.g. licensing ceremonies, school activities, GLP events, etc., provided there is no expression of viewpoints. For greater clarity, no election-specific or election-related articles, including Letters to the Editor and President's Message, are to be included in *Engineering Dimensions* during the voting period. *Engineering Dimensions* or other PEO publications may contain articles on why voting is important.
19. Chapters may not endorse candidates, or expressly *not* endorse candidates, in print, on their websites or through their list servers, or at their membership meetings or activities during the voting period. Where published material does not comply with these procedures, the chief elections officer will cause the offending material to be removed if agreement cannot be reached with the chapter within the time available.
20. Candidates may attend chapter annual general meetings and network during the informal portion of the meeting.
21. While not prohibited, candidates' use of mass mailings (either by post or electronic means) for campaign purposes, other than the email blasts sent by PEO on behalf of the candidates, will not be condoned by PEO.
22. The Central Election and Search Committee is authorized to interpret the Voting and Election Publicity guidelines and procedures, and to rule on candidates' questions and concerns relating to them.
23. These Election Publicity Procedures form part of the Voting Procedures.

SCHEDULE A: 2017 ELECTION PUBLICITY PROCEDURES

SPECIFICATIONS FOR CANDIDATE MATERIALS

Publication format (in *Engineering Dimensions* and PEO website)	Material for publication in *Engineering Dimensions* must fit into the bordered template provided at www.peo.on.ca. The template dimensions are 6.531 inches wide and 4.125 inches in height. All submissions will be published with a border. If submissions are received without a border, one will be added as shown on the template. If submissions do not fit within the template, they will be mechanically reduced to fit. All material for publication must be submitted as a PDF document with images in place for reference, and as a formatted Word file, or in a Word-compatible file, showing where photographs are to be placed. Photos must also be submitted as specified below. Candidates shall not use the PEO logo in their election material. Candidate material may contain personal endorsements provided there is a clear disclaimer indicating that the endorsements are personal and do not reflect or represent the endorsement of PEO council, a PEO chapter or committee, or any organization with which an individual providing an endorsement is affiliated. The publications staff needs both a PDF file and a Word file of candidate material. This allows them to know how candidates intend their material to look. If there are no difficulties with the material, the PDF file will be used. The Word file is required in case something isn't correct with the submission (just a bit off on the measurement, for example), as it will enable publications staff to fix the problem. A hard and/or digital copy of a candidate's photo is required for the same reason and for use on the PEO election website.
Photographs	Photographs must be at least 5" x 7" in size if submitted in hard copy form so that they are suitable for scanning **("snapshots" or passport photographs are not suitable)**. If submitted in digital form, they must be JPEG-format files of at least 300 KB but no more than 2MB. Candidates can submit a digital photo at the specifications noted, or hard copy as noted, and preferably both. In case the digital file is corrupted or not saved at a sufficiently high resolution, publications staff can rescan the photo (hard copy) to ensure it prints correctly, as indicated on the PDF.
PEO website (candidates' additional information)	Candidates may publish additional information on PEO's website by submitting a Word or Word-compatible file of no more than 1000 words, and no more than three non-animated graphics in JPEG or GIF format. Graphics may not contain embedded material. Candidates may post additional material on their own websites, which will be linked from PEO's website. URLs for candidates' websites must be active by December 12, 2016. Candidates may include links to PEO publications but *not* a URL link to a third party in their material that is to be posted on PEO's website. Links to PEO publications are not considered to be to a third party. For clarity, the only URL link that may be included in a candidate's material on PEO's website is the URL to the candidate's own website.
Deadline for *Engineering Dimensions* and website additional information submissions	Candidates' material for publication in *Engineering Dimensions* and on PEO's website must be forwarded to the chief elections officer at (chiefelectionsofficer@peo.on.ca) by December 12, 2016 at 4:00 p.m.
Eblast material	Candidates are permitted a maximum of 300 words for email messages. Messages are to be provided in 11 pt. Arial font; graphics are not permitted. For clarity, a "graphic" is an image that is either drawn or captured by a camera.
Deadline for eblasts to members	Candidates' material to eblast to members must be forwarded to the chief elections officer at (chiefelectionsofficer@peo.on.ca): By January 12–for eblast on January 19 By January 26–for eblast on February 2 By Febuary 9–for eblast on February 16
Help	Candidates should contact the chief elections officer (chiefelectionsofficer@peo.on.ca) if they have questions about requirements for publicity materials.

CAREERS & CLASSIFIED

For information on career and classified advertising, contact:
Beth Kukkonen
Dovetail Communications
905-886-6640, ext. 306
fax: 905-886-6615
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The Board of Directors of Terraprobe Inc. is pleased to announce the appointment of the following new Associate in the Geotechnical Engineering Group in Brampton, Ontario on June 1, 2016.

Michael Diez de Aux, M.A.Sc., P.Eng.

Brampton	Stoney Creek	Barrie	Sudbury
(905) 796-2650	(905) 643-7560	(705) 739-8355	(705) 670-0460

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The Board of Directors of Terraprobe Inc. is pleased to announce the appointment of the following new Principals in Brampton, Ontario on June 13, 2016.

Rehman Abdul, M.Sc., P.Eng. - Geotechnical Group
R. Baker Wohayeb, M.A.Sc., P.Eng. - Environmental Group

Brampton	Stoney Creek	Barrie	Sudbury
(905) 796-2650	(905) 643-7560	(705) 739-8355	(705) 670-0460

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DEADLINE FOR NOVEMBER/DECEMBER 2016 IS SEPTEMBER 19, 2016.
DEADLINE FOR JANUARY/FEBRUARY 2017 IS NOVEMBER 21, 2016.

[LETTERS]

SEA CONTAINERS: URBAN BLIGHT OR VALUABLE RESOURCE?

After a sea container has had five to 10 years of strenuous use on the high seas, they are forced to retire to their second career. The environmental 6R rule (refuse, reduce, reuse, repair, repurpose, recycle) tells us to repurpose sea containers rather than recycle them as scrap steel.

Most municipalities slept or pondered urban sea containers for decades while citizens repurposed them; affordable housing being one such use. In 2011, Canada Mortgage and Housing Corporation reported 40.4 per cent (1.55 million) Canadian families had substandard housing (i.e. unaffordable, major repairs needed, or unsuitable for family size). Ontario's average is similar, but remote, rural and northern regions are significantly worse.

Traditional housing (i.e. concrete foundation, 2"x 4" walls, siding, shingles, etc.) costs between $130 and $250 per sq. ft., plus the cost of a serviced lot; unaffordable for someone on Ontario Works, disability pension, low-income cut-off (LICO) poverty line, full-time minimum wage, and the working poor. Alternatively, starting with a sea container as a home's outer shell at 25 per cent of traditional costs, housing is affordable for everybody.

Excellent municipalities deliver sustainable services at minimum cost. This challenging goal is aided by sea containers. However, if someone buys a sea container for home or work, neighbours might complain and the municipality investigates. If a sea container isn't on concrete foundations, it's not a permanent structure, a building, Municipal Property Assessment Corporation-assessed, or property-taxed.

Mediocre municipalities think sea containers are a loophole in their quest for maximum tax revenue and maximum spending. Special interest groups (i.e. home and apartment builders, U-store developers and others) sometimes conspire with mediocre municipalities to ban sea containers. If banned, the next best alternative will likely benefit a special interest group.

Will a banning bylaw work? If a banning bylaw is passed, the sea container(s) that prompted the complaint(s) will likely be exempt from the ban. Exempting them means neighbours who complained get no relief. The ban will frustrate people who might need a sea container in the future. The ban will upset most citizens, the community becomes polarized, and only special interest groups benefit. A ban steals from citizens their right for affordable housing and their right of choice. A ban may force citizens to build 10' x 12' garden sheds for home storage, which are also exempt from property taxes.

Today, repurposed sea containers are everywhere. A ban now is too late to eradicate them or stop their further spread. So, rather than a stick, how about a carrot? Embracing sea containers can enable affordable housing, farming, construction, million dollar homes, secure storage, hydroponic gardens, fish farms and hundreds of other uses.

Municipalities can offer small monetary prizes for innovative repurposing. Local jobs and creativity are encouraged. Repurposed sea containers can be exported all over North America to the eager customers of these budding entrepreneurs.

Fear of sea container blight can be transformed into prosperity for all.

Glenn Black, P.Eng., Providence Bay, ON

CERTIFICATION TOO RESTRICTIVE

I continue to be concerned about the licensing/certification and industrial exception policies of PEO. I think we are putting ourselves into very tight-fitting silos.

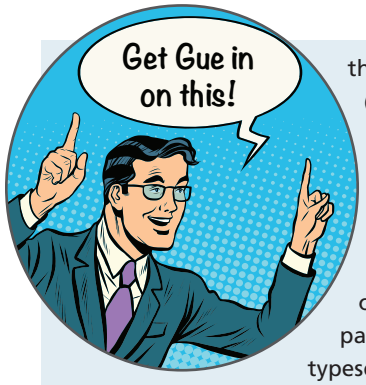
I am 92 and can look far back to a long and productive professional career. My electronics engineering education ("Transistors? Forget them. Just lab curiosities. Stick with vacuum tubes.") helped me at every step, even though some steps were miles outside any certification I could obtain these days.

At the clear risk of seeming to indulge in self-puffery, I was once told that one VP had said to another, "Get Gue in on this. He can do anything." Well, I couldn't "do anything," but I did a lot that wouldn't be possible under the rigid certification regime PEO seems to want.

Viz:

- Thermodynamics/high-vacuum technology ("Sorry, Mr. Gue, we can't help you further. You are beyond what we know of reactions at your 20 to 50 mm absolute pressure.")
- Computer system design for co-ordinated multi-unit manufacturing in a heavy machinery factory. Still in use 30 years later.
- Heavy equipment factory production scheduling ("Your book, *Profit Through Better Control of Work in Process,* is a breakthrough.")
- Thermodynamics/high-vacuum technology again ("'Vapotherm' is a far better transformer dry-out method than any we've had up to now.")
- Mechanical engineering ("The waterwheel turbine blades you rebuilt for us are running as smooth as silk.")
- Structural/civil/mechanical/purchasing (Specifying and purchasing a heavy-lift, 250-ton electric overhead traveling crane.)

Currently, I write and get published on electronics, politics, education and economics. Where the editorial policies permit, I want to be able to sign "P.Eng." to try to get over



the general public's misconception (or more often no conception) of engineering. We ourselves are to blame for some of this. With all respect to the good tradespeople who ply those occupations, we're often thought to be electricians or mechanics. Example: One newspaper article recently had P.Eng. typeset as PENG. Another: A certain P.Eng. once published the deplorable comment, "They must take us as they find us. And if they don't find us, no harm done."

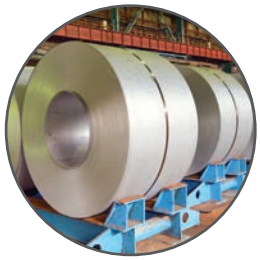
The public needs to know that P.Engs are professionals with thoughtful views on public interest matters not limited to engineering.

PEO perhaps knows that there is a firm opinion among many economists that occupational licensing is an unqualified bad thing, e.g. *The Economist* for June 4, page 12, notes that, "Labor market reforms–to crack down on occupational licensing, say–would boost employment growth." (Emphasis mine.)

I do not know how to solve this professional licensing conundrum; all I do know is that certification comes across to me as much too restrictive for the good of the profession of engineering. It would have hampered me at several stages of a useful career.

While recognizing Mark Twain's witticism as merely a figure of speech, I agreed with its important message when he said, "I enjoyed every minute of my education except the part that I had to spend in school." Engineers, take note.

Frank Gue, P.Eng., Burlington, ON



THE MANY USES OF STAINLESS STEEL

Re: Letter to the Editor entitled "Stainless steel for rebar?" Scott Hogg, P.Eng., *Engineering Dimensions*, May/June 2016.

Mr. Hogg suggests that stainless steel (SS) should be used to increase the lifespan and reduce the long-term maintenance of infrastructure. SS rebar has, in fact, been used in hundreds of bridges across North America. The Ministry of Transportation (MTO) has used SS rebar in scores of busy highway bridges, both in new construction and in rehabilitation. MTO has been one of the world leaders in SS rebar application going back to the 1990s, with thousands of tons now in service. Several other provinces have used SS rebar–and it is worth noting that it is planned to use about 16,000 tons in the new Champlain Bridge in Montreal.

Regarding pipelines, good-quality coatings along with cathodic protection help to control corrosion and make carbon steel the most cost-effective choice for oil and gas pipelines. SS is widely used in potable and waste water treatment plants and its use in water supply and distribution piping is steadily growing in some countries.

Mr. Hogg mentions finding nickel and chromium (chromite) deposits–both elements being essential alloying components in SS. Unfortunately, Canada no longer has a large-scale producer of SS to make direct use of these Canadian ore deposits. At present, basic products such as sheet, plate and bar must be imported–a regrettable situation that I mentioned in a previous letter to the editor (see "Made in Canada," *Engineering Dimensions*, November/December 2014, p. 71).

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

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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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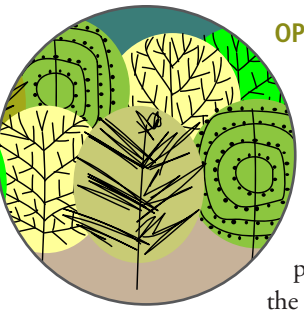
[LETTERS]



OPINION, NOT FACT

I realize that the magazine does not necessarily reflect the opinion of the council of the association but it should not present the biased opinion of special interest groups or political priorities, which the article about the generation of electricity in remote communities seems to reflect ("Fuel cell systems for remote communities," *Engineering Dimensions,* March/April 2016, p. 43).

Everyone is entitled to their opinion, with which the daily media is replete, but an engineering journal should restrict its contents to the presentation of facts, including benefit/cost analysis of alternatives based on experience.

A vision is something imagined in a dream or trance. Fossils are the remains of animals and plants, organic compounds of carbon, hydrogen, nitrogen, oxygen, etc., such as coal, crude oil, methane and wood which, when oxidized, create carbon dioxide. In media speak, presents "fossil" but "organic" is equally applicable.

It is the chlorophyll in plants, whether they grow outdoors or in structures clad with transparent materials, that reacts endothermically with sunlight to absorb carbon dioxide from the atmosphere and release oxygen. The gas produced in greenhouses is oxygen, not carbon dioxide, and the reaction does not produce heat but absorbs it.

Nature provides the means by which the carbon dioxide content of our atmosphere is reduced and it is plants, especially trees.

C.S. James, P.Eng., Niagara-on-the-Lake, ON

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

Address letters to naxworthy@peo.on.ca.

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