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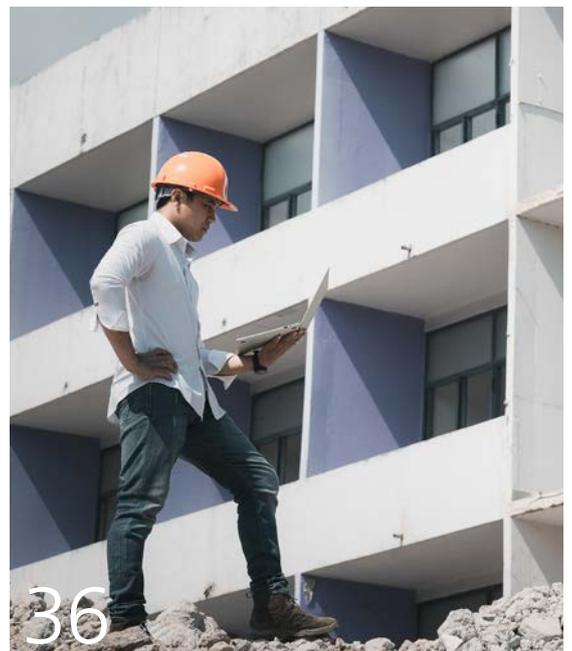
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WHAT DO YOU THINK?

Send your letter to the editor to editor@peo.on.ca. Letters may be edited for length and clarity.

ENGINEERING DIMENSIONS



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ONWARD AND UPWARD

By Nicole Axworthy



It's clear that new PEO President Nick Colucci, MBA, P.Eng., FEC, is a dedicated individual. With more than 35 years of PEO volunteer service under his belt, Colucci is now devoting his energy to leading the organization to which he has already shown tremendous commitment. For Colucci, the presidency is a natural next step in his volunteer career. And he's wasting no time tackling the many projects slated for the 2022–2023 Council term and guiding PEO on the last leg of its years-long

transformation journey to become a more effective and future-ready regulator.

As you'll read in "Nearing the finish line" (p. 30), Colucci's term as president is especially notable because it is PEO's milestone 100th year—one that is marked with change as PEO continues with its modernization efforts. In particular, Colucci is tasked with leading PEO as it develops an updated strategic plan and prepares to comply with the newly amended *Fair Access to Regulated Professions and Compulsory Trades Act* legislation, which will bring significant changes to PEO's licensing process (p. 11). Also impending is the launch of PEO's first mandatory continuing professional development program in January 2023 (p. 14).

Another critical task is recruiting a new CEO/registrant who will support PEO as it completes the remaining goals that were set in place during the tenure of retiring CEO/Registrar Johnny Zuccon, P.Eng., FEC. "That's going to be a top priority," Colucci told Associate Editor Marika Bigongiari, who penned Colucci's profile article.

Our second feature article in this issue, "When a forensic engineer becomes an expert witness" (p. 36), focuses on those pivotal times when forensic engineers are called upon to act as expert witnesses in court cases. Associate Editor Adam Sidsworth guides engineers through how they are chosen and what their legal, professional and ethical obligations are during investigations.

This issue, we also share full coverage of PEO's virtual 2022 Annual General Meeting on April 30 (p. 8), when President Colucci officially began his term. Plus, with the new Council year already underway, we introduce you to the members of Council for 2022–2023 (p. 41).

Finally, over on page 51, you'll find our call for nominations for PEO's 2023 Order of Honour, which annually recognizes professional engineers who have volunteered their time to the profession. Be sure to make note of the October 7 deadline if you have someone in mind whom you'd like to nominate for the prestigious award. [e](#)

LET US KNOW

To protect the public, PEO investigates all complaints about unlicensed individuals or companies, and unprofessional, inadequate or incompetent engineers. If you have concerns about the work of an engineer, fill out a Complaint Form found on PEO's website and email it to complaints@peo.on.ca. If you suspect a person or company is practising engineering without a licence, contact PEO's enforcement hotline at 800-339-3716, ext. 1444, or by email at enforcement@peo.on.ca.



A BRIGHT FUTURE AHEAD

By Nick Colucci, MBA, P.Eng., FEC



Last month marked PEO's centennial—100 years of setting the bar for practice in a profession in which, arguably more than any other, public safety is paramount. This is a remarkable accomplishment for a regulator and is something for which every licence and certificate holder should be proud. On June 14, I was in France participating in the Wounded Warriors Canada Battlefield Bike Ride, where we retraced the last 100 days of the First World War. I rode 90 kilometres from Amiens to Arras, giving me time to think about PEO and what it was like for engineers 100 years ago. The memorials we visited were moving because there was engineering involved in every one of them; they made me proud to be an engineer.

Since our founding in 1922, the province of Ontario has undergone unimaginable change with profound effects on our lives. PEO has evolved accordingly to carry out our continuing obligation to regulate the practice of professional engineering in the public interest. As we look ahead to the next century, PEO must remain committed to this legislative duty and continue to adapt to the public's increasingly high expectations of regulators.

It is for this reason that PEO is undergoing an enterprise-wide transformation. To effectively fulfill our mandate, we must clearly define PEO's role as a regulator and ensure our resources and actions are aligned in a way that enhances our accountabilities to the public, as well as the accountabilities of our licence and certificate holders to PEO.

To this end, PEO has initiated major transformation initiatives to become a more modern, enlightened and responsive regulator. Work began in 2019 with an independent review of PEO's regulatory performance, which has subsequently led to several noteworthy achievements, including:

- A high-level action plan to address the recommendations from the review;
- A two-year Governance Roadmap to enhance governance effectiveness;
- The introduction of the digital National Professional Practice Exam as part of the licensing process, allowing for a flexibly written, psychometrically sound examination of licence applicants; and
- An anti-racism and anti-discrimination review that addressed any concerns of PEO as a regulator, employer and organization and the subsequent adoption of the Anti-Discrimination and Equity Code that codifies PEO's fairness, human rights and public-interest obligations.

MAINTAINING CONFIDENCE IN ENGINEERING

The transformation will also see implementation in January 2023 of a mandatory continuing professional development (CPD) program for all PEO licence holders. Mandatory CPD is a regulatory best practice for professional regulators across Canada and around the world. All of Canada's other provincial and territorial engineering regulators now have a mandatory CPD requirement, as do most Ontario professional regulators, such as those responsible for regulating lawyers and accountants. Implementing this requirement will bring PEO in line with the best practices of other professional regulators; foster public confidence in the profession; conform with recent recommendations from several key government-related stakeholders; and meet regulatory expectations that have been communicated by the attorney general of Ontario, who is the minister responsible for PEO and the *Professional Engineers Act*.

Indeed, it is a privilege for our profession to be empowered with self-regulation; and it is paramount that the trust of Ontarians is maintained through accountable, fair, equitable and transparent regulatory processes, all developed through a public-interest lens. This will ensure a bright future for our organization. I am excited for what lies ahead, and I truly believe we are on the right path.

In case you missed them, I invite you to take a moment to view some of the materials PEO prepared to mark its centennial, including a "PEO turns 100" feature in the last issue of *Engineering Dimensions* and a centennial video. These help to communicate our direction and vision as we step into our next century.

Throughout 2022, PEO will continue its centennial celebrations with an Ontario-wide social media campaign, targeting nearly five million people, which highlights PEO's role as a modern, effective regulator; and a media kit for chapters to host their own centennial events, including organizer toolkits, swag, photos, videos and presentations. I hope you are all able to celebrate our centennial in some way this year, too. **e**

LOOKING BACK AS WE MOVE FORWARD

By Johnny Zuccon, P.Eng., FEC



Last month, PEO celebrated its centennial anniversary. A dinner on May 13 provided our 130 guests, including past and current Council members, chapter chairs and representatives of other regulatory bodies, a preview of our milestone publicity material in advance of the official celebration on June 14. One hundred years of regulating the practice of engineering in Ontario is quite a remarkable achievement, and I count myself as fortunate to have been an employee of this organization for more than 25 years, serving the past four years as CEO/registrar.

During these past few years, PEO has initiated major transformation initiatives to become a more modern and effective regulator, seeking to apply right-touch regulation principles to all our work, including professionalizing our regulatory practices and focusing our resources on the delivery of our statutory mandate.

As many readers know, this work began with an external regulatory performance review, which subsequently led to several noteworthy achievements, including:

- A high-level action plan approved by Council that assessed the activities of 93 PEO committees, subcommittees and working groups within PEO's mandate;
- A two-year Governance Roadmap, scheduled to wrap up this year, to clarify the role of Council and PEO staff;

- The digitizing of PEO's licensing process and its archived paper-based applications;
- An organizational restructuring of PEO to allow it to focus on its regulatory mandate while encouraging staff to effectively collaborate interdepartmentally;
- The introduction of the digital National Professional Practice Exam as part of the licensing process, allowing for a flexibly written, psychometrically sound examination of licence applicants;
- An anti-racism and anti-discrimination review that addressed any concerns of PEO as a regulator, employer and organization and the subsequent adoption of the Anti-Discrimination and Equity Code that codifies PEO's fairness, human rights and public interest obligations; and
- A gender audit of PEO's licensing process and internal operations.

PASSING THE TORCH

Having announced earlier this year my intent to retire in 2022, the search for my successor is now underway. PEO's next CEO/registrar will be tasked with overseeing the continued modernization of our regulatory and licensing processes, including addressing practical issues of access to the profession, inclusivity and emerging disciplines, while ensuring these processes are fully technology-enabled, accessible, secure and defensible in this increasingly complex stakeholder environment.

My successor will also be expected to immediately address a number of critical regulatory issues. The province's recent passing of the *Working for Workers Act, 2021*, for example, which includes significant changes to the *Fair Access to Regulated Professions and Compulsory Trades Act, 2006* will require PEO and other affected regulators to make significant and timely modifications to their registration processes to remove any potential barriers for internationally trained applicants. Necessary actions will include eliminating the Canadian work experience requirement for licensure; establishing time limits for compliance for licensing activities, including the issuance of registration decisions; expediting registration processes during states of emergency; and limiting language proficiency testing for applicants. Further, in January 2023, PEO will be implementing a mandatory continuing professional development program based on the current Practice Evaluation and Knowledge (PEAK) program. This new condition to maintain a P.Eng. or limited licence comes as a result of approval in April by both PEO Council and the provincial cabinet of the necessary regulation changes.

These issues factor into our ongoing efforts to redefine the fundamental concepts surrounding the practice of engineering and how to best protect the public interest.

It is with mixed emotions that I retire from PEO. I am proud of my 27-year career and my part in helping PEO fulfil its statutory mandate. Should this column turn out to be my final message to you in *Engineering Dimensions*, allow me to wish my successor all the best in leading PEO. To all the friends and colleagues I have met over my years at PEO, I thank you for your support and urge you to continue the course to create a more focused, modern and effective engineering regulator in Ontario. [e](#)

PEO HOLDS ITS CENTENNIAL AGM VIRTUALLY

PEO introduced its new president and Council at its annual general meeting in April.

By Adam Sidsworth



Nick Colucci, MBA, P.Eng., FEC, assumed the presidency at PEO's 2022 AGM, which was held virtually on April 30.

PEO swore in its 103rd president at its centenary-year annual general meeting (AGM) on April 30 at a simplified virtual event designed to reflect PEO's commitment to focus on its regulatory mandate to protect the public interest.

Nick Colucci, MBA, P.Eng., FEC, was sworn in as president of Council's 2022–2023 term by outgoing President Christian Bellini, P.Eng., FEC, at the end of the two-hour-long AGM. "I undertake this role with a deep sense of responsibility to the people of Ontario, whom we're mandated to protect; and our self-regulated profession," said Colucci. "June will mark 100 years since the passing of the *Professional Engineers Act*, and we have been regulating the profession proudly over all that time."

OPENING ACKNOWLEDGEMENTS

PEO's 2022 AGM opened with a land acknowledgement from Bellini. "PEO recognizes that its work takes place on the traditional Indigenous territories across the province," said Bellini. "We acknowledge that there are 46 treaties that cover the area now known as Ontario. We are thankful to be able to live and work in these territories. We are thankful to the First Nations, Metis and Inuit people, who have cared for these territories since time immemorial and continue to contribute to the strength of Ontario and to all communities across the province."

Bellini then introduced Ontario's attorney general, Doug Downey, LLB, the provincial minister to whom PEO is responsible as the engineering regulator. Downey addressed attendees, stating: "We can't take those steps where we need to be as a province without professional engineers, who are at the heart of building from the ground up... For those of you working as engineers, you're so often the frontlines of this kind of innovation. The province is relying upon you and your expertise more than ever to build Ontario. And that's why the work of the Council of Professional Engineers of Ontario is so important."

Downey noted that he is following with interest PEO's initiatives, including its implementation of mandatory continuing professional development (CPD), scheduled to begin in January 2023. "I'm very pleased to be at today's meeting, and I look forward to hearing Council's plans to educate engineers and improve regulation in Ontario," Downey added. "Through our ongoing dialogue, we have a better understanding of Council. I've learned a lot over the past several years, and we want to support PEO to achieve the high standards and knowledge and skills of the profession."

SPECIAL GUESTS IN ATTENDANCE

After Downey's remarks, Bellini welcomed guests from PEO's allied organizations, including representatives from Engineers Canada and all 11 other provincial and territorial engineering regulators in Canada. Representatives from other allied organizations were present, including:

- Association of Consulting Engineering Companies–Ontario;
- Association of Ontario Land Surveyors;
- Professional Geoscientists Ontario;
- Black Engineers of Canada;
- Canadian Academy of Engineering;
- Engineering Deans of Ontario;
- Engineering Student Societies' Council of Ontario;
- Engineers Without Borders;
- Municipal Engineers Association;
- Ontario Association of Architects;
- Ontario Association of Certified Engineering Technicians and Technologists;
- Ontario Association of Landscape Architects;
- Ontario Building Officials Association;
- Ontario Professional Engineers Foundation for Education; and
- Ontario Society of Professional Engineers.

BUSINESS MEETING GETS UNDERWAY

Bellini called for a moment of silence for the licence holders who were deceased during the previous year. Bellini noted the passing of Peter Cushman, P.Eng., an East Central Region councillor who died partway through his Council term.

Bellini asked delegates to accept the minutes of the 2021 AGM, which was also held virtually. Over 98 per cent of delegates accepted the minutes.

Lorne Cutler, P.Eng., chair of the Audit and Finance Committee, presented the 2021 audit report. Cutler noted that there was an increase in PEO's surplus from \$123,000 in 2018 to \$7.9 million in 2020 resulting from an increased fee schedule in 2019 and the cancellation of most in-person events due to the COVID-19 pandemic, and that PEO's surplus decreased to \$6.5 million in 2021. Most attendees at the AGM voted to accept Deloitte as PEO's external auditor for 2022.

CEO/REGISTRAR GIVES OUTGOING REPORT

In his last AGM report as CEO/registrar, Johnny Zuccon, P.Eng., FEC, recognized the unprecedented change that PEO initiated under his tenure at the helm: "When I was appointed CEO/registrar in 2019, I was handed a mandate to deliver change unprecedented in PEO's history," noted Zuccon. "At that time, the regulatory landscape was seeing change. There were calls for greater transparency and accountability of all regulators from the government and the public and the media—and these were commonplace. It was no longer a threat from government to intervene with regulators; it was becoming much more the norm.

"Today, PEO is well into a multi-year enterprise-wide transformation to address those recommendations [of the 2019 external audit of PEO's regulatory performance] while incorporating a more outward-focused public-interest perspective. If you've been following our progress, you will know that the strategy with such work rests on three pillars: operational effectiveness, organizational alignment and governance renewal."

Of note, Zuccon noted:

- The approval in April 2022 by both Council and the provincial government of regulation changes that allow PEO to require licence holders to participate in an annual mandatory CPD program based on the current voluntary Practice Evaluation and Knowledge program by January 2023;
- The government-imposed changes to PEO's licensing process under the *Working for Workers Act*, which brings amendments to the *Fair Access to Regulated Professions and Compulsory Trades Act* and will compel PEO to remove the mandatory Canadian engineering experience component from its licensing process, have a six-month decision timeline in its licensing decisions and have adequate emergency registration plans;
- An Anti-Racism and Equity Code approved by Council at its April 2022 meeting to advance PEO's fairness, human rights and public interest obligations under the law; and
- An ongoing gender audit of PEO's licensing process to review potential biases or unintentional barriers that may impede women from getting licensed.

"Our centennial in June will serve as a point of recommitment to these public-interest principles," Zuccon said. "The stage has been set, and the work must continue well beyond my retirement. I'm excited to see what the next 100 years will bring... We need to be proud of our 100-year history, and we should strive to create success for the next generation."

PRESIDENT BELLINI GIVES OUTGOING SPEECH

Bellini then gave his outgoing address as president. "I think our most significant achievement has been wrapping up the two-year Governance Roadmap and incorporating the necessary changes to ensure that Council serves as a governance board, running strategic direction and high-level control," acknowledged Bellini. "The governance overhaul was two years in the making, with important work being accomplished over the Council terms of both past presidents Nancy Hill and Marisa Sterling. Governance experts were engaged, but ultimately changes were solely the responsibility of Council." Bellini noted:

- The naming of PEO councillors to the four new governance committees (Audit and Finance, Human Resources and Compensation, Governance and Nominating and Regulatory Policy and Legislation) beginning at the 2021 AGM;
- PEO councillors' serving only on governance committees as of this year's AGM;
- PEO's ongoing gender audit of its licensing process, new Anti-Racism and Equity Code and recognition of the underrepresentation of Black and Indigenous Peoples in the profession, on Council and among staff; and
- The ongoing implementation of mandatory CPD.

Bellini ended his address by acknowledging the support and leadership of Zuccon over the past year. "Johnny, the executive team and staff have been an integral part of the action plan we've undergone," Bellini recognized. "They've done a great job of maintaining PEO's regulatory obligations while navigating the COVID-19 pandemic restrictions that threw in extra complications. We've asked them to embrace change, and they're doing this and more."

MEMBER SUBMISSIONS

At every AGM, licence holders are permitted to bring submissions that may be addressed by Council at its discretion. Traditionally, submissions are debated and voted on by licence holders at the AGM, but because of the large number of submissions at this year's AGM—12 in total—Bellini declared that all submissions at this year's event would be considered at September's Council meeting. Attendees were invited to email their comments and questions about the submissions to PEO. This year's submissions included:

- A submission by Peter DeVita, P.Eng., FEC, and seconded by Roger Jones, P.Eng., FEC, resolving to, among other things, not allow any member of the Central Election and Search Committee (CESC) to be a current councillor or have any CESC member run for Council elections;

- A submission also by DeVita and seconded by Jones asking that sitting councillors who publicly endorse candidates for Council elections be formally censured by Council;
- A submission by David Lapp, P.Eng., FEC, and seconded by James Chisholm, P.Eng., FEC, that PEO adopt the climate crisis as one of the pillars of the 2022–2025 Strategic Plan;
- A submission by George Comrie, P.Eng., FEC, and seconded by Thomas Chong, P.Eng., FEC, asking that all Council, committee and task force meetings be open to the public except for specifically listed circumstances;
- A submission by Val Davidson, P.Eng., and seconded by Vanessa Raponi, P.Eng., asking that the Anti-Racism and Anti-Discrimination Working Group develop an equity code that applies both to PEO and individual licence holders;
- A submission by Rob Willson, P.Eng., and Paul Ballantyne, P.Eng., FEC, asking that Council act on a recommendation by the Succession Planning Task Force to include competency requirements and considerations be required of candidates seeking to run for Council in 2023;
- A submission by Nancy Hill, LLB, P.Eng., FEC, and seconded by Peter Frise, P.Eng., FEC, asking that PEO staff operationalize updating practice guidelines with clear key performance indicators and stakeholder consultation;
- A submission by Comrie and seconded by Chong asking that Council undo how it populates the governance committees, particularly the Regulatory Policy and Legislation Committee (RPLC);
- A submission by Roydon Fraser, PhD, P.Eng., FEC, and Leila Notash, PhD, P.Eng., FEC, asking that Council commit to a list of actions included in what Fraser and Notash call “fundamental principles of good self-regulation”;
- Another submission by Fraser, this time seconded by Keivan Torabi, P.Eng., asking that PEO abide by the Caretaker Convention for Council elections;
- Another submission by Fraser, seconded by Vajahat Banday, P.Eng., FEC, to reduce licence holder fees until PEO’s budget surplus is at a nominal value; and
- The last submission by Christina Visser, P.Eng., and seconded by Mark Frayne, P.Eng., asking that the four governance committees introduced at the 2021 AGM be incorporated into the *Professional Engineers Act* as statutory committees.

NEW PRESIDENT TAKES OATH

President Colucci was officially sworn in at the end of the AGM, and in his acceptance speech, Colucci outlined his plan to continue with the governance renewal project and high-level action plan to ensure PEO continues to progress to become a modern and effective regulator. “[This] is not only PEO’s 100th anniversary, but it’s also a critical year for PEO’s transformation into a modern regulator,” said Colucci. “We have completed the Governance Roadmap, and over

the Council term we will be overseeing some very important initiatives that will continue PEO’s transformation.”

Of particular importance, Colucci noted, is PEO’s need to find a solution to the government’s requirement that PEO drop Canadian engineering experience as part of its licensing requirement, as well as the need to make licensing decisions within a six-month timeframe. Colucci also acknowledged the importance of PEO adapting mandatory CPD by January 2023. But ultimately, Colucci recognized that PEO’s centenary gives pause for PEO to reflect: “Our centennial provides the perfect opportunity to affirm our role with stakeholders, including the public, licence holders and government. As our centennial milestone approaches, we will be sharing an evolution of PEO corporate identity that aims to move away from current perceptions of PEO as a member association to a modern, forward-thinking regulator intent on building a better, safer Ontario by holding professional engineers accountable and working towards the highest standards.”

BITS & PIECES

Innovative self-centering steel structures that outperform traditional construction techniques are currently being developed at the University of Toronto’s faculty of engineering, where students are studying structural dynamics and earthquake engineering. The area of study focuses on the response of structures subjected to a variety of dynamic loads, such as wind and seismic loads. This includes the analysis of the response of reinforced concrete and steel structures loaded beyond their elastic limit.

PEO PROCEEDS WITH INCORPORATING FARPACTA CHANGES

PEO is proceeding with the necessary changes required by the *Fair Access to Regulated Professions and Compulsory Trades Act* regarding licensing requirements and decision deadlines.

By Adam Sidsworth

PEO is revisiting its licensing requirements and decision-making timelines for applications for licensure following new legislation imposed by the province.

With the passing of the *Working for Workers Act, 2021* last December and the *Working for Workers Act, 2022* this April, the *Fair Access to Regulated Professions and Compulsory Trades Act, 2006* (FARPACTA) was modified to require all non-health professional regulators to remove the mandatory Canadian work experience component of their licensing requirements by December 2023 unless the regulators can demonstrate that public health and safety are at risk (see "Province moves to eliminate Canadian work experience requirement for licensing," *Engineering Dimensions*, January/February 2022, p. 10). Additionally, regulatory bodies, including PEO, will have to:

- Make decisions for applications for licensure within a six-month period for 90 per cent of new applicants by July 2023 and 30 days for applicants already registered with another provincial or territorial regulator in the same profession;
- Have protocols in place for the continuing of licensing processes during emergencies; and
- Maintain enhanced obligations for reporting to the fairness commissioner showing its level of compliance with licensing requirements and decision timelines.

Under its legislative authority to regulate engineering in the public interest, PEO's current licensing requirements include four years of engineering work experience, of which one year must be under the supervision of a professional engineer licensed in Canada. However, when PEO voluntarily underwent an external review of its performance as Ontario's engineering regulator in 2019, the regulatory auditors also recommended that PEO simplify and speed up its licensing process while eliminating the one-year of mandatory Canadian experience. That recommendation, along with 14 others, are being addressed by PEO as part of a three-year action plan approved by Council in late 2019.



WHERE PEO GOES FROM HERE

PEO's efforts to simplify and modernize the P.Eng. licensing process have been accelerated by the *Working for Workers Act* and FARPACTA, and PEO staff will be working over the next year to ensure any changes to the licensing requirements and procedures can be implemented and, if need be, receive the approval of Council. "As operational and process changes are made, staff will be reporting to Council and the appropriate governance committees of Council to ensure appropriate oversight," reports Dan Abrahams, LLB, vice president, policy and governance and chief legal officer of PEO. "Staff will also bring forward any policy measures requiring Council's formal approval."

Abrahams notes that discussions with the Office of the Fairness Commissioner and the Ministry of Labour, Training and Skills Development have been continuing throughout the process so that PEO can fully understand and adapt to the new requirements. "Other external consultations with various stakeholders will also take place as needed," adds Abrahams.

PEO CELEBRATES CENTENNIAL

In celebration of PEO's 100th year, the Ontario engineering regulator hosted an in-person dinner on May 13, during which 130 guests attended, including past and current Council members, chapter chairs and representatives of other regulatory bodies. The attendees gathered for a networking reception and dinner and to hear speakers who included PEO President Nick Colucci, P.Eng., FEC, CEO/Registrar Johnny Zuccon, P.Eng., FEC, and award-winning journalist Peter Mansbridge.



Award-winning journalist Peter Mansbridge was the keynote speaker at PEO's centennial dinner.



Outgoing CEO/Registrar Johnny Zuccon, P.Eng., FEC, expressed his gratitude to all previous PEO leaders and his confidence in how PEO is positioned for the next 100 years.



PEO hosted 130 guests at its centennial dinner, including PEO volunteers and representatives from other regulatory bodies.



Left to right: Former PEO president and current Engineers Canada President-elect Nancy Hill, LLB, P.Eng., FEC; Former PEO president Diane Freeman, P.Eng., FEC; and Association of Consulting Engineering Companies–Ontario Executive Director Bruce Matthews, P.Eng., at PEO’s centennial dinner.



Engineers Canada Past President Danny Chui, P.Eng., FEC (far left), and former PEO councillor and chapter manager Michael Chan, P.Eng., FEC (far right) are joined by their spouses at the centennial dinner.

PEO RELEASES RESULTS OF MANDATORY CPD PUBLIC SURVEY

PEO released the results of a public survey designed to gauge the views of stakeholders on PEO's mandatory continuing professional development program, which comes into effect January 2023.

By Adam Sidsworth

In June, PEO released the results of an online public survey to promote awareness of the impending mandatory continuing professional development (CPD) program and generate a benchmark on how the program is perceived by key stakeholders.

Nearly 8800 respondents—95 per cent of whom self-identified as PEO licence holders—participated in the survey, which was accessible on PEO's website between April 12 and May 6 (see "PEO asks licence holders about mandatory CPD," *Engineering Dimensions*, May/June 2022, p. 9). The survey found that among those who completed the survey:

- 76 per cent felt that a custom approach to CPD that tailors a personalized amount of CPD hours proportional to each practitioner's practice risk to the public would be more practical than a one-size-fits-all CPD program;
- 81 per cent felt that non-practising practitioners should be assigned less CPD hours than practising practitioners or not assigned any hours;
- 45 per cent felt that it is important or very important to include a module on professional practice and ethics; and
- 66 per cent felt that PEO should accept non-verifiable activities, such as reading a technical journal, as an acceptable activity that can be counted towards licence holders' CPD hours.

Implementing a mandatory program was made possible following approval of Ontario Regulation 353/22 by PEO Council on April 8 and by the Ontario Cabinet on April 19. The initiative conforms with recommendations of several key government-related stakeholders and meets the regulatory expectations that have been communicated by the attorney general of Ontario, who is the minister with responsibility over PEO and the *Professional Engineers Act*. The complete survey results are now available on our website.

HOW MANDATORY CPD WILL BE DELIVERED

Once mandatory CPD is implemented in January 2023, all practitioners holding a P.Eng. or limited licence will be required to annually participate in the mandatory CPD program. Its components will be based on the current Professional Evaluation and Knowledge program, which has operated on

a voluntary basis since 2017. The incoming CPD program will have three segments, including:

- A practice evaluation, which consists of a practice declaration and a questionnaire that will determine personalized CPD targets of up to 30 hours per year (licence holders who are not permitted to practise will complete a survey with no accompanying CPD hours);
- A professional practice module, covering topics related to professional practice, engineering ethics and regulatory knowledge processes; and
- A CPD report mechanism through which licence holders who are permitted to practise respond to their personalized CPD hours for the year.

NEARLY 8800 RESPONDENTS—95 PER CENT OF WHOM SELF-IDENTIFIED AS PEO LICENCE HOLDERS—PARTICIPATED IN THE SURVEY

For the first year, licence holders who are permitted to practise must complete the practice evaluations and professional practice module by January 31 and the CPD report by December 31. Licence holders who are not permitted to practise will only be required to complete the practice evaluation and professional practice module by January 31. Licence holders who are not permitted to practise include those who self-declare as non-practising and agree to restrictions to their licence. However, they can voluntarily change their status by repeating the practice declaration and completing all elements of the CPD program. Licence holders who have had their licence suspended by PEO's CEO/registrar or by the Discipline Committee will have to complete the CPD program once their licences are reinstated.

Although the new CPD program will be mandatory beginning January 2023, compliance audits and sanctions for overdue and outstanding elements of the program will be delayed until 2024. Failing to complete any of the elements on time could lead to an administrative licence suspension.

PREPARING TO COMPLETE CPD HOURS

Licence holders who are permitted to practise will have to complete up to 30 hours of acceptable CPD as part of the program. Activities are considered acceptable if they help to maintain a licence holder's competency to practise professional engineering, are directly relevant to their engineering practice area(s) and are sufficiently technical or regulatory in nature. All delivery methods of learning activities are considered valid provided the learning content meets the admissibility requirements.

For further information about the upcoming mandatory CPD program, visit www.peopeak.ca.

NEW OHSА AMENDMENTS UPDATE

DEFINITION OF ENGINEER

Effective July 1, the *Occupational Health and Safety Act* and nine supporting regulations have a consistent definition of “engineer” that includes limited licence holders.

By Adam Sidsworth

Since July 1, limited licence holders have been authorized to provide engineering advice and certification under the *Occupational Health and Safety Act* (OHSА) and its supporting regulations. Previously, the OHSА did not contain a definition for “engineer”; however, various inconsistent definitions for “professional engineer” were found in the regulations. Consequently, a definition of “engineer” was added to the OHSА with the December 2, 2021, passage of the *Supporting People and Business Act* (SPBA), an omnibus bill that introduced amendments to 25 existing pieces of provincial legislation, including the OHSА.

According to Roger Jeffreys, P.Eng., DFE, provincial engineer with the occupational health and safety branch of the fair, safe and healthy workplaces division of the Ministry of Labour, Training and Skills Development (MLTSD), the MLTSD took the initiative to work with the provincial government to update the definition under the OHSА and its associated regulations. “We want to support those engineers who have limited licences and open up the opportunity for businesses to use different engineers.” However, Jeffreys notes that PEO staff had previously brought the matter of the definitions of “engineer” in the OHSА regulations to the attention of the MLTSD.

A NEW DEFINITION OF ENGINEER

The definition section of the OHSА previously defined only an “engineer of the ministry,” who is as an MLTSD-employed engineer licensed as a professional engineer. However, a new definition has now been included for “engineer” to mean, subject to any prescribed requirements or restrictions, a person who is licensed as a professional engineer or who holds a limited licence under the *Professional Engineers Act*.

According to Jeffreys, the new definition had to be delayed from the initial passage of the act in December 2021 until the beginning of this month to allow the provincial cabinet to approve changes to nine different regulations under the act. Regulation changes can typically be a time- and labour-intensive process, but according to Jeffreys, the nine regulations needed updating because they contained over 190 references to “professional engineer” or some variant. The regulations that needed updating include:

- O. Reg. 420/21 Notices and Reports under Sections 51 to 53.1 of the Act—Fatalities, Critical Injuries, Occupational Illnesses and Other Incidents;
- O. Reg. 714/94 Firefighters—Protective Equipment;
- O. Reg. 67/93 Health Care and Residential Facilities;
- O. Reg. 213/91 Construction Projects;
- Regulation 859 Window Cleaning;
- Regulation 856 Roll-over Protective Structures;
- Regulation 855 Oil and Gas—Offshore;

- Regulation 854 Mines and Mining Plants; and
- Regulation 851 Industrial Establishments.

Jeffreys notes there were inconsistencies in how the regulations defined engineers; but all regulations, although different in wording, required a P.Eng. licence holder to carry out the work to the exclusion of limited licence holders. The decision was made to remove the definitions in the regulations and to streamline them so that “engineer” as defined in the OHSА would be referenced in the regulations. The MLTSD held consultations with external stakeholders, including PEO; according to Jeffreys, the feedback was unanimously positive. The revised and consistent regulation definitions were passed by the cabinet on April 12.

ENGINEERS SUBJECT TO GREATER CERTAINTY CLAUSE

While the MLTSD was working with the government to introduce a definition of “engineer” in the OHSА last year, they also took the opportunity to allow for greater flexibility to prosecute engineers whose work is found to be negligent under the OHSА. Section 31(2) states that an engineer can be found to contravene the OHSА if their work “is made negligently or incompetently [or] a worker is endangered.” However, effective July 1, section 31(3) was added stating, “for greater certainty, a contravention...continues for each day or part of a day that a worker is endangered.”

“The courts have ruled that the actual act of giving advice occurs when the engineer signs or stamps something,” explains Jeffreys. “For an engineer who designed a building five years ago and stamped the drawings and the building was put up, and the structure fell down last year, four years after they stamped their drawings or gave their advice, the statute of limitations would have expired. Prosecution couldn’t take place.” Jeffreys notes that the greater certainty clause was added to provide clarity on the intent of the liability provisions and to ensure that engineers can be held accountable for any work that contravenes the OHSА.

PEO licence holders looking for further information on the changes to the OHSА can contact the MLTSD at 1-800-202-0008.

ENGINEERS CANADA CO-LAUNCHES EQUITY AND DIVERSITY TRAINING WEBINAR

Engineers Canada led the creation of an online webinar to help engineers and geoscientists learn about equity, diversity and inclusion.

By Adam Sidsworth



Engineers Canada has partnered with several national, provincial and territorial engineering and geoscience organizations to introduce a one-hour free webinar for engineers and geoscientists to incorporate equity, diversity and inclusion (EDI) in their respective professions and workplaces.

Engineers Canada and its EDI Training Task Force—composed of provincial and territorial engineering regulators' 30 by 30 champions, the Canadian chapters of the National Society of Black Engineers, Natural Sciences and Engineering Research Council Chairs for Women in Engineering and EngiQueers Canada—partnered with Geoscientists Canada to create the online learning tool to help engineers and geoscientists learn how to improve their ability to address discrimination, harassment and racism while incorporating inclusive practices at work. The webinar is operated online by British Columbia's engineering and geoscience regulator, Engineers and Geoscientists BC (EGBC).

The webinar is free to take and is open to everyone, including the general public. However, it is specifically designed for professional engineers and geoscientists. The webinar introduces real-life examples of how EDI is relevant to engineers and geoscientists and illustrates how unconscious bias can be a barrier to inclusion while explaining relevant competencies to create an inclusive workplace. Importantly, many provincial and territorial engineering and geoscience regulators will give a one-hour credit to their licence holders towards their annual CPD should they participate in the webinar. PEO's upcoming mandatory CPD (see p. 14) will be practitioner-driven, allowing licence holders to decide whether a learning activity is adequate for their CPD needs.

"We've made it very open for [other] regulators who might be interested in applying it to their own CPD," explains Cassandra Polyzou, manager, equity, diversity and inclusion for Engineers Canada. "This is a very open-source course." Polyzou notes that Engineers Canada partnered with EGBC because of their existing online tools to deliver the webinar, and they have already received positive feedback from numerous provincial and territorial engineering and geoscience regulators across Canada, including Engineers Geoscientists Manitoba, Engineers Nova Scotia, Engineers Yukon and the Association of Professional Engineers and Geoscientists of Saskatchewan.

ENGINEERS CANADA AND PEO FOCUS ON EDI

The origins of the EDI webinar lay in the Engineers Canada-led 30 by 30 initiative to have women represent 30 per cent of newly licensed engineers by 2030. Since its creation in 2010 by the Association of Engineers and Geoscientists of Alberta and subsequently adopted by Engineers Canada, 30 by 30 has grown to involve a national network of supporters. Engineers Canada's 2019–2021 strategic plan also aimed, in part, to promote diversity in the engineering profession.

"In order to create change, you need to have folks from across the engineering community," notes Polyzou. "That's why we structured [the webinar] not just as an impact project. We need broad involvement, so we consulted with our existing network, as well as a fresh network of stakeholders interested in gender equity, and one of the big pieces that we heard was that there needs to be more information around equity, diversity and inclusion. And there needs to be dedication and training for engineers."

The EDI webinar comes at a time when PEO is also exploring its approach to EDI as a regulator, employer and organization. At its April meeting, PEO Council approved a new Anti-Racism and Equity (ARE) Code, designed to advance PEO's fairness, human rights and public interest obligations under the law. The code was developed from consultations done by PEO's Anti-Racism and Anti-Discrimination Exploratory Working Group (AREWG) with 125 key stakeholders, including Engineers Canada (see "Council approves anti-racism and equity code," *Engineering Dimensions*, May/June 2022, p. 60). The AREWG is now working to improve EDI in other areas, including developing policy approaches through Indigenous lenses.

For more information on Engineers Canada's EDI webinar, visit Engineers Canada's webinar page.

MARILYN POWERS ASSUMES THE ROLE OF OSPE PRESIDENT

At its annual general meeting, the Ontario Society of Professional Engineers introduced its new president and chair and 2022–2025 strategic plan.

By Adam Sidsworth

At its annual general meeting (AGM) on May 9, Ontario's engineering advocacy organization announced its incoming chair and president, Marilyn Powers, PhD, P.Eng., who introduced the organization's 2022–2025 strategic plan. The Ontario Society of Professional Engineers (OSPE's) new strategic plan has four pillars, which include:

- **Engineers Lead**—solidifying OSPE's position as the voice of the engineering profession and its reputation as the association where engineers gather, share expertise and provide recommendations on issues facing the engineering profession;
- **Engineers Grow**—becoming the trusted resource for Ontario engineers to grow professionally, delivering education at every stage of an engineer's career, especially as continuing professional development becomes mandatory for professional engineers in January 2023;
- **Engineers Care**—elevating awareness of the role that a diverse and inclusive engineering community does in improving the world and deepening the respect of Ontario's engineering profession; and
- **Engineers Prosper**—expanding opportunities for engineering jobs and protecting practice rights for professional engineers so that the province may prosper.

"In light of the successful execution of the last strategy, we spent this past year building upon the last one," says Powers, who formally assumed the OSPE presidency at OSPE's AGM. "We went out to the membership and asked, 'What are you looking for OSPE to be doing for you?' We are a member-driven organization... So [we asked], what do you want to see out of your membership?"

Powers, whose doctorate degree in biomedical engineering focused on helping educate medical professionals about using virtual reality technology during surgery, is the director of academic technology, integration and innovation at Mohawk College in Hamilton, ON. Powers believes that with her background in technology she brings a fresh perspective to OSPE's initiatives of advocacy, inclusivity and diversity. She hopes to see increased collaboration between OSPE and PEO in the coming year.



OSPE's annual general meeting was held on May 6, when Marilyn Powers, PhD, P.Eng., was introduced as the organization's new president and chair. Powers also introduced OSPE's new strategic plan.

OSPE REBOUNDS FROM THE PANDEMIC

At its AGM, OSPE reported that it had largely rebounded from the initial economic shock from the COVID-19 pandemic and lockdown, which saw an initial drop in OSPE membership and revenue.

However, as noted at the AGM by both outgoing OSPE President and Chair Mark Frayne, P.Eng., PMP, and OSPE CEO Sandro Perruzza, OSPE accomplished many feats during its 2021–2022 board term, notably:

- Demanding that the provincial government consult with appropriate sources regarding indoor air quality and other congregate facilities because of the COVID-19 pandemic and for future preparedness;
- A submission to the provincial government of proposed changes in the area of regulatory focus, regulating the consulting engineering title, time limits for licence applications and the elimination of the 12 months of Canadian engineering experience as part of the PEO licensing process, some of which was incorporated into the *Working for Workers Act*;
- A six-point submission to the provincial government, based on feedback from members, regarding Ontario's long-term energy plans and framework and pushing for the electrification of Ontario's transportation sector; and
- The initiation of 30-minute mentoring sessions for newcomers to Ontario's engineering community from more experienced engineers.

KATHY BAIG BECOMES ENGINEERS CANADA PRESIDENT

Engineers Canada welcomed new president Kathy Baig, who previously led Quebec's engineering regulator.

By Adam Sidsworth



Kathy Baig, ing., FEC, took the reins of Engineers Canada's presidency after spending six years as president of Ordre des ingénieurs du Québec.

The former president of Ordre des ingénieurs du Québec (OIQ) took the helm of Engineers Canada in May during the organization's 2022 spring meetings and annual meeting of members in Toronto, ON. Kathy Baig, ing., FEC, became Engineers Canada's president just as her three-term, six-year OIQ presidency came to an end. Baig ceded OIQ's presidency at the regulator's annual general meeting on June 16.

Engineers Canada represents the common interests of Canada's 12 provincial and territorial engineering regulators by facilitating and fostering strong working relationships between the regulators. Among its many programs is the Canadian Engineering Accreditation Board, which accredits the undergraduate Canadian engineering programs that are recognized by Canada's engineering regulators as part of their academic requirements for licensure.

Increased flexibility in the accreditation process is one area that Baig hopes to focus on during her year-long Engineers Canada presidency. "I'd like to give universities more flexibility to a new kind of learning," Baig says. "Because of the accreditation program, if you do an exchange program [outside of Canada], it's harder to get all of your credits recognized in Canada...We should be more flexible."

HARMONIZING LICENSING

Baig is committed to more closely harmonizing the individual engineering regulators' licensing criteria to standardize the requirements more evenly for engineering licensure, particularly for international engineering graduates (IEGs). "When

you get your degree from somewhere other than in Canada and you get to the country, each province [has unique] rules. An IEG might choose Ontario because [PEO's] criteria is more fit with the IEG's profile but the IEG will not fit with OIQ's criteria. But once they get their licence in Ontario, we'll have to give it to them in Quebec," asserts Baig, referring to the engineering regulators' interprovincial mobility obligations under the Canadian Free Trade Agreement.

Baig is also frustrated by other inconsistencies, such as the one year of supervised Canadian engineering experience requirement—which can make it harder for IEGs to become licensed in Canada. "[OIQ] removed the one-year experience in April 2019," Baig reiterates. "I travelled to Ontario, BC and Alberta [to say] that we would remove it." (PEO is poised to remove the requirement next year.)

Baig is also passionate about the Engineers Canada-led 30 by 30 goal of increasing the percentage of newly licensed women engineers to 30 per cent by the year 2030. In 2022, just over 20 per cent of engineering licences across the country were granted to women. "We still have work to do to achieve this 30 per cent, so as president, I will put some effort into that initiative."

NO STRANGER TO CHALLENGES

Baig took on the OIQ presidency in 2016, just as the Quebec government placed OIQ in a two-and-a-half-year trusteeship because of concerns that OIQ was financially unstable and unable to effectively regulate the engineering profession in Quebec. However, under Baig's leadership, OIQ's finances were stabilized, a new management team was brought in and discipline times were shortened by over 67 per cent. But, importantly, Baig committed her presidency to improving the image of OIQ and the engineering profession through improved communication (see "Quebec engineering regulator begins second phase of media campaign," *Engineering Dimensions*, May/June 2021, p. 11).

Prior to becoming OIQ president, Baig, who holds a chemical engineering degree from Polytechnique Montréal, had a decade-long engineering career, including with IBM, Johnson & Johnson and Aéroports de Montréal. However, Baig now hopes to continue in leadership roles. "I'm looking to find a leadership role not too far from engineering," she says.

BC ANNOUNCES AMENDMENTS TO *PROFESSIONAL GOVERNANCE ACT*

The BC legislature saw amendments to the umbrella act that governs BC's engineering and geoscience regulator to improve their operations and best practices.

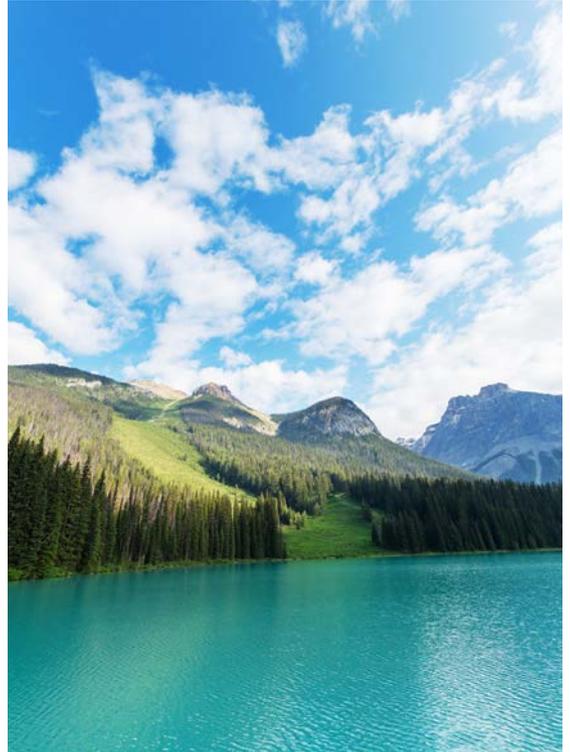
By Adam Sidsworth

On May 11, the British Columbia (BC) legislature enacted the *Professional Governance Amendment Act, 2022*, which will tailor the existing *Professional Governance Act* (PGA) to the individual needs of the five regulatory bodies—including the province's engineering and geoscience regulator, Engineers and Geoscientists BC (EGBC)—under the act, allow for the implementation of best practices in professional governance and ensure the act does not affect the traditional knowledge or practices of Indigenous Peoples.

The PGA was initially passed by the BC legislature in November 2018 and took effect over a two-year period. It consolidated the BC government's oversight of five largely natural resource-based regulators under the Office of the Superintendent of Professional Governance (OSPG) and introduced a number of changes to the regulatory framework for EGBC, along with the forestry, agrology, applied biology and applied science regulators (see "British Columbia engineering regulator responds to BC government's intentions paper," *Engineering Dimensions*, May/June 2019, p. 14). With the full implementation of the PGA in February 2021, BC's *Engineers and Geoscientists Act*, under which EGBC had previously drawn its regulatory authority, was fully repealed.

The new bill, which took effect on June 2, will allow:

- The regulators to be able to address non-compliance of administrative matters, such as the incompleteness of mandatory continuing professional development by practitioners, outside of the investigative and disciplinary processes;
- The regulators to enable requirements for practitioners to declare competency to practise and be free of any conflicts of interest in specific situations as opposed to every time they practise;
- For updated terminology for the regulatory bodies' governance boards (such as renaming "council" to "board" and "president" to "chair") to accurately reflect the regulatory roles of the OSPG regulatory bodies;
- For an updated definition of "firms" to clarify the definition of "regulated firms," including when the regulated practice is carried out for internal purposes;
- There to be an external funding source to the OSPG, likely in the form of a small percentage of the regulatory bodies' annual budget; and
- The Architectural Institute of BC to be brought under the mandate of the PGA, with the option of bringing in other regulatory bodies under the umbrella legislation in the future.



In a statement, EGBC wrote that it "is supportive of legislative amendments that will make the PGA more effective and define our role as a regulator more clearly." However, the regulator remains in communication with the government in hopes of learning how the amendments will affect EGBC's daily operations.

WHAT'S NEW IN THE *PRE-START HEALTH AND SAFETY REVIEW GUIDELINE*

Updates to PEO's guideline reflect new amendments to section 7 of Regulation 851 under the *Occupational Health and Safety Act*.

By Sherin Khalil, M.Eng, P.Eng., PMP

Earlier this year, PEO Council approved the publication of the *Pre-Start Health and Safety Review Guideline*, which incorporates amendments to section 7 of the Industrial Establishments Regulation (Regulation 851) under the *Occupational Health and Safety Act* (OHSa), which came into effect in January.

In June 2019, PEO's Professional Standards Committee formed a subcommittee of engineers experienced with providing services for pre-start health and safety reviews (PSR) to revise the previous guideline, *Professional Engineers Providing Reports for Pre-Start Health and Safety Reviews*, published in 2001. The subcommittee was tasked with investigating the current statutory, ethical and professional aspects of providing PSR services; revising the guideline; and providing practitioners undertaking this work with best practices and guidance on the level of diligence required.

Below is a summary of the key revisions to the guideline. Additionally, the OHSa amendments include a new column added to the table of section 7 of Regulation 851 that identifies exemptions to each requirement. Furthermore, the Ministry of Labour, Training and Skills Development (MLTSD) guidelines provide details of what documents are acceptable to establish an exemption for each table circumstance.

1. Professional responsibilities

The previous version of the guideline was silent on the client's professional responsibilities, which are critical for ensuring that all persons are protected before operating any apparatus, structure or protective element or process in the workplace.

2. Competency and disclosure

PEO has received some concerns regarding the inconsistency of PSR reports in terms of content and details. Therefore, the updated guideline reminds practitioners of their obligations under PEO's Code of Ethics to only accept services within their expertise. The guideline also recommends that practitioners provide their CV or examples of recent projects they have worked on—while respecting confidentiality agreements—to demonstrate their knowledge and competence regarding the work to be undertaken for their clients.

3. Conflict of interest

PEO has received some concerns regarding conflict of interest in situations where a practitioner is involved with the selection of equipment and also completes



the PSR review for this equipment. Another example is a situation in which an employee engineer undertakes PSR reviews for their employers. It is recommended that practitioners complete a conflict check before engaging in the work. The conflict check should include other stakeholders in the practitioner's firm to ensure it is thorough and complete. The simplest and most effective way to deal with potential conflicts of interest is to be forthright and communicate with the appropriate parties about any circumstances that could reasonably lead those parties to question the practitioner's judgment.

4. Recommendation on safety control systems

The previous version of the guideline was silent on safety control systems. The updated guideline recommends that practitioners understand common and uncommon failure modes for electrical, mechanical, pneumatic and hydraulic control circuits on machines with protective devices, the failure of which could

present a danger to personnel. Practitioners should be familiar with standards CSA Z432 and ISO 13849-1&2. Furthermore, practitioners should consider all potential energy sources when reviewing the safety control system as applicable. These energy sources may include, but are not limited to, gravity, mechanical motion and momentum, potential energy, electrical, pneumatic and hydraulic pressure, temperature and radiation.

5. Lockout/tag-out procedure

Compliance with lockout/tag-out related requirements of O.Reg 851 s.42, 74, 75 and 76 are referred to in applicable standards but relate to clauses of the Industrial Establishments Regulations. They are not prescribed for review under the “safeguarding device that signals a stop” or any other PSR conditions identified in the table and are therefore outside the prescribed scope of the PSR. Based on the practitioner’s scope of service, a review of such external regulations may be included in the services provided to a client. However, practitioners may consider clarifying that the presence of safeguarding devices does not remove the need to follow safe operating procedures and to lockout equipment or block it from moving where required for performing maintenance or other activities outside of a system’s normal operating state.

6. Hazardous area classification

Often practitioners are asked to identify hazardous locations when concentrations of flammable gas/vapour or combustible dust/fibres/flyings are present. This is referred to as hazardous location area classification. Practitioners performing area classifications need formal training and experience. Furthermore, a background in Fire Code reviews is essential because issues related to storage, dispensing, ventilation, bonding and grounding, explosion protection and other control measures are almost always encountered by the practitioner performing the area classification.

7. Risk assessment

Although risk assessments are not specifically legislated as part of a PSR, a risk assessment may be needed to properly complete a PSR, especially in relation to functional safety for Circumstance 2 PSRs. Risk assessment methods may vary depending on the nature of the work and the types of hazards under consideration. At minimum, practitioners participating in risk assessment should

understand how the assessment is performed according to relevant standards, including CSA Z432 and such standards referenced within that standard.

Finally, practitioners should clearly describe their scope of work before entering into an agreement to avoid any future issues and eliminate any confusion. Practitioners should explain to their clients that a PSR is a legislative requirement of the OHS Act and is separate and distinct from other inspections that may be required, such as those under the CSA Group or Electrical Safety Authority.

Practitioners are reminded to not approve or certify the equipment, structure or process for safe use. The PSR is a report stating the condition of the equipment at the time of inspection, which would include a statement as to whether the equipment, structure or process is or is not compliant with the applicable standards and regulations. The PSR process should result in an objective report based upon applicable standards and regulations. Practitioners are advised not to use the words “safe” or “unsafe” when writing reports but to use “compliant” or “non-compliant.”

For more information, practitioners may refer to the updated version of the *Pre-Start Health and Safety Review Guideline*.

PEO’s practice advisory team is available by email at practice-standards@peo.on.ca for practitioners seeking information on their obligations. For legal issues, practitioners must consult their lawyers. [e](#)

[Sherin Khalil, M.Eng., P.Eng., PMP, is PEO’s practice advisor.](#)

COUNCIL APPROVES KEY ELEMENTS OF NEW STRATEGIC PLAN

By Nicole Axworthy

548TH MEETING, JUNE 24, 2022

At its meeting on June 24, Council approved the key elements that will form PEO's 2023–2025 Strategic Plan. The elements include four goals related to improving PEO's licensing processes, optimizing organizational performance, implementing a continuous governance improvement program and refreshing PEO's vision to ensure all stakeholders see relevance and value in PEO.

As PEO is reaching the end of its current strategic plan term, a new plan is required to set the course for PEO over the next three years. The goals and the areas of focus, or priorities, that will lead to their achievement (expressed in the "we will do this by" section of each goal) were developed and voted on by Council at a two-day workshop in May and, along with PEO's mission, will form the key elements of PEO's 2023–2025 Strategic Plan. The four elements include:

Goal 1: Improve PEO's licensing processes without compromising public safety.

We will do this by:

- Creating a fair, transparent, accessible and efficient application process that maintains competency and complies with FARPACTA by July 1, 2023;
- Reviewing licensing business processes and implementing changes to improve efficiency without sacrificing public safety or information security by January 1, 2025; and
- Ensuring all licensing activities reflect the values of equity, diversity and inclusion.

Goal 2: Optimize organizational performance.

We will initiate this by:

- Updating and developing standards and practice guidelines;
- Ensuring adequate IT infrastructure, improving our capacity to collect and manage data; and
- Reviewing and improving communication and business processes, including ensuring they reflect the values of equity, diversity and inclusion.

Goal 3: Implement a continuous governance improvement program.

We will do this by:

- Ensuring orientation for councillors and PEO's executive leadership team;
- Ensuring committees and Council have the necessary evidence to support quality decision-making; and
- Establishing metrics for governance performance, which include principles of equity, diversity and inclusion by spring 2023 and implementing an annual review.

Goal 4: Refresh PEO's vision to ensure all stakeholders see relevance and value in PEO.

We will do this by:

- Facilitating meaningful dialogue with licence holders and other stakeholders;
- Undertaking required research; and
- Developing a proposed vision for consultation

Now that the strategic plan has been approved by Council, staff will use this direction to form the operating plan and budget, which will be reviewed by Council at its September meeting, and formal approval of the budget will be sought at the November Council meeting. This approvals process is required to ensure PEO has the approvals required to begin immediate implementation of the strategic plan in January 2023.

CHANGE IN SIGNING AUTHORITY

Council approved a motion to change the signing authority for contracts, deeds and other instruments requiring the signature of the association. As part of the motion, Council directed that an appropriate bylaw amendment be prepared for Council approval as soon as possible.

Currently, no one is authorized to sign or approve any deed, contract or other instrument that creates an obligation or undertaking on behalf of PEO unless the individual has signing authority authorized by PEO's bylaws. Section 45 of By-Law 1 sets out the signing authorities and limits for contracts and other instruments under \$20,000 requiring the signature of the association only to the CEO/registrar, deputy registrar, a staff director or the president, past president or president-elect. After the Finance Committee met to discuss this item, it recommended—and validated with PEO's auditor—that the bylaw be updated so that a designated director can sign for items up to \$25,000; a designated vice president can sign up to \$50,000; the CEO/registrar or a designated vice president can sign for items up to \$100,000; and the CEO/registrar or a designated vice president and the president, past president or president-elect can sign for items over \$100,000, up to the amount of the Council-approved annual budget.

The change reflects PEO's current organization structure and senior staff positions, both of which have changed in recent years; and ensures there are adequate controls in place for the proper authorization of contracts while enabling operational effectiveness and timely management. The bylaw provision on signing authority constitutes only one element in PEO's system of internal control. The risk management processes currently in place support effective decision-making and provide consistent accountability throughout the organization. In addition, in accordance with PEO's internal policies, all contracts must be reviewed and approved by PEO's legal counsel before signing.

ELECTIONS ISSUES CONSIDERED

At its meeting, Council approved the 2023 Council elections voting procedures; election publicity procedures; nomination form; and nomination acceptance forms for president-elect, vice president, councillor-at-large and regional councillor. As part of the same motion, Council appointed the Regional Election and Search Committee (RESC) for each region as well as the junior regional councillor for each region (Dana Montgomery, P.Eng., Tim Kirkby, P.Eng., FEC, David Kiguel, P.Eng., FEC, Vicki Hilborn, P.Eng., and Pappur Shankar, P.Eng., FEC) as chair of the RESC for their region.

Additionally, Council discussed and approved including equity, diversity and inclusion improvements in the procedures as identified at the meeting. It was also noted that a deeper, holistic review of the procedures will be undertaken by the Governance and Nominating Committee (GNC) in early 2023 and any longer-term recommendations aimed at reforming and modernizing the elections system will be addressed in time for the 2024 election period. Any recommendations will be brought to Council for consideration as needed.

Prior to obtaining Council's approval of the 2023 election items, the Central Election and Search committees (CESC) for 2020–2021 and 2021–2022 undertook reviews of the procedures for the conduct of the 2021 and 2022 Council elections, respectively. At its June 25, 2021, meeting, Council referred the 2021 CESC issues report and recommendations to the GNC for consideration; and on March 2, the CESC prepared its 2022 elections issues report for discussion by the GNC at its next meeting. Both reports were provided to Council as information items at its April 8 meeting.

At its meeting on May 24, the GNC reviewed draft versions of the 2023 voting procedures and election publicity procedures and made operational revisions based on some of the recommendations in the CESC's elections issues report and the decision by PEO to become fully digital as of April 27. The revisions included disallowing requests for fundraising in election material and links to any non-PEO websites or social media accounts in election material; reducing the number of days a candidate has to remedy any inconsistencies in their election material from three days to two business days; and encouraging election candidates to attend their respective All Candidates Meetings at PEO's head office, either in person or virtually.

The approved 2023 voting procedures and election publicity procedures will be published on PEO's website and in the September/October issue of *Engineering Dimensions*. The 2023 Council Elections Guide will also be updated reflecting the Council-approved changes to the voting and election publicity procedures.

GOALS FOR CEO/REGISTRAR

At its June meeting, Council approved new CEO/registrar goals, as determined in consultation with Council's Human Resources and Compensation Committee (HRCC), as PEO prepares to interview and hire a new CEO/registrar to replace Johnny Zuccon, P.Eng., FEC.

Under the *Professional Engineers Act*, Council has one employee, the CEO/registrar, who is a vital component in making PEO successful as it strives to become a more modern and effective regulator. Setting and monitoring goals and objectives for the CEO/registrar is an important component of Council's role in moving the organization forward. Any goals that are assigned are expected to reflect an overall vision that corresponds to the enhancements required within the organization. The new goals approved by Council are SMART (Specific, Measurable, Achievable, Realistic, Timely) goals in areas of focus that include governance, regulatory and organizational; and each goal further defines timelines, what is to be accomplished and how it is to be measured.

Now that the goals are approved, the HRCC will work with the CEO/registrar to review performance in working towards the specified goals and objectives. The HRCC will provide regular feedback to the CEO/registrar subject to any input from Council, and any changes or updates to the CEO/registrar goals will be brought forward to Council for review and approval. **e**

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 PAUL D. REW, P.ENG., a member of the Association of Professional Engineers of Ontario and RUBICON ENVIRONMENTAL (2008) INC., a holder of a certificate of authorization.

The panel of the Discipline Committee met to hear this matter on March 2, 2022, by means of an online video conference platform that was open to observers from the public. All participants in the proceedings attended via videoconference, including counsel for the Association of Professional Engineers of Ontario (the association or PEO); Mr. Paul D. Rew, P.Eng. (the member or Rew); and legal counsel for the member and Rubicon Environmental (2008) Inc. (Rubicon or REI).

PROCEDURAL HISTORY AND ALLEGATIONS

This matter came before the panel following a lengthy procedural history.

Specified allegations of professional misconduct against the member were originally referred to the Discipline Committee by the Complaints Committee in its decision of February 10, 2014.

The matter was heard by a panel of the Discipline Committee over multiple dates in 2017 and 2018. The panel delivered two sets of concurring decisions and reasons on November 16, 2018, and December 18, 2018, respectively, each signed by two members of the panel. Both decisions and reasons found that PEO had failed to prove the allegations of misconduct against the member and Rubicon.

Both of these decisions and reasons were appealed by PEO. In its ruling of October 22, 2020, the Divisional Court allowed the appeal, set aside the decisions of the initial panel and remitted the matter to the Discipline Committee. Leave to appeal to the Ontario Court of Appeal was denied in June 2021.

The members of the panel presided at a pre-hearing conference for this matter immediately prior to the hearing. The parties consented for the members to continue to serve on the panel for the hearing pursuant to section 5.3(4) of the *Statutory Powers Procedure Act*, R.S.O. 1990, c. S.22.

The allegations against the member and Rubicon as set out in the Statement of Allegations dated January 24, 2014, were as follows:

1. Conducting environmental assessment, sampling and remediation of a residential property that failed to meet the standard of a reasonable and prudent practitioner, amounting to professional misconduct as defined by section 72(2)(a), (d) and (j) of Regulation 941;
2. Producing a signed and sealed report that failed to meet the standard of a reasonable and prudent practitioner, amounting to professional misconduct as defined by section 72(2)(a) and (j) of Regulation 941;
3. Failing to take adequate measures to protect the welfare of the public, including the current and subsequent owners of a residential property, from soil and groundwater contamination, amounting to professional misconduct as defined by section 72(2)(b) and (c) of Regulation 941;
4. Providing engineering services to the public while not being the holder of a certificate of authorization contrary to s. 12(2) of the *Professional Engineers Act*, amounting to professional misconduct as defined by section 72(2)(g) of Regulation 941.

PLEA BY MEMBER AND HOLDER

The member and Rubicon denied the allegations of professional misconduct as set out in the Statement of Allegations.

AGREED STATEMENT OF FACTS

Counsel for the association advised that, notwithstanding the member's plea, the parties were entering an Agreed Statement of Facts (ASF).

Additionally, counsel for the association advised that the association was seeking to withdraw all allegations, except for the one allegation contained in the ASF set out below.

The ASF, signed by counsel for both parties on March 2, 2022, provided as follows:

1. Mr. Paul D. Rew, P.Eng. (Rew), is, and was at all material times, a professional engineer licensed in good standing pursuant to the *Professional Engineers Act* (the act). He has been an experienced soil remediator for 22 years and has successfully filed close to 80 Records of Site Condition with the Ontario Ministry of Environment (MOE).

2. Rubicon Environmental (2008) Inc. (REI) is an Ontario corporation and certificate of authorization (C of A) holder. At all material times while that C of A has been in force, Rew was listed as the individual accepting professional responsibility for engineering services provided under the C of A.
3. The complainant, Kevin J.D. Ridley, P.Eng., was, at the material times, a principal of Red Lea Environmental Corporation (Red Lea) located in Brampton, Ontario. Red Lea has a history of being a contractor for DLS Services Inc. (DLS), a competitor of REI, in this and in other matters.
4. On November 12, 2008, the owner of a residential property at 55 Doyle Avenue, Spanish, Ontario (the Property or House) reported a furnace oil leak in her above ground storage tank, which was located outside and adjacent to the House, to her insurance company. The insurance company estimated amount of leaked fuel oil to be between 15 and 20 litres.
5. On November 14, 2008, the insurance company retained DLS to conduct an investigation and propose remediation. Early on in its investigation, DLS estimated that the volume of the leaked oil was, in fact, approximately 100 to 150 litres; however, DLS later admitted that this estimate was meaningless and that the true volume of the leak was unknown. In any event, DLS concluded that the soil and groundwater at the Property had been contaminated and recommended that the House be demolished and the soil under and adjacent to the House be excavated.
6. The homeowner had previously reported a spill of furnace oil to the Technical Standards and Safety Authority (TSSA) on April 29, 1997 (the Historical Spill). The Historical Spill was estimated to be 700 litres of fuel oil. There is no report of any remediation of the Historical Spill. In Rew's opinion, DLS's borehole records did not show evidence of the Historical Spill.
7. On April 14, 2009, the insurance company retained Rew and REI to review the work of DLS, conduct its own assessment, and propose a remediation of the Property. According to Rew, the insurance company and Property owner advised him at the time of both the recently reported spill as well as the Historical Spill.
8. On April 29, 2009, Rew and REI signed and sealed a written report that stated that "the proposed demolition of the house and shed is not required." A second signed and sealed report of June 8, 2009, concluded that the Property met "MOE Regulations for residential land use." In neither report did Rew or REI refer to the Historical Spill. Rew was of the opinion that the Historical Spill had biodegraded.
9. On July 10, 2009, Rew and REI signed and sealed a final report certifying that following their assessment, sampling and remediation work, the Property "posed no significant risk in owning, financing or developing" and warranted "no further environmental investigation" at the time. Again, this report did not mention the Historical Spill.
10. Rew admits that his and REI's reports were lacking for failing to have referred to the Historical Spill in its conclusions.
11. Upon receiving the report by Rew and REI, the Property owner again retained DLS to conduct further assessment. DLS retained Red Lea to conduct supervision and peer review of its further assessment of the Property.
12. After the Property Owner had barred Rew from the Property in August 2009, DLS and Red Lea confirmed DLS's earlier conclusion that the soil and groundwater beneath the Property was contaminated with petrochemicals and was unsafe for residential use. Rew and REI had come to the contrary conclusion. The House was demolished in fall 2010, and an excavation of the affected soil was carried out.
13. The assessment, sampling and remediation work carried out by Rew and REI did not meet the minimum standards of a reasonable and prudent professional engineer for the following reasons:
 - a. Although retained specifically to investigate the petrochemical spill on the Property, Rew and REI determined it was not necessary to conduct further testing of soil and groundwater, as he had concluded there would be no detectable F2 (a type of petroleum hydro-

- carbon, or PHC) contamination by the spill or the larger 700 litre Historical Spill on the Property;
- b. The remedial interventions undertaken by Rew and REI did not explicitly address the Historical Spill;
 - c. As they understood that they had removed the source of F3 (another type of PHC) detection prior to rendering the report of July 10, 2009, and they had not detected F2 contamination, Rew and REI concluded it was unnecessary to account for potential rebounding of groundwater contaminants following certain remedial interventions during their environmental remediation of the Property;
 - d. Rew and REI acknowledge that, before certifying property as requiring no further environmental investigation and suitable for residential use, the minimum standards of responsible and prudent professional engineering generally require that an engineer perform additional testing following the remedial interventions undertaken by Rew and REI to account for the possibility of the rebounding of groundwater contamination; and
 - e. Rew and REI certified the property as requiring no further environmental testing and suitable for residential use on July 10, 2009, before any such testing had been performed and without Rew and Rubicon explaining (in their written reports, requested to be in a summary format by the insurance company, of April 29, June 8 or July 10, 2009) their view that such testing was not needed in this specific case. Rew and REI later became unable to perform any such testing for the reasons set out in paragraph 12.
14. Based on the preceding facts, the association submits that Rew and REI are guilty of professional misconduct as follows:
- a. By committing acts or omissions in the carrying out of the work of a practitioner that constitutes a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances, contrary to section 72(2)(a) of Regulation 941.

Counsel for the association indicated that the association would be calling no further evidence and closed its case.

Counsel for the member and Rubicon indicated that their position was set out in the plea and made no further submissions.

DECISION

The panel considered the ASF and finds that the facts agreed to therein support a finding of professional misconduct against the member and Rubicon. In particular, the panel finds that the member and Rubicon committed an act of professional misconduct as alleged in paragraph 14(a) of the ASF, namely by committing acts or omissions in the carrying out of the work of a practitioner that constitutes a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances, contrary to section 72(2)(a) of Regulation 941.

The panel also accepts the withdrawal of the remaining allegations.

REASONS FOR DECISION

The panel carefully considered the ASF submitted by and agreed to by both parties. It accepts that it can rely on the facts set out therein as evidence for the purpose of determining whether the member engaged in acts of professional misconduct as alleged.

Section 72(1) of Regulation 941 made under the *Professional Engineers Act*, R.S.O. 1990, c. P.28, defines negligence as follows: “an act or an omission in the carrying out of the work of a practitioner that constitutes a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances” (emphasis added). Section 72(2)(a) of Regulation 941 goes on to establish negligence, as defined above, as an act of professional misconduct.

Paragraph 13 of the ASF states that the “assessment, sampling and remediation work carried out by Rew and REI did not meet the minimum standards of a reasonable and prudent professional engineer...” (emphasis added). This fact, which was agreed to by the member and Rubicon, falls squarely within the definition of negligence in section 72(1) of Regulation 941 and is therefore an act of professional misconduct contrary to section 72(2)(a) of Regulation 941.

This conclusion is supported by other accepted facts in the ASF, including the following:

- The member admitted that “his and REI’s reports were lacking for failing to have referred to the Historical Spill in its conclusions,” and the “remedial interventions undertaken by Rew and REI did not explicitly address the Historical Spill.”
- The member and REI acknowledged that “before certifying property as requiring no further environmental investigation and suitable for residential use, the minimum standards of responsible and prudent professional engineering generally require that an engineer perform additional testing following the remedial interventions undertaken by Rew and REI to account for the possibility of the rebounding of groundwater contamination.” However, the member and REI certified the property as requiring no further

environmental testing and suitable for residential use prior to any such testing being performed and without explaining their view that such testing was not needed in this specific case.

Accordingly, the panel had no difficulty in finding that the member and Rubicon were negligent in their assessment, sampling and remediation work and had thereby engaged in professional misconduct as defined in section 72(2)(a) of Regulation 941.

Further, the panel accepted the withdrawal of the remaining allegations against the member and Rubicon as requested by the association. The panel noted that there was no evidence contained in the ASF or called by the association to prove the remaining allegations. The panel also acknowledged that this matter had a lengthy and complex procedural history and that the ASF was the result of negotiations between experienced legal counsel. In light of its finding of professional misconduct with respect to one allegation, the panel was of the view that accepting the withdrawal of the remaining allegations and bringing this matter to a conclusion was in the public interest.

The panel delivered its finding of professional misconduct orally with written reasons to follow.

PENALTY

Following the panel's finding of professional misconduct, counsel for the association advised that the parties had reached a Joint Submission on Penalty (JSP). The JSP, signed by counsel for both parties on March 2, 2022, provided as follows:

1. Within eighteen (18) months of the decision of the panel, Rew shall take and successfully complete at his own expense the following remedial courses in environmental engineering pursuant to s. 28(4) (d) of the *Professional Engineers Act* (the act):
 - a. The Educational Program Innovations Centre (EPIC) course on Environmental Site Assessment and Remediation (Course Code: 12-0412-ONL22)
2. In addition to paragraph 1 above, Rew successfully completed the "Florida Mold Remediator, Licensing Exam" offered by the National Association of Environmentally Responsible Mold Contractors in December 2018. The parties agree that this accomplishment should be considered positively by the panel in assessing this joint submission on penalty.
3. Pursuant to s. 28(4)(e)(iii) of the act, for a period not exceeding two (2) years, Rew and REI shall be subject to periodic practice inspection by the association (on two weeks' notice, during normal business hours), including on-site inspections, and shall promptly and fully respond to all reasonable requests for information or client files by the association.
4. For a period of three years, Rew shall be subject to practice supervision pursuant to s.28(4)(e)(i) of the act at his own expense and by a professional engineer acceptable to the association, but such penalty shall be suspended pursuant to s. 28(4)(k), subject to

the successful completion of remedial courses within the time period contemplated in paragraph 1 above;

5. Publication of the decision of the Discipline Panel, including the Agreed Statement of Facts, with full identification of the member; and
6. No order as to costs.

Neither counsel for the association nor counsel for the member and Rubicon made any substantive submissions regarding the JSP; however, the parties advised the panel that the member had already enrolled in the course outlined in paragraph 1 of the JSP.

PENALTY DECISION

The panel carefully considered the JSP. It is a well-established principle of law that a disciplinary panel should not interfere with a Joint Submission on Penalty except where the panel is of the view that to accept the joint submission would bring the administration of the disciplinary process into disrepute or otherwise be contrary to the public interest (see, e.g., *Bradley v. Ontario College of Teachers*, 2021 ONSC 2303).

In the circumstances of this case, the panel is of the view that the JSP proposed by the parties is reasonable and appropriately reflects the principles of penalty.

The requirement for the member to complete a course in environmental site assessment and remediation specifically addresses the concerns identified with respect to his practice and serves to both remediate the member and to protect the public. This is reinforced by the requirement that the member practice under supervision should he not successfully complete the course within a reasonable timeframe.

The panel also notes that the member has already completed a licensing exam in a related field and has already enrolled in the required course, which points to his willingness to improve and remediate his practice.

The requirement that the member be subject to periodic practice inspection by the association for up to two years also serves to protect the public by helping to ensure that the member has incorporated the lessons from this matter and the remedial courses into his practice.

The publication of the decision of the panel with the member's name serves both specific and general deterrence, in that it illustrates to both the member and the profession at large that instances of negligent practice will result in an appropriate response by the association and the Discipline Committee. Publication also helps to maintain the public's confidence in the discipline process.

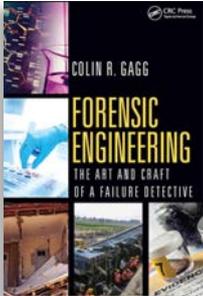
Overall, the panel is of the view that the JSP provides appropriate safeguards for remediating and monitoring the member's practice, ensuring that the public interest is protected and that confidence in the disciplinary process is maintained. In coming to this conclusion, the panel took note of the lengthy and complex history of the case and the desirability of achieving a fair and reasonable outcome without additional delay, expense or uncertainty.

Accordingly, the panel orders as follows:

1. Within eighteen (18) months of the decision of the panel, Rew shall take and successfully complete at his own expense the following remedial courses in environmental engineering pursuant to s. 28(4)(d) of the *Professional Engineers Act* (the act):
 - a. The Educational Program Innovations Centre (EPIC) course on Environmental Site Assessment and Remediation (Course Code: 12-0412-ONL22)
2. Pursuant to s. 28(4)(e)(iii) of the act, for a period not exceeding two (2) years, Rew and REI shall be subject to periodic practice inspection by the association (on two weeks' notice, during normal business hours), including on-site inspections, and shall promptly and fully respond to all reasonable requests for information or client files by the association.
3. For a period of three years, Rew shall be subject to practice supervision pursuant to s.28(4)(e)(i) of the act at his own expense and by a professional engineer acceptable to the association, but such penalty shall be suspended pursuant to s. 28(4)(k), subject to the successful completion of remedial courses within the time period contemplated in paragraph 1 above.
4. This Decision and Reasons shall be published including the Agreed Statement of Facts, with full identification of the member.
5. There shall be no order as to costs.

Robert Willson, 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: Warren Turnbull, P.Eng., and Eric Bruce, J.D.

READ



Forensic Engineering: The Art and Craft of a Failure Detective, by Colin R. Gagg, PhD, 2020: A forensic engineer synthesizes current academic knowledge and recent advances in process and techniques to bring forensic materials and engineering analysis into the 21st century.

Illumination of Artificial Intelligence in Cybersecurity and Forensics, by Sanjay Misra, PhD (author), and Chamundeswari Arumugam, PhD (editor), 2022: An overview of topics from industry to academics, including AI-assisted forensics, image authentication and facial recognition, with applications that include healthcare, security and e-payment systems.

LISTEN

The Structural Engineering Podcast
Two engineers explore structural engineering topics and highlight engineering firms and their projects.

Sean Brady Podcast
Forensic engineer Sean Brady discusses engineering failures and disasters.



The following events may have an in-person and/or online component. See individual websites for details.

ATTEND

JULY 22–24
National Academy of Forensic Engineers Summer Conference, Toronto, ON

JULY 24–25
International Conference on Nanoscience, Nanotechnology and Advanced Materials, Hamilton, ON

JULY 24–25
International Conference on Science, Technology, Engineering and Management, Hamilton, ON

JULY 26
International Conference on Electrical, Electronics, Communication and Robotics Engineering, Toronto, ON

JULY 26
International Conference on Electrical and Control Engineering, Toronto, ON

JULY 26
International Conference on Electronics, Information and Communication, Toronto, ON

AUGUST 5
International Conference on Automation Science and Engineering, Montreal, QC

AUGUST 30
International Conference on Recent Advances in Engineering and Technology, Toronto, ON

SEPTEMBER 17–21
International Federation of Hospital Engineering Conference, Toronto, ON

LISTEN

The Civil Engineering Podcast
A podcast dedicated to helping civil engineers enhance their careers by teaching them critical non-technical or soft skills



Create the Future
This podcast explores different areas of engineering and brings together knowledge, experience and ideas.

Reimagine STEM
What does the future hold for engineering and computer science education?

WATCH

6 Construction Failures and What We Learned From Them
Things can go wrong in scientific experiments, but when it comes to engineering, getting things wrong can be disastrous.

Buildings at Work: The Forensic Engineering Unit
The forensic engineering unit in New York City is charged with assessing the structural stability of buildings during major emergencies and overseeing their repairs.

When and Why Do Buildings Collapse?
Buildings are engineered to be sturdy and withstand the test of time, but sometimes things can go terribly wrong.



NEARING the finish line

Persistence pays off for PEO President Nick Colucci, whose collaborative spirit and unshakeable pursuit of the presidency is helping PEO during the most transformative journey in its 100-year history.

BY MARIKA BIGONGIARI

Cyclists are accustomed to travelling the road ahead. Whether the path that unfolds before them is smooth, under bright skies, or one that becomes dark, rough and muddy under the deluge of a summer storm—rain or shine, through ups and downs—they stay the course. Nick Colucci, MBA, P.Eng., FEC, an avid cyclist, could give a master class in persistence. After all, he won the PEO presidency on his third try. In the years that followed the 2019 external review of PEO's regulatory performance, resulting in 15 key recommendations, Colucci's predecessors have laboured to keep the momentum going in a transformation effort unparalleled in the organization's history. And if persistence gets results that are hard earned,

it may be just the leadership quality PEO needs to cross the finish line.

In June, Colucci participated in the Wounded Warriors Canada (WWC) Battlefield Bike Ride, which saw participants pedal 400 kilometres from France to Belgium in five days to fundraise for WWC's national mental health programs benefiting ill and injured veterans, first responders and their families. Now back from that journey, he continues to navigate a similarly challenging path. Moving PEO forward on its transformation journey is critical at this stage of its modernization effort, and Colucci's persevering spirit makes him well



An avid cyclist, Nick Colucci participated in the Wounded Warriors Canada Battlefield Bike Ride—a 400-kilometre ride from France to Belgium—in June to fundraise for the organization’s national mental health programs benefiting veterans, first responders and their families. Photo: Wounded Warriors Canada

suiting to guide the regulator during its milestone 100th year. His term as president comes as PEO makes notable accomplishments towards becoming the regulator it aims to be, such as the recent completion of the Governance Roadmap, a two-year mission to review and modernize all aspects of PEO’s governance structure. But much work remains, and success demands co-operation.

SHIFTING PERSPECTIVES

When Colucci’s mother suffered a serious health setback and had to undergo emergency surgery during his tenure as East Central Region councillor, the experience understandably had a profound effect on him and his family. While acting as her health advocate during a lengthy recovery, Colucci decided to make a run for Council executive and the vice presidency. He wasn’t successful in that bid but soon resolved to go for the top job instead and made three additional campaigns for the presidency. On his third run, he cinched president-elect in 2021.

Colucci, an enthusiastic and dedicated volunteer, has devoted a remarkable 35 years of service to PEO. He believes in giving back to the community and views volunteering as a means of advancing professionalism in engineering. As such, he’s been a member of numerous PEO committees and task forces, including the Discipline Committee since 2005, as well as the Finance Committee, Regional Councillors Committee and the Advisory Committee on Volunteers. A staunch

PEO chapters advocate, Colucci participated heavily in the chapter system and began his volunteer service with PEO as chair of the Lake Ontario Chapter, a position he held for 12 years before relocating to Peterborough, ON. There, as a member of the Peterborough Chapter executive, he was inspired to run for PEO Council and subsequently served as both East Central Region and Eastern Region councillor.

In addition to volunteering with PEO, Colucci devotes his time to many other organizations, including the Ontario Society of Professional Engineers (OSPE) and being a board member for the Municipal Engineers Association, Ontario Public Works Association and Canadian National Exhibition Association, as well as president of Durham Region Public Works Association. Colucci also volunteers for Ontario One Call and has participated in and organized numerous fundraising events, such as the CN Tower climb to support World Wildlife Fund, the Walk a Mile in Her Shoes event to support victims of domestic abuse and numerous cycling events, including the Heart & Stroke Ride for Heart and several outings with WWC.

A STRONG FOUNDATION

Family clearly matters to Colucci. While recalling his upbringing, he points out that the farmhouse he grew up in still stands today at the Bowmanville, ON, farm where he spent the formative years of his childhood. At that time, his father worked for General Motors and farmed day and night around his shifts, modelling for Colucci an exceptionally determined work ethic. When the family moved to Whitby, ON, his dad started a construction company specializing in excavation, including septic tank connections and swimming pools. It didn’t take long for a young Colucci to become interested in a career that focused on building things, too. He soon enrolled in the civil engineering program at the University of Waterloo, where he was drawn to the co-op program so he could earn income during his studies.

Colucci enjoyed a variety of co-op placements, including at the Canadian National Railway, a Dupont factory and the Region of Durham. The latter foretold his present-day municipal work: Colucci is currently the director of infrastructure services and engineer for the Town of Erin, ON, and has a history of working for municipalities. Previously, Colucci was director of public works for both the Township of Brock in Durham Region, ON, and Tay Township in Simcoe County, ON. Earlier, he worked as a consulting engineer—first at G. M. Sernas and Associates Ltd. as both a construction and project manager, a full-time gig born of his





final co-op placement at the firm as an engineering student. Next, Colucci founded Greenrock Engineering Limited in Vaughan, ON, where he spent two decades before returning to municipal work in a full-circle moment.

WORKING TOGETHER TO CROSS THE FINISH LINE

Colucci's experience working with municipalities instilled in him a deep appreciation for co-operation. He's committed to doing his part to make PEO an agile, modern regulator that delivers on its mandate to protect the public interest and enthusiastic about tackling the work ahead with the help of Council and PEO staff. He is tasked with keeping Ontario's engineering regulator moving forward on the sometimes-challenging path of its multi-year change initiative. It's not a task for the uninitiated, but it's one Colucci has wholeheartedly embraced. When, as a regional councillor, licence holders encouraged him to run for president, he heeded the call: "Members were saying, 'You should run for president. We need a president who's going to move this stuff forward,'" recalls Colucci. "So, that, along with the advice of my peers, is why I decided to run."

Co-operation will be essential to address the numerous projects Council is tasked with. First and foremost, according to Colucci, is the recruitment of a replacement for PEO's retiring CEO/registrar, Johnny Zuccon, P.Eng., FEC. "That's going to be top priority," observes Colucci. "We have a committee set up to do that." Colucci stresses the importance of securing a new CEO/registrar who will support PEO through its modernization. Also up this year is the development of an updated strategic plan to continue building on PEO's governance work, as well as streamlining the licensing process. PEO must prepare for the removal of the Canadian experience requirement to comply with the newly amended *Fair Access to Regulated Professions and Compulsory Trades Act* (FARPACKTA) legislation, which comes into effect next year. "That's going to be a big deal," says Colucci, citing the importance of making PEO's licensing processes more inclusive for international engineering graduates. "The licensing group is already working on that, but there are a lot of changes that must be moved

through Council," Colucci notes. "This will require revamping the whole system."

Also pending is the implementation of PEO's mandatory continuing professional development (CPD) program. "As a regulator, we need to demonstrate that public safety is important to us," says Colucci. "How do we guarantee that now? We really don't." Colucci explains that he graduated in 1987 and has been practising engineering since then, but there's currently no way for him to show PEO he's still professionally qualified. There is only the promise that, ethically, he must know he's qualified to do the engineering work he's undertaking. "Ultimately, it engenders trust, and that's why CPD [as a requirement to practice] must be implemented," he notes. "Plus, there are no other regulators that don't do it—they all do."

Another project Colucci is advocating for is the development of a volunteer remuneration policy, or stipend. As an authority on volunteering, Colucci thinks it important to recognize the significant time commitment associated with volunteering. He notes PEO's hundreds of volunteers devoted to committees, task forces, Council and other areas. "Having a volunteer stipend would be beneficial towards getting higher quality and easier-to-retain volunteers. Some of these committees require a lot of work," Colucci reflects. "Council requires a lot of work."

A notable leftover from the Governance Roadmap is the recommendation to rightsize Council, which wasn't addressed during Phase 3, prior to Colucci assuming the presidency. It's also one of several goals Colucci highlighted on the election platform that won him the presidency and is in alignment with Council's to-do list. "Having a rightsized Council would enable it to be more agile and future ready, one that's able to react to change more quickly," says Colucci, who notes that most regulatory boards are much smaller than PEO's. However, given the volume of important projects at hand, he's unsure Council will address it this year. "There are big projects we're working on, so we may not get to it—but ultimately, the goal would be to have a rightsized Council," he acknowledges. "Sometimes there's resistance to change."



LOOKING BACK ON THE ROAD AHEAD

When considering what a successful tenure as president might look like, in addition to accomplishing the major projects on Council's plate, Colucci hopes to have a more collaborative Council that's less resistant to change by the time the term is up. Reflecting on the experience of working through the Governance Roadmap, for example, Colucci notes much disagreement and division. "I hope that at the end of my term, we have a more collaborative Council that works together for the common goal, which is to be an excellent regulator that protects the public interest," says Colucci. "We need everyone on Council to understand that we're a board of directors managing a regulatory body."

Colucci is keen to help PEO cross the finish line of its numerous change initiatives. And although Colucci was sometimes the dissenting voice on Council in previous years, he sees the importance of Council moving forward and not getting stuck—a cyclist knows that to keep your balance, you must keep moving. "I want people to understand that once Council makes a decision, we should follow through and get it done," Colucci explains. He's confident that if Council works together to tackle the major projects set before them, by the end of his term they will have accomplished what they needed to. Arriving at a destination requires forward momentum, particularly when moving through challenging ground. "We're going to be tired at the end of this term," he concludes. **e**

WHEN A FORENSIC ENGINEER becomes an expert witness



Engineers can be called upon to act as expert witnesses in legal proceedings—from examinations of discovery to coroner’s inquests. *Engineering Dimensions* spoke with professionals in forensics and law to learn how engineers are chosen for this role—and their legal, ethical and professional obligations.

By ADAM SIDSWORTH

ON JUNE 16, 2012,

English rock band Radiohead was scheduled to perform a concert at Downsview Park in Toronto, ON. The park, a former Royal Canadian Air Force base, did not have a permanent concert venue, so a temporary stage had to be brought in and constructed at the park. Unfortunately, just a few hours before the band was set to perform, the temporary stage collapsed. Three people were injured, and Radiohead's drum technician, Scott Johnson, was killed. Forensic engineers from the Ministry of Labour, Training and Skills Development (MLTSD) investigated the collapse and discovered that 27,000 kilograms of equipment collapsed because, among other reasons, the weight of the stage's suspended grid system was miscalculated and 16 ballasts were installed incorrectly, including three not connected to any stage component.

The MLTSD charged the concert promoter, Live Nation; the stage's contractor, Optex Staging; and former engineer Domenic Cugliari with 13 offences under the *Occupational Health and Safety Act*. However, no verdict was ever given: The original trial judge was appointed to the Ontario Superior Court and lost jurisdiction just before he could write the verdict, and the new judge stayed the charges, citing the defendants' right to a timely trial. That accountability eventually did come: Cugliari faced PEO's Discipline Committee, which convicted the former engineer of professional misconduct in 2020.

A 2019 coroner's inquest into the stage collapse also issued 28 recommendations, 21 of which were directed to PEO. PEO ultimately acted on some of those recommendations, including requiring engineers to annually declare the areas of engineering they are practising. In 2020, PEO also published its *Design Evaluation and Field Review of Demountable Event and Related Structures* guideline. (However, work on the guideline began before the coroner's inquest.)

IMPACTS OF THE STAGE COLLAPSE

Ten years later, the stage collapse at Downsview has had lasting effects on the regulatory work of PEO. That deadly incident, along with the collapse of the roof of the Algo Centre Mall in Elliot Lake, ON, just seven days later—where two retail employees died—are major contributing factors to PEO's introduction of mandatory continuing professional development this January. However, both incidents involved investigations by forensic



The 2012 stage collapse at Toronto's Downsview Park is the topic of a forensic engineering conference in late July, focusing on forensic engineers' ethical and professional responsibilities.

engineers—and it is the complexities of the Radiohead investigation that Daniel P. Couture, P.Eng., DFE, FEC, plans to use as a source of discussion at a conference of the National Academy of Forensic Engineers (NAFE) in Toronto later this month.

"This is the first time that NAFE has come north of the border," observes Couture, who organized the conference with the help of Roger Jeffreys, P.Eng., DFE, of the MLTSD. The conference includes a seminar that will incorporate the Radiohead panel discussion, which will have engineers and lawyers from the MLTSD, as well as lawyers in private practice, representatives of PEO and the Ontario Society of Professional Engineers and even the supervising coroner from the Radiohead coroner's inquest.

"The seminar includes a refresher on ethics, on [engineers'] duties to the public," Couture explains. "And better communication between lawyers and engineers following the Rules of Civil Procedure [in Ontario]. Then we're going to have a talk from local lawyers on the differences between the approaches in Canada and the United States for investigations, procedures and insurance recovery processes." Couture notes that he organized the educational conference partly because he believes an engineering degree, licence and work experience in themselves do not necessarily provide the appropriate tools to be a good forensic engineer.

Couture, who is the principal mechanical, metallurgical and collision reconstruction forensic engineer at Arcon Forensic Engineers, is also a director-at-large for the US-based NAFE, which has a mandate to advance the ethical and professional practices of forensic engineers as well as providing many continuing professional development opportunities for forensic engineers. Couture is an advocate of forensic engineers' ethical responsibilities and their continuing upkeep of their professional development. This is critical, since unlike traditional engineering disciplines, forensic engineering is a multidisciplinary



Doug Perovic, PhD, P.Eng., is an engineering professor at the University of Toronto, where he founded the country's only certificate program in forensic engineering. Perovic also works in the field as a forensic engineer, including examining the origin of a mechanical failure that resulted in a large fire 20 storeys up at a petrochemical plant in Alberta (top) and performing a visual examination of a failed support ring in a dehydrogenation reactor (bottom).



helps engineers navigate the tricky world of forensic investigations—how they must be carefully planned, with terms of reference established by the engineer while maintaining the integrity of an investigation scene.

HOW A FORENSIC ENGINEER INVESTIGATES

Couture found himself practising forensic engineering by accident. After Couture earned his undergraduate and master's degrees, he started off as a technical representative at Dupont, where he worked as a technical liaison between Dupont and the public. He also had similar positions with Alcan and CN Rail. Couture suspects that this focus on communication early on in his engineering career made his transition to Arcon, a forensic engineering firm, a natural fit.

According to Couture, forensic engineering is about effectively communicating technical information to a lay audience: "We have to put ourselves in [the legal profession's and jury's] shoes," says Couture. "What you want to do is make [the technical information] so it's sharp and it's precise and concise. I have a file right now where I'm trying to explain in a [layperson's language] that there's an interaction between a vehicle and something that caused it to trip and roll. In that discussion, I have to say, 'In physics, you have cause and effect.' And then it came to me to say, 'If you're on hockey skates and you go to stop, you turn sideways. If you turn the right way, you slide to a stop and everything's fine. If you try to jam your skates into the ice, you trip and fall.'"

Although forensic engineering involves extensive investigative work, Couture notes that because of the costs of litigation few cases wind up in court, with the forensic engineer writing a matter-of-the-fact report. But he recognizes that the more serious the incident, the more likely that an inves-

approach to technical problem-solving with no formal undergraduate program in Canada that specifically teaches forensic engineering—although the University of Toronto (U of T) offers a certificate in forensic engineering.

Couture is a big advocate of forensic engineers utilizing the two PEO guidelines geared towards forensic engineers: *The Professional Engineer as an Expert Witness* and *Forensic Engineering Investigations*. The first guideline details how an engineer is qualified by the courts as a witness in legal proceedings and goes through how to testify and write an expert report and reminds engineers of their ethical obligations as a neutral and impartial expert. The latter guideline

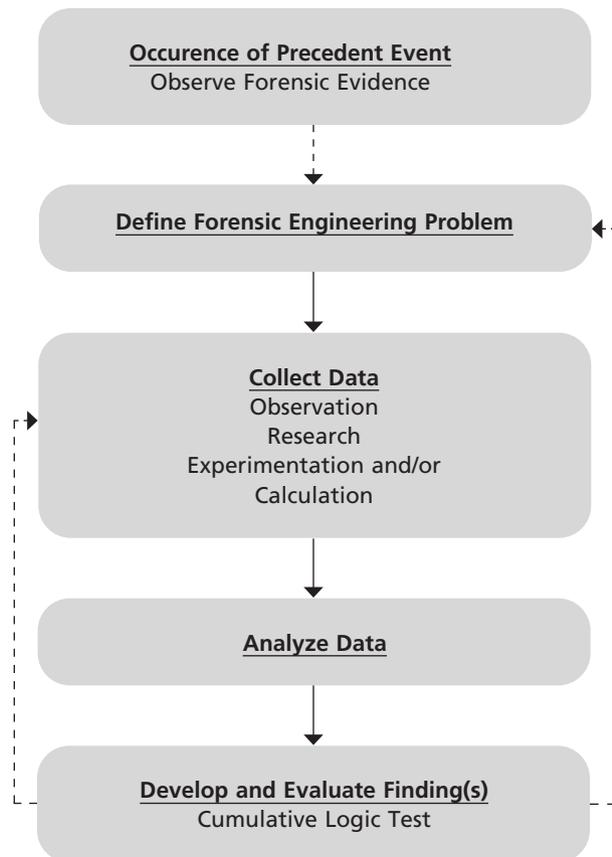
tigation will be instigated, either by the insurance company or by the MLTSD, which typically becomes involved when a death happens at a worksite. "The bread-and-butter stuff would be investigating a toilet hose connector failure," notes Couture. "It's on the second or third floor of somebody's house, and the plastic nut breaks. Nobody's home and the place is flooded. Or we can have an intersection where there's a collision where one guy has a green light, and the other guy doesn't time it right, and they have a collision. If a house burnt down, we need to know why. Did the laundry cause it to burn, or was it arson? We work mostly with insurance adjustors and examiners at the beginning and with legal counsel as the proceedings move along."

Doug Perovic, PhD, P.Eng., professor and Celestica chair in materials for microelectronics and co-director of the Ontario Centre for the Characterization of Advanced Materials at U of T, notes that forensic engineering is unique because of its approach to problem solving. "In [most] engineering, we follow a bottom-up design research and development approach—bottom-up, which is forward-logic inductive reasoning. That's virtually what all of engineering is," says Perovic, who has consulted in a forensic engineering capacity in numerous cases and founded U of T's certificate in forensic engineering program in 2017. "You think of a problem, you want to design something, you come up with an idea, you do some prototyping and testing and iterate and optimize and come up with solutions."

However, in his certificate program, Perovic stresses to students that forensic engineering necessitates an opposite approach—reverse logic deductive reasoning working backwards to find an incident's root cause. "You are given a unique incident to investigate—a stage collapse or a malfunctioning device used in a medical procedure or a failed connection weld in a crane collapse—and you have to start with that one final point in time and work backwards, reconstruct and reverse engineer," notes Perovic. And because of this approach, Perovic stresses the need to avoid many types of potential expectation bias and confirmation bias or tunnel vision. "That's really important," acknowledges Perovic. "I go through how to identify the different biases and how to avoid getting trapped because most [biases] are subconscious, and you don't even realize what is going on."

QUALIFYING AN EXPERT WITNESS

When engineers are qualified to be an expert witness in a case, they investigate and write a report well before the case gets to court. Brett Rideout, LLB, has been to trial multiple times, but he says most cases typically settle during the litigation



A chart demonstrating the forensic engineering investigation method. Credit: *Journal of the National Academy of Forensic Engineers* and Laura Liptai, PhD.

process. However, that doesn't negate the need for an expert witness to understand their role.

"When you call an expert at trial, they're giving an opinion," observes Rideout. "They're talking about the facts of their investigation, but, ultimately, they're giving an opinion. And that's different from any other witness. If I just put somebody [on the stand] who owns a house that burnt down, they can't provide an opinion about how the fire started. You're not allowed to provide opinion evidence." But even if a case never gets past the litigation process, the engineer's report is still a crucial part of the evidence, with lawyers routinely settling based on the expert evidence of engineers from both sides.

Rideout, a lawyer now working under his own firm, Rideout Law, has spent his nearly 25-year legal career practising subrogation and recovery work. Subrogation involves insurance companies attempting to recover the money they pay out to their clients after an incident. For example, if a homeowner's house suffers water damage because its pipes burst and the insurance company pays the homeowner for the cost of repairs, the insurance company may opt to pursue financial compensation. Rideout has come to enjoy co-operating with forensic engineers on the investigative side of cases like this in his practice. "I've done fire losses. I've gone up north to oil fields. I've been in the



Daniel P. Couture, P.Eng., DFE, FEC, is a forensic engineer and consulting engineer at Arcon Forensic Engineers. Couture is hosting an NAFE conference in Toronto that will use the Radiohead stage collapse as an entry point to discuss the professional and ethical responsibilities of forensic engineers.

mechanical rooms of most of the office buildings of downtown Toronto,” Rideout says. “I enjoy talking with engineers and trying to figure out what happened.”

Rideout also represented Live Nation in civil proceedings related to the Radiohead stage collapse, and it was through his work with Live Nation that Couture invited Rideout to participate at this month’s NAFE conference. Rideout recognizes the high standards that engineers are held up to be qualified as a witness. “In the last five years, it used to be if you were a P.Eng. and you went in front of the court, they’d be like, ‘Wow! You’re an engineer. You can give an opinion,’” observes Rideout. “But they have started to narrow down and say, ‘Sure, you’re a P.Eng., but do you have any experience in what you’re talking about?’ If you’re a mechanical engineer or a civil engineer with no experience in fire investigations, they’re not going to let you get up on the stand and talk about what caused the fire. You’ve got to have actual knowledge and experience in whatever area you’re investigating.”

The qualifying process is an intensive examination, during which both sides of a litigation can scrutinize the potential expert’s qualifications in relation to the case. “You have to go through a process where you submit the resume or the CV of the expert to the court,” notes Rideout. “And then you put [the expert] forward to the court, and you say, ‘I would like to qualify XX as an expert to provide an opinion

in respect to the cause or the failure in the warehouse.’ The other side gets an opportunity to challenge the qualifications of the expert. And then the judge will ultimately say yes or no to whether the person is qualified. Once they’re qualified, you can start asking them their opinion about the failure.”

WHAT A FORENSIC ENGINEER NEEDS TO REPORT

Although Rideout regularly retains engineers who work exclusively in forensic engineering—typically at a forensic engineering firm—it’s the expertise of the engineer aligning to a particular case that Rideout values over the length of the experience. Additionally, Rideout points out that all expert witnesses in Ontario—including forensic engineers—have a duty to the court by signing a Form 53, requiring them to be impartial. Indeed, Rule 53.03(2.1) of R.R.O. 1990, Reg. 194, Rules of Civil Procedure explicitly dictates how expert reports are to be written: Expert witnesses must back up their independent opinions with a description of the factual assumptions and a list of all documents they have used to form their opinions.

PEO’s *The Professional Engineer as an Expert Witness* guideline also gives guidance on documentation when acting as an expert witness in a legal proceeding. “Any report prepared as an expert opinion must set out, in its entirety, the substance of the witness’ proposed testimony,” the guideline notes. “It is important to ensure that the client, his or her counsel, the other side or the court or tribunal are not misled by a report that overstates the client’s position, or by failure to give proper emphasis to adverse or competing considerations.” The guideline also points out engineers’ obligations under PEO’s Code of Ethics, which states, among other things, “a professional engineer’s duty as a witness to provide only competent, unbiased testimony.”

For Couture, forensic engineers acting in a capacity as an expert witness must be extra diligent in their ethical responsibilities: “We go into places where we have to act in the interests of the public in the situations where we testify...We’re there because we’re trying to let the court have all the evidence and allow them to assess the liability between the parties.” And although most forensic engineering cases will not be as complicated as the Radiohead investigation, this month’s conference, with its focus on such a big case, will be a useful refresher on the forensic engineer’s responsibilities. [e](#)

INTRODUCING PEO COUNCIL 2022–2023

EXECUTIVE COMMITTEE



**Nick Colucci, MBA, P.Eng., FEC,
President**

Nick Colucci received his engineering degree in civil engineering with a management sciences option from the University of Waterloo in 1987. He is currently working as the director of infrastructure services and engineer at the Town of Erin, ON, where he manages the infrastructure, roads, recreation, water, wastewater and engineering departments. Colucci started his career 35 years ago at a consulting engineering firm, where he was responsible for various stages of infrastructure projects, including design, construction management, contract administration and project management. Colucci went on to open his own firm, which he operated success-

fully until eventually moving to a municipality in 2008. He has volunteered for PEO throughout his 35-year career, including holding positions as East Central Region councillor and Eastern Region councillor. He currently holds positions on volunteer boards, including the Municipal Engineers Association, Ontario Public Works Association and Ontario One Call board of directors. In the past, Colucci held several volunteer board positions, including the Durham Public Works Association presidency, Canadian National Exhibition board of governors, National Spa and Pool Institute Toronto president, Bethesda House Ride for Refuge Committee, Waterloo Engineers in Toronto president, Emily-Omemee Skating Club president and St. Paul Catholic School Council. Colucci continues to volunteer his time for several philanthropic organizations and participated in the 2022 Wounded Warriors Canada Battlefield Bike Ride to celebrate, commemorate and reflect on Canada's 100 days to victory during the last 100 days of the First World War. ncolucci@peo.on.ca



**Roydon Fraser, PhD, P.Eng., FEC,
President-elect**

Roydon Fraser received a bachelor's degree in engineering physics at Queen's University and his master's degree and doctorate in mechanical and aerospace engineering from Princeton University. He is a professor in the mechanical and mechatronics engineering department at the University of Waterloo. He joined PEO in 1991, serving on the executive of the Grand River Chapter (formerly the Kitchener-Waterloo and Guelph-Cambridge chapters) starting in 1993 and chairing the chapter in 1996. From 1998 to 2019, Fraser served nine times (18 years) as an elected PEO councillor and served on many PEO committees, including the Academic Review Committee from 1998 to 2022. Fraser supervises the Uni-

versity of Waterloo Alternative Fuels Team (UWAFT), which competes internationally in the Advanced Vehicle Technology Competitions (AVTC). From 2022 to 2026 UWAFT will be competing in the next AVTC series, the EcoCAR EV Challenge to design, build and test the next generation of electrified connected automated (e.g., autonomous) vehicles. As UWAFT team advisor, Fraser's team has many technical awards and received the EcoCAR Women in STEM Award for four consecutive years (2019, 2020, 2021 and 2022). Fraser received the 2014 US National Science Foundation Outstanding Long Term Faculty Advisor Award. His research interests include vehicle powertrain design, vehicle emissions health impacts; compressed air energy storage; deep geothermal energy; thermoacoustics; oilsands tailings pond elimination; and remote sensing indicators of urban, crop and ecosystem health and development. He is a member of the Society of Automotive Engineers and the American Society of Mechanical Engineers and is a lifetime member of the Sandford Fleming Foundation. rafraser@uwaterloo.ca



**Christian Bellini, P.Eng., FEC,
Past president**

Christian Bellini began his engineering career in 1995 at a small structural engineering firm called Blackwell. Today, he is a principal at the same firm, now with a staff of 60 and offices in Toronto and Waterloo, ON; Victoria, BC; and Halifax, NS, and an international portfolio of projects. A key characteristic of the firm is engineering engagement at all levels, allowing Bellini to carry out engineering design daily in addition to his administrative duties. His volunteer career at PEO began in 2005, when he joined the Experience Requirements Committee, serving in later years as its vice chair and chair. Over the years he has served on (and in some cases chaired) many

of PEO's regulatory committees and task forces. He was first elected to PEO Council in 2016 and served as PEO's 2021–2022 president. In 2018, and again in 2022, he was appointed to the board of directors of Engineers Canada. There, he served on Engineers Canada's Finance, Audit and Risk Committee and on the Canadian Engineering Qualifications Board. He has contributed to various Engineers Canada initiatives, including competency-based experience assessment, the Canadian Framework for Licensure and as vice chair of PEO's 30 by 30 Task Force, whose mandate relates to the Engineers Canada initiative to see 30 per cent of newly licensed engineers be women by 2030. On an academic front, Bellini has taught structures courses at the University of Waterloo and Laurentian University. He is also frequently invited as a guest critic at Architecture Studio Reviews at University of Toronto, Toronto Metropolitan University and Dalhousie University. cbellini@peo.on.ca



**Gregory Wowchuk, P.Eng.,
Vice president (elected)**

Gregory Wowchuk holds a BAsC degree from the University of Windsor and a diploma in electrical technology from the former Ryerson Polytechnical Institute (now Toronto Metropolitan University), reflecting his affinity for both the theoretical and the practical. Along with his engineering education, Wowchuk has also taken courses in psychology and effective communication. He won second prize in the 1982 Ontario Engineering Design Competition. Wowchuk began his career in the defence systems division of Spar Aerospace Limited, and he is currently president of Wheatfield Instrument Corporation Ltd. and a special advisor to Dynamic Solutions Institute of Applied Knowledge Inc. in

Detroit, MI. He has served as PEO councillor-at-large (2018–2020), a lieutenant governor-in-council appointed councillor (1997–2000) and chair of the former Communications Committee (1997–1999). He was also a co-founder of Engineers for Engineers (1997), Ontario Engineers for Democracy on Council (2011) and Ontario Engineers for Grassroots Democracy (2017). He is an ardent supporter of the self-regulation model of our profession and speaks often against bureaucracy and waste. His commitment to grassroots democracy spans several decades: He has run for Toronto City Council (2003 and 2006), served as a provincial returning officer (Etobicoke-Lakeshore) (1998–2003) and has co-founded several citizens' advocacy groups. He was also president of the Etobicoke Historical Society (2004–2007). Wowchuk holds a black belt in traditional Japanese karate, is an aficionado of old cars and enjoys pulling, modifying and rebuilding their engines. Wowchuk views the role of PEO Council as serving the profession and protecting the public interest. He firmly believes these two functions are not mutually exclusive. gwowchuk@peo.on.ca



**Lorne Cutler, MBA, P.Eng.,
Vice president (appointed)**

Lorne Cutler graduated with a BAsC in chemical engineering from the University of Toronto in 1979. He worked for Dow Chemical for four years in Fort Saskatchewan, AB, before returning to the Ivy School of Business at Western University, where he completed his MBA in 1985. In 1985, Cutler joined Export Development Canada (EDC), where he was responsible for signing loans in excess of \$1 billion in India and the countries of central and eastern Europe and the former Soviet Union. In his capacity as senior advisor, Africa, Europe and Middle East in EDC's International Business Development Group, Cutler was primarily responsible for country and sector development strategies, relationship management with

Canadian banks and exporters interested in the region and implementation of financing facilities with international financial institutions. Upon early retirement in 2009, Cutler started a consulting firm, LAC & Associates Consulting, which focused on the areas of policy analysis and development, training, personal finance, personal taxation preparation and strategies, municipal finance, small business consulting, social finance and international business development. For several years prior to 2019, Cutler delivered a Professional Practice Exam training course for international engineering graduates for the Ontario Society of Professional Engineers (OSPE). He received a Queen Elizabeth Diamond Jubilee Medal, Ontario 150 Award and Ontario Volunteer Services Awards for his volunteer work with such organizations as Ottawa Community Loan Fund and Jewish Family Services of Ottawa. For several years, Cutler has also been president of his local community association and treasurer of the Federation of Citizens' Associations. Cutler is chair of PEO's Audit and Finance Committee. lcutler@peo.on.ca



**Scott Schelske, P.Eng., FEC,
Appointed councillor**

Scott Schelske is a retired professional engineer in Ontario who worked for 47 years after graduating with a BSc in mining engineering from Queen's University in 1975. His extensive experience in operations, engineering, construction and consulting includes decades in a supervisory or managerial capacity of over \$1 billion in capital projects. He has experience in education as both a high school teacher and headmaster of an underground mine training facility and was certified as an industrial and safety trainer. Notable positions include chief engineer at the Griffith Mine, the largest mining operation in Ontario at the time; quarry manager of Cold Spring Granite Company, the largest granite quarrier in

the world; regional mineral development consultant with the Ontario Ministry of Northern Development and Mines, where he was nominated for an Amethyst Award and was the Ontario Government's team leader for permitting of over 50 mining ventures; and manager of mining and engineering at the Lac Des Iles Mine, North America's largest palladium producer. Schelske left mining and transitioned into civil engineering with a local consulting firm and spent the last 15 years of his career working with Indigenous Peoples managing two Tribal Council technical services departments. As such, he was the professional project manager for over 100 capital projects, plus the construction or renovation of over 200 housing units for the Anishinaabe People. Schelske held various positions on the executive for PEO's Lake of the Woods Chapter for 22 years, was named a fellow of Engineers Canada and inducted to PEO's Order of Honour for 2020. He was also given a lifetime achievement award by the Worldwide Who's Who for technical and engineering professionals. sschelske@peo.on.ca

COUNCILLORS-AT-LARGE



Leila Notash, PhD, P.Eng., FEC

Leila Notash is a professor in the department of mechanical and materials engineering at Queen's University and was previously an assistant professor at the University of Windsor. Notash grew up in Iran and received her BAsC, MASc and

PhD degrees in mechanical engineering from the Middle East Technical University, Turkey; University of Toronto; and University of Victoria, respectively. Licensed by PEO in 1996, she joined PEO as a member of the Academic Requirements Committee (ARC) in 2003, served as the vice chair and then chair of ARC from 2015 to 2018 and was vice chair of the Kingston Chapter from 2015 to 2019. Notash is an associate editor (AE) of *Mechanism and Machine*

Theory and the American Society of Mechanical Engineers (ASME) *Journal of Mechanical Design* (2022-2024) and was an AE (2014-2020) and guest AE (2021-2022) of the ASME *Journal of Mechanisms and Robotics* and *CSME Transactions* (1999-2017). She was the symposium/program chair/co-chair of ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference. She was a member of the Canadian Committee for the Theory of Machines and Mechanisms executive (1998-2004) and International Federation for the Theory of Machines and Mechanisms Permanent Commission on Communications (2001-2011) and was the chair of PC from 2006 to 2011. Notash has served on the Queen's University Senate from 2009-2012 and 2013-2022. She was a member (2009-2011, 2018-2020) and chair (2010-2012) of the Queen's Senate Educational Equity Committee and the Canadian coordinator of an international capstone design project to provide international experience for undergraduate students (1997-2003).

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Chantal Chiddle, P.Eng., FEC

Chantal Chiddle holds a civil engineering technology diploma from St. Lawrence College (Kingston, ON) and a BEng degree in civil engineering from Lakehead University (Thunder Bay, ON). She was licensed by PEO in 2005 and is a member

of OSPE. Chiddle has over 20 years of experience in the water and wastewater industry. Five years were spent working at a smaller consulting engineering firm primarily involved in municipal projects, and over 10 years of experience was gained working for utility companies, including

the multi-utility company Utilities Kingston. Chiddle's practice focus in design and project management for water and wastewater projects prepared her for her current role. In 2015, she moved to the heavy civil construction industry as a field engineer/senior engineer working on infrastructure reconstruction projects. Chiddle has spent 15 years as a volunteer with PEO, 13 years of which were at the chapter level. Chiddle has been a member of the Finance Committee, Legislation Committee and Regulatory Policy and Legislation Committee while serving as an Eastern Region councillor. She is an avid reader, a world traveller, an army brat and enjoys listening to live music. Chiddle is looking forward to continuing giving back to the engineering profession while serving as a councillor-at-large. cchiddle@peo.on.ca



Vajahat H. Banday, P.Eng., PE (Michigan), FEC

Vajahat (Vaj) Banday is first and foremost an engineer. He advocates for his fellow professionals and has dedicated his life to volunteerism. Being licensed in Ontario for 14 years, with 25 years

of work experience, he is committed to promoting self-regulation of the profession and regulating emerging disciplines. Within PEO, he has been involved with the Mississauga, Scarborough and Georgian Bay chapters. In 2019, he served on PEO Council as a lieutenant governor

appointee. He has served on the PEO Chapter Leaders Conference Organizing Committee, Education Conference Subcommittee and Advisory Committee on Volunteers and became a fellow of Engineers Canada in 2017. He has a master of science in electrical engineering and a master of science in computer engineering (both from Western Michigan University) and has many years of experience in engineering industries and scientific research. Aside from PEO, he has been a licensed engineer in the state of Michigan since 2006. He has been a Saugeen Shores United Football Club board executive since 2019 and has also volunteered for the Society of United Professionals. He has a firm belief that volunteering is one of the foundations of a true democratic society. vbanday@peo.on.ca

REGIONAL COUNCILLORS

Eastern Region councillors



Randall Walker, P.Eng., FEC

Randall Walker received his BEng from Ryerson University (now Toronto Metropolitan University) and was licensed by PEO in 1996. He started out working in the electrical department at a paper-mill in Trenton, ON, moving up

to IT/engineering and then to plant engineer and finally maintenance department manager. In 2010, Walker

moved into the construction world and worked on many interesting projects at CFB Trenton and CFB Kingston as well as the new border crossing located in Gananoque, ON. His most recent position is automation engineer at Kruger Products. Walker has spent 13 years in the chapter system, starting out as webmaster and moving on to chair for seven years and past chair for five years before joining Council in 2019. He was also the webmaster and GLP representative for the Quinte Chapter. As a well-rounded person with diverse interests, he enjoys motorcycles, reading, travel, model trains and a good challenge. rwalker@peo.on.ca



Tim Kirkby, P.Eng., FEC

Tim Kirkby grew up working with his dad at Kirkby's Welding Ltd., where he learned the trade of welding and all about structural steel, operating cranes, compressors, various equipment and industrial repairs in Gananoque, ON, and

throughout Kingston, ON. Always an entrepreneur, as a teen Kirkby created and operated a Gananoque-Thousand Islands cottage maintenance and winter snow service. Encouragement from his parents for education, as well as his father's untimely death at an early age, guided Kirkby to St. Lawrence College, Kingston, and later to a bachelor of engineering degree in civil engineering from Lakehead

University in Thunder Bay, ON. Kirkby splits his time between Howe Island, ON, and Summerstown, ON, with his wife, Sue. His career with the federal government included work with the Coast Guard, Parks Canada and nationally with Public Works. His appreciation for waterfront communities, stemming from growing up as a "river rat," continues. His community involvement has included former president of the Cornwall United Way; sitting on the board of governors of St. Lawrence College and the Cornwall Community Hospital; and as the national group president of the federal government engineering, architecture and land surveyors bargaining unit (with 4500 members), he negotiated employment contracts/recognition and is a recognized life member. Kirkby's volunteerism at PEO spans 25 years in many roles, and he was inducted as a member to PEO's Order of Honour in 2022. He thanks all friends and supporters. tkirkby@peo.on.ca

East Central Region councillors



Christopher Chahine, P.Eng., PMP, SSBPP

Christopher Chahine has 12 years of professional work experience at Toronto Hydro along with a handful of leadership certifications from several universities in Ontario, including University of Windsor,

University of Toronto, York University Schulich School of Business and Wilfred Laurier University. Alongside a P.Eng. licence, Chahine has diverse experience and holds Project Manager Professional and Six Sigma Black Belt Professional designations and specializes in efficiency and leadership. He currently works as a system planner, where he is the lead engineer for short- and long-term system reliability and strategic planning for transformer stations

and feeders in Scarborough, ON. Throughout his career, Chahine participated in countless committees, including Standard Design Practice and leading and writing a multimillion-dollar business case portfolio for electrical rate application to the Ontario Energy Board. Throughout his time on Council, Chahine contributed to the Regulatory Policy and Legislation Committee, was vice chair of the 2021 Chapters Leaders Conference, was the keynote speaker at several chapter events and licence ceremonies, is the current appointed chair of the Regional Councillors Committee and has been actively involved with PEO chapters. Chahine is the past unit director of the Society of United Professionals Toronto Hydro Local. Chahine is passionate about climate change and has delivered several seminars on climate change engineering and process solutions. Chahine is an articulate and charismatic presenter and facilitator with years of motivational speaking experience and winner of a Toastmasters International Award. cchahine@peo.on.ca



David Kiguel, P.Eng., FEC

David Kiguel received his civil-electrical engineering degree from the University of Chile and has been a PEO-licensed engineer for over 43 years. Kiguel worked for Ontario Hydro and its successor company, Hydro One Networks, for 36 years, retiring in 2013. At the time of his retirement, he was manager of reliability standards. Kiguel has been a PEO volunteer since the early 2000s, and his activities have been mostly in the licensure area. As a member of the Experience Requirements Committee (ERC) since 2004, he served as vice chair (2015–2017) and chair (2018–2020). During his ERC membership, he conducted close to 400

interviews to determine whether applicants met academic or experience requirements for licensure. He was also a Licensing Committee member for five years and chaired the committee in 2021 and 2022. Kiguel was named a fellow of Engineers Canada in 2014 and was inducted into PEO's Order of Honour as a member in 2020. He is an Institute of Electrical and Electronics Engineers senior member and has authored and co-authored more than 10 technical papers. His other voluntary activities include being an elected member of the North American Electric Reliability Corporation Standards Committee, representing small electricity end-users from 2017 to 2020; as well as being a member of the Northeast Power Coordinating Council and its Regional Standards Committee. He is also an Ontario Independent Electricity System Operator (IESO) Reliability Standards Standing Committee member and was member of the IESO Local Advisory Committee for the Regional Electricity Supply to the City of Toronto (2016–2018). dkiguel@peo.on.ca

Northern Region councillors



Luc Roberge, P.Eng., FEC

Luc Roberge was raised in Verner, a small dairy community located in northeastern Ontario. He received his bachelor of engineering science (mechanical) from Queen's University, was registered with PEO in 1988 and has been a member of OSPE since its inception. Roberge started as an EIT in the pulp and paper industry with MacMillan Bloedel Ltd, went on to work in the lumber industry with Weyerhaeuser and ended his career with Ontario Power Generation in the renewable energy sector. His par-

ticipation in the chapter system started 19 years ago with the Algoma Chapter. He has also been a member of the Kapuskasing-Porcupine Chapter, where he was chair in 2019; and the North Bay Chapter, where he was chair from 2012 to 2014. Roberge was first elected to PEO Council in 2020, for a two-year term, as a Northern Region councillor. During this period, he served on PEO's Licensing, Auditing, OSPE-PEO Joint Relations, Governance, Regional Councillors and Human Resources and Compensation committees. During his second year, he also served as chair of the Human Resources and Compensation and Volunteer Leadership Conference Planning committees. Roberge was inducted into the PEO Order of Honour at the Member level in 2019. Before his involvement with PEO, he also volunteered as a Scouts Canada leader. He is looking forward to continuing serving as a Northern Region councillor. lroberge@peo.on.ca



Dana Montgomery, P.Eng.

Dana Montgomery is an accomplished engineer and project manager with a chemical engineering degree from the University of New Brunswick. She began her engineering career working in Germany for an R&D firm specializing in the production of heat exchangers constructed with heat resistant and lightweight materials. After her time in Germany, Montgomery transitioned into her current position at the consulting engineering firm Hatch, in Sudbury, ON. With over 10 years of experience, Montgomery has completed

integral work on projects ranging across several industries, including mining, process, transit and nuclear. In addition to contributing to the technical design and delivery of a variety of projects, she has been granted progressive leadership roles of increasing responsibility. This versatility, due to both the nature of the challenges she has faced and the opportunities for growth, is just a part of the reason she enjoys such an engaging career. Montgomery has served on many boards and societies in a volunteer capacity, including, most recently, as a member on the board of Meals on Wheels of Sudbury. Additionally, she is honoured to be able to serve on PEO Council, representing the Northern Region. She is committed to the core principles of PEO and believes in the mission of regulating and advancing the practice of engineering to protect the public interest. This includes working to fulfill the vision of the organization to become a trusted leader in professional self-regulation. dmontgomery@peo.on.ca

Western Region councillors



Susan MacFarlane, MSc, PhD, P.Eng.

Susan MacFarlane has a PhD in civil (environmental) engineering from the University of Toronto and a MSc and BSc(Eng) in biological (environmental) engineering from the University of Guelph. For the past 25 years, MacFarlane has worked

and solved problems in the areas of water, waste, storm-water, wastewater, spills and contaminated sites. Her most recent position was general manager of Lambton Area Water Supply System (LAWSS), which supplies water to about 100,000 people in Lambton County. At LAWSS,

she managed capital projects and oversaw the operations and maintenance of the water treatment plant, booster stations and distribution system. Prior to her work at LAWSS, MacFarlane worked for a variety of environmental consulting companies on projects across Canada. It is of note that she was on the board of directors of the Ontario Municipal Water Association from 2016 until she left LAWSS in 2018. MacFarlane has been a member of PEO since 1992. Her interest in joining PEO Council began when she became aware that PEO has a number of challenges to be addressed related to governance and regulatory performance, which will have lasting impacts on the profession. Her hope is that she can contribute positively and productively to resolving these issues and ensure that PEO remains a relevant and fair regulator moving forward. smacfarlane@peo.on.ca



Vicki Hilborn, MAsc, P.Eng.

Vicki Hilborn (she/her) began her engineering career working for a design-build firm focused on agricultural anaerobic digesters where she maximized the mechanical and biological operation of anaerobic digester systems throughout North

America. Currently, Hilborn works as the engineering program coordinator for the Ontario Ministry of Agriculture, Food and Rural Affairs, where she leads a team of agricultural engineers located across Ontario to support innovation within Ontario's agri-food sector. In that role,

she is regularly asked to speak on topics such as nuisance control and barn fire prevention and was selected as a 2019 Amethyst Award winner in the Outstanding Young Professional Award category. Hilborn has also sat on a number of boards, including the Zooshare Biogas Cooperative and the Canadian Biogas Association. Hilborn has previously acted as the chapter chair for PEO's Brantford Chapter and volunteered on several PEO committees, including the Equity and Diversity Committee, Government Liaison Committee and Advisory Committee on Volunteers. Hilborn graduated from the University of Waterloo with a BASc (environmental engineering) and University of Guelph with a MASc (environmental engineering). Hilborn lives in Brantford with her husband, Matt; son, Eden; and dog, Wally. vhilborn@peo.on.ca

West Central Region councillors



James Chisholm, MEng, P.Eng., FEC

Jim Chisholm is a fire protection engineer working for Toronto Fire Services. Prior to that, he was a fire protection engineer with the Office of the Fire Marshal and Emergency Management, previous to which he was a senior review engineer in

the air/noise and waste teams in the approvals branch of the Ministry of the Environment. Highlights of his activity in the engineering community include chair, PEO West Toronto Chapter (2011–2012) and vice president, Profes-

sional Engineers of the Government of Ontario (2013–2016). He is also the founding president of the following Toastmaster Speakers Clubs: Environmental Speakers (for Ministry of Environment engineers and other workers in the St. Clair corridor); Toronto Engineering Club of Speakers; and Speakers Club of Ryerson Engineering. Chisholm was also an OSPE board member (2016–2021), member of the OSPE Environmental Task Force and coordinator of its sub-task force on climate crisis. He believes priorities for PEO include more involvement in public interest regulatory/legislative issues, such as the *Occupational Health and Safety Act*, building code, *Environmental Protection Act*, sustainability and the climate crisis. jchisholm@peo.on.ca



Pappur Shankar, P.Eng., FEC

Pappur Shankar is a mechanical engineer who has worked in many capacities on major EPC projects, ranging from \$50 million to \$500 million, for the past 35 years. Since 2017, Shankar has been involved in

marketing and business development of engineering products. His experience in project management spans a wide range of industry sectors related to power (nuclear, mining, thermal, hydroelectric and utilities), oil and gas, mining and utilities with organizations including EXXON, Iberdrola USA, OPG, Hydro One

and numerous mining and oil companies, and he was a member of the due diligence team for Cold Lake project in 1981. Shankar is a co-founder and past president of PMI Lakeshore Chapter and a current member of PEO and the OSPE Energy Task Force. He has volunteered with PEO at the chapter level for 17 years in many capacities. He was the vice president of finance and SME for Indo Canada Chamber of Commerce in 2017 and a conference chair of Canada India Business Symposium, held in Toronto, where 130 companies participated. Shankar led the business delegation to India in 2017 as part of ICC. He aims to address the challenges that must be faced over the next few years and work with Council to address regulatory requirements that will have a positive impact on the profession. pshankar@peo.on.ca

APPOINTED COUNCILLORS



Arjan Arenja, MBA, P.Eng.

Arjan Arenja is a professional engineer, entrepreneur, investor and volunteer. A graduate of the University of Waterloo (civil engineering, 1992), Arenja was licensed in 1994. He spent his early career in consulting engineering focused on building science and structural

testing. He later moved to Royal Group Technologies to focus on obtaining building code approvals for innovative new building systems in Canada, US, Argentina, Poland and China. His tenure at Royal included starting up Royal Telecom Structures, a new division within Royal Plastics, and he later managed the Royal Rainware Products

Division. In 2005, Arenja enrolled in the Executive MBA at the Ivey School of Business, Western University. He later joined Bruce Power, where he spent nearly a decade in senior management roles. Currently, Arenja is a real estate investor in Grey and Bruce counties. His volunteerism includes board membership for Telecare Direct (a local distress call centre in Brampton); co-founder of the Bruce County branch of Southwestern Chapter of the Project Management Institute; and various executive roles with PEO's Georgian Bay Chapter, including Government Liaison Program chair, treasurer, vice chair and chair. He was also co-chair of the 2018 Government Relations Conference, chair of the 2018 Queen's Park Day subcommittee, vice chair of the Government Liaison Committee (2020), chair of the Nomination and Governance Committee and a member of the OSPE-PEO Joint Relations Committee. Arenja is a board member for the Electrical Safety Authority and also serves on the board of directors of Engineers Canada and is a member of their Governance Committee. aarenja@peo.on.ca



Robert Brunet, MEng, P.Eng.

Robert Brunet earned a BEng (1995) and MEng (1999) in chemical and biochemical engineering from Western University and is a licensed professional engineer in Ontario.

He is registered to practise before the Canadian Intellectual Property Office and is a member of the Intellectual Property Institute of Canada. Brunet founded the Canadian patent and trademark firm Brunet & Co. in 2006 and is currently

a principal and registered patent agent with the firm. Prior to entering the patent profession, Brunet held senior roles in quality management, R&D and manufacturing for an environmental equipment manufacturer, where he was listed as an inventor on several patents. Brunet served as president of a manufacturer of small wind turbines from 2008 to 2011, prior to a transaction with a US company. During the pandemic, he co-founded a company, where he currently serves as president, that manufactures and distributes UV germicidal lamps and power supplies. He has served on boards and executive committees of private and publicly traded corporations in the environmental, renewable energy and biotech space. rbrunet@peo.on.ca



Andrew R. Dryland, C.E.T.

Andrew Dryland is a senior associate, contract administrator with R.V. Anderson Associates Limited, with over 36 years of experience in inspection and contract administration. He has been involved with multi-discipline projects in

the mechanical, electrical, supervisory control and data acquisition (SCADA) process works for both water and wastewater projects. He graduated from Cambrian College in 1986 with a diploma in civil technology and started his career with R.V. Anderson Limited. Dryland became a lieutenant governor appointed councillor to PEO Council in 2020. He is also an active member of Ontario Association of Certified Engineering Technicians

and Technologists (OACETT) and volunteers with his local chapter. Dryland is an elected vice president of OACETT's professional affairs and services board (PASB) and was on the OACETT administration board from 2017 to 2019. As PASB councillor for the northern region from 2009 to 2017, he served as a member of the Policy Committee and provided leadership to northern region chapter executives and members. Dryland was vice chair of PASB from 2015 to 2017 and has over 10 years' experience serving on OACETT committees and Council. He has been involved with the OACETT Sudbury Chapter in many different capacities, volunteering as chapter treasurer, secretary and chapter chair for eight years. Dryland has acquired over 35 years' experience in managerial roles in large organizations, and this has allowed him to be an excellent public speaker and to develop strong leadership skills. He looks forward to continuing to use these skills for OACETT and PEO to better the engineering industry for all professionals in the field. adryland@peo.on.ca

PEO COUNCIL



**Paul Mandel, MBA, CPA, CA,
CBV, CFF**

Paul Mandel is a recent lieutenant governor appointee to PEO Council. He is a chartered professional accountant and chartered business valuator by training and is currently the national business valuations

partner for RSM Canada. With 25 years of full-time business valuation experience, his clients include both public companies navigating valuation issues and parties in disputes where value of a business is an issue. He has been accepted as an expert witness by Ontario courts as an expert in business valuation and economic damages. When not working, he is an avid skier and biker and a parent to four children. pmandel@peo.on.ca



George Nikolov, P.Eng.

George Nikolov is a professional engineer and member of PEO. As an internationally trained professional, he has a MSc in civil engineering from Europe, an MBA from the UK and received certification as a project management professional from the US. Nikolov is a business strategist

with a background in governance, administration, operation, audits, asset management and risk management. He has overseen multi-million-dollar projects across Ontario, Western Canada and on four continents. He currently serves on the board of the Justices of the Peace Review Council and on the Board of Trustees of the Ontario Motor Vehicle Industry Council. He feels strongly about giving back to the community and promoting access to justice and volunteers with Don Valley Community Legal Services. gnikolov@peo.on.ca

Scott Schelske, P.Eng., FEC
(See Executive Committee)



Sherlock Sung, BASc

After obtaining a bachelor of applied science degree from the University of Toronto, Sung held technical positions in both the public and private sectors domestically and internationally across different industries. His employ-

ment experiences include research and development, product design, system commissioning, test and validation, quality assurance, technical instruction, operations, infrastructure management, procurement, contract administration, metrology and team supervision. ssung@peo.on.ca

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Deadline for September/October 2022 is August 5, 2022. Deadline for November/December 2022 is October 13, 2022.

ARE YOU AN **ENGINEERING INTERN** THINKING ABOUT **DEVELOPING YOUR LEADERSHIP SKILLS?**

YOU MAY BE A CANDIDATE FOR THE G. GORDON M. STERLING ENGINEERING INTERN AWARD.

Introduced in 2010, this award:

- Was created to promote, encourage and celebrate the professional leadership of engineering graduates registered in PEO's EIT program;
- Is named for G. Gordon M. Sterling, P.Eng., PEO president (2001–2002), who believed strongly in the value of leadership development among P.Engs as a means to enhance their careers, and contribute to society and the governance of the profession; and
- Provides up to \$3,500 to offset expenses associated with leadership development pursuits.

To apply:

- Fill out the application on PEO's website.
- Deadline: Friday, October 7, 2022, at 4 p.m.

For more information: email sterlingaward@peo.on.ca, call 416-224-1100 or 800-339-3716



WANT TO UPDATE YOUR EMAIL ADDRESS?

Effective April 30, PEO is now communicating to licence holders only by email. If you have already provided us with a valid email address, please ensure it is the one you wish to use to receive essential information from PEO. It is important to choose an email address that you check on a regular basis, do not share with other people and will not have to change often.

You can update your email address through PEO's online portal.



AD INDEX

Manulife
manulife.ca/ED

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The top half of the page features a light yellow background with numerous circular pins scattered across it. Each pin is made of wood and has a blue ribbon-like border with the text "PEO ORDER OF HONOUR" in white. The pins are arranged in a way that they appear to be floating or scattered, with some overlapping.

2023 ORDER OF HONOUR

CALL FOR NOMINATIONS

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.

**THE AWARDS COMMITTEE INVITES MEMBERS TO SUBMIT
NOMINATIONS BY OCTOBER 7, 2022, AT 4 P.M.**

Nominators should supply complete details on their nominee. Individual statements from each nominator must accompany the nomination. Members and Officers of the Order who have continued serving and leading the engineering profession can be nominated for an upgrade to a more advanced category.

For nomination forms, guidelines and a complete list of past recipients, visit PEO's website.



Mandatory continuing professional development is coming in 2023



PEO's current voluntary PEAK program is transitioning to a mandatory program that will begin in January 2023. The program is designed to help licence holders maintain their professional knowledge, skills and competence as engineers and is in keeping with PEO's regulatory, public protection mandate as set out in the *Professional Engineers Act*.

As of January 2023, all licence holders (both practising and non-practising) must comply with the program. More information can be found at www.peopeak.ca.



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