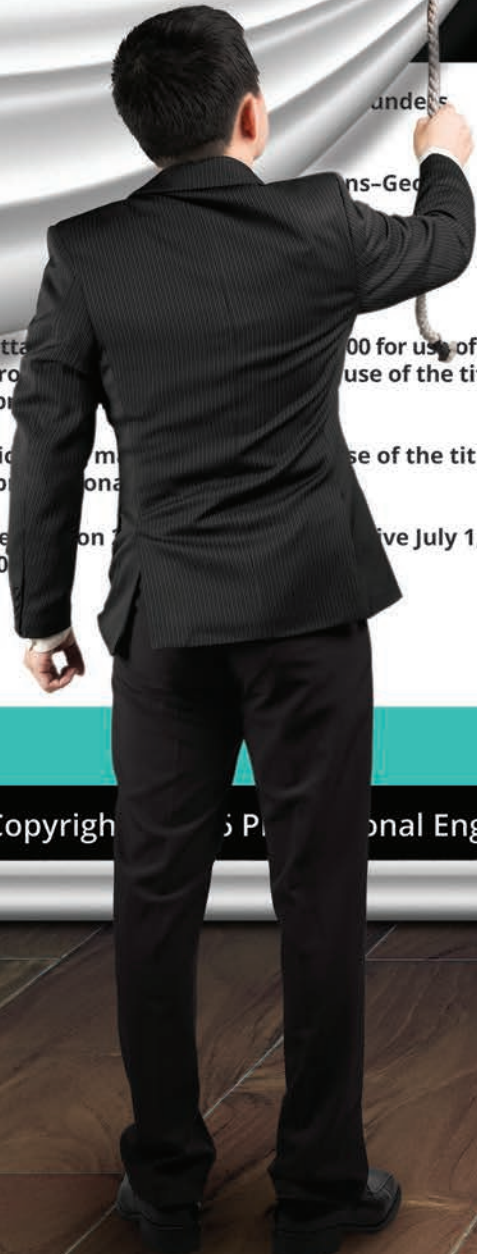




INTRODUCING OUR NEW WEB EDITION!



unders

Many pa

ns-Ge

GOVERNANCE

PEO's relationship with government
street

00 for use of
use of the title

IN COUNCIL

Council approves strategy to license
communications infrastructure engineering
practitioners

se of the title

ive July 1,

ISSUES BY MONTH

May 2016

March 2016

January 2016

[HOME](#)

[CONTACT](#)

[PEO WEBSITE](#)

[PRIVACY POLICY](#)

HIRE WATERLOO

for all your talent needs

“ The talent pool at Waterloo is unrivalled and includes many **intelligent, super-motivated** individuals who have an **entrepreneurial spirit.** ”

AL WALCROFT, Contracting Sales Director, HTS Engineering

- » **BENEFIT** from the fresh ideas and ready-to-learn attitude that our students have
- » **PARTICIPATE** in Waterloo's world-renowned co-op program, with more than 19,000 students
- » **HIRE** for full-time, part-time, and summer work, all year round

Advertising a job is free and easy. Contact us today.
hire.talent@uwaterloo.ca | 877-928-4473



UNIVERSITY OF
WATERLOO

WHAT IT MEANS TO BE A SELF-REGULATING PROFESSION



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

PREVIOUSLY IN THIS COLUMN
I have written in defence of our unique Canadian model of professional self-regulation (*Engineering Dimensions*, July/August 2004, p. 3). In spite of a chorus of voices telling us that professional “guilds” are dying or dead, I remain convinced that the system we have here—of which PEO is a good example—represents the best value proposition for both the profession and the public it serves. And I would consider dilution or loss of our self-regulatory status to

be a severe blow to the engineering profession. So that we can remain focused on what we need to do to preserve and strengthen that status, it may be useful to remind ourselves from time to time how this concept is supposed to work, and what it means (and doesn't mean) for organizations like PEO and for their members/licensees.

Let me begin by noting that professional self-regulation did not come about through the now-typical “downloading” of responsibilities from higher levels of government to lower ones. As former PEO President Peter DeVita, P.Eng., FEC, points out in his book *A Search for Advocacy—Creating the Canadian Engineering Profession* (www.g7books.com/search4.html), our forerunners at the beginning of the 20th century sought and secured from government the privilege of self-regulation. What they obtained in the various provincial statutes like Ontario's *Professional Engineers Act* was essentially a contract with the public in which the profession secured the right to govern and regulate itself in exchange for committing to put the public interest first—ahead of any individual or collective self-interest (*Engineering Dimensions*, September/October 2004, p. 3). The contract was a win-win for both parties: the professionals gained status and substantial control over their own destiny as a profession, and the public gained assurances that competent professionals would be protecting their interests. When one considers the overall quality and reliability of engineering across all sectors in Canada in comparison to many other jurisdictions, I think it is fair to conclude that our profession has lived up to its part of the bargain substantively.

Note that the profession and its members are not precluded from having any self-interest—just from putting that self-interest ahead of the public interest. The public will be best served by a strong, independent profession with a clear,

self-regulatory mandate and exclusive rights to practise. And the fact that professional bodies like PEO operate at arm's length of government means they are free to advocate for sound public policy within their spheres of expertise, even if their advice ends up at odds with government policy. However, to avoid any perception of conflict of interest, many professional regulators like PEO have created separate, independently governed organizations—in our case, the Ontario Society of Professional Engineers (OSPE)—to advocate for the economic and professional self-interests of their members. Even then, the two professional organizations are not precluded from collaborating on activities in which there is no inherent conflict of interest, such as informing the public of the importance of the engineering profession to their economic prosperity, safety and quality of life.

Professional self-regulation does not mean that individual members of the profession are free to decide when and how to regulate their own individual practices. Our contract with the public requires the profession to maintain an organization (PEO) that establishes and enforces consistent standards of admission, practice and professional conduct for the profession. Individual members of the profession are expected both to contribute (their time and expertise) to the establishment of those standards, and to adhere to them in their day-to-day work. So while members of the profession have the democratic right to participate in its governance and leadership, they are subject to its regulation in their practice, for the collective good of the profession and the public. They can also be expected to report to their regulatory body information on their scopes of professional practice, and on measures they are taking to maintain their currency and competence, and to mitigate risks to the public inherent in their practice. Such data is essential for the profession to maintain public confidence that it is, in fact, regulating itself in the public interest.

A former council colleague used to say that PEO is in the competence *assurance* business. Given the diversity of engineering practice, it may be difficult for anyone other than an individual practitioner to accurately determine his or her competence in a given situation. That is why professionals are expected to limit their practices to those areas for which they are properly prepared by education and experience. And that is why elements of good character, such as honesty, integrity, responsibility and judgment, are so important to professional practice. But that does not alleviate the requirement for the professional regulator to set standards of knowledge and skill for practitioners, as well as work product standards for various professional activities, and to assess practitioners and

[PRESIDENT'S MESSAGE]

their work against them. Public confidence may require regulators to do more than just discipline those practitioners who are the subjects of legitimate complaints. Another crucial aspect of the contract between the profession and the public is that of exclusive rights to practise. It is widely believed that the percentage of professional engineers who require their licence to practise to earn their living is low (perhaps 30 per cent) compared to other senior professions, such as law and medicine. To make matters worse, the percentage of those with engineering education who are licensed to practise is also low (less than 50 per cent). The simple reason for this is a licence to practise professional engineering is not required—or not believed to be required—for much of the work that graduate engineers do. And while it is accepted that many graduate engineers enter or advance to careers where their work falls outside the definition of the *practice of professional engineering* in the *Professional Engineers Act* (section 1—Revised Statutes of Ontario, 1990), it is clear that much activity that falls within the definition is being performed with impunity by unlicensed individuals.

OUR CANADIAN MODEL OF SELF-REGULATING PROFESSIONS IS PREDICATED ON THE REGULATED PROFESSIONALS HAVING EXCLUSIVE RIGHTS TO PRACTISE IN ALL AREAS WHERE THERE IS A PUBLIC INTEREST INHERENT IN THE WORK.

This situation is highly undesirable from the perspectives of both the profession and the public. As originally drafted, the act precluded anyone without a licence from performing engineering work unless a licensed professional engineer assumed responsibility for that work. Unfortunately, this exclusivity was undermined in the 1984 revision of the act by what has come to be referred to as

the industrial exception at section 12(3)(a), which permits those doing professional engineering in relation to machinery or equipment in their employers' manufacturing facilities to be unlicensed. The current Ontario government agreed in 2010 to repeal the offending section of the act, but has since reneged on that commitment.

The problem of the industrial exception is compounded by the fact that there is a prevalent belief in many industries that all their engineers are exempt from the requirement to be licensed. This leads to the untenable situation in which unlicensed and licensed co-workers are working side by side on the same engineering tasks that fall outside the exception. This constitutes a violation of the act, but PEO's ability to enforce against this illegal practice is hampered by the difficulty of discovering, investigating and prosecuting such infractions. Further complicating the problem is the fact that much engineering work product is being imported from offshore and used in Canadian jurisdictions without the involvement of a licensed Canadian engineer. Relatively few scopes of engineering practice are subject to demand-side legislation that requires the signature and seal of a professional engineer before the engineering work product can be used.

Our Canadian model of self-regulating professions is predicated on the regulated professionals having exclusive rights to practise in all areas where there is a public interest inherent in the work. I believe it is critical to the ability of our profession to regulate in the public interest that this untenable situation be corrected through a combination of elimination of the industrial exception, expansion of demand-side legislation to additional scopes of practice, and expansion of enforcement powers.

As members of this self-regulating profession, we must be prepared—and I believe we are prepared—to uphold our end of the deal and do what it takes to maintain the public's confidence in our self-regulation. The Ontario government must be prepared to do the same. I, therefore, call on them to uphold their part of the bargain. Σ

ENGINEERING DIMENSIONS

May/June 2016
Volume 37, No. 3

48 **FEATURE ARTICLE**
PEO launches the Engineering Dimensions web edition!
By Nicole Axworthy

52 **The evolution of Engineering Dimensions**
By Michael Mastromatteo



SECTIONS

ASSOCIATION BUSINESS

- 3 **President's Message**
- 6 **Editor's Note**
- 24 **In Memoriam**
- 26 **Governance** PEO's relationship with government a two-way street
- 29 **Introduction to PEO Council**
- 35 **Gazette**
- 47 **GLP Journal**
- 61 **Audited Financial Statements**
- 70 **Registrar's Financial Report**
- 72 **In Council**

NEWS AND COMMENTARY

- 8 **News** Members elect Bob Dony as president-elect; President Comrie begins his term; CPD task force looking to implementation options; PEO on track to complete industrial exception research study; Province still looking for answers in bridge failure; Successful launch for PEO's new membership database; There was a place for everyone during NEM 2016; Getting the word out on equity and diversity; From Tesla to tissue engineering; Forum

- 22 **Datepad**
- 56 **Awards**
- 58 **Viewpoint**
- 75 **Letters**

ADVERTISING FEATURES

- 73 **Careers & Classified**
- 73 **Ad Index**
- 74 **Professional Directory**

ENGINEERINGDIMENSIONS.CA IS LIVE!



Jennifer Coombes
Editor

WHEN A MOVIE WILDLY exceeds expectations at the box office, I tend to think about how great all the directors, actors, gaffers and grips must feel to have produced something people like. But anyone who works on a movie or other project realizes things can easily take a wrong turn at Albuquerque, too. So, it's always a tense moment when you release something you've worked hard on. Will they like it? Will they hate it?

While maybe not *quite* on the scale of *Star Wars: Episode VII*, this issue we bring you the launch of our new *Engineering Dimensions* web edition (p. 48)—an idea sparked from the feedback of members.

In the years since the digital edition launched, we've heard lots of comments through various channels that, for some, this platform presents challenges. Some find the text too difficult to read at a glance, or on a particular device, while some with poor Internet service find it takes too long to load. Others—especially younger P.Engs and engineering interns—love the digital edition's ability to electronically replicate the experience of reading a physical magazine.

But our goal is to make sure everyone receives their official PEO publication in the way that makes them want to read it. So, a while back we realized we had to come up with a more pared-down, online version of *Engineering Dimensions* for members who didn't want the print edition out of concern for the environment (or clutter in their mailbox), but didn't especially love the digital edition either, whatever the reason.

The web edition provides something in between—it's paperless, online, at-the-ready and user-friendly for members who want to grab information quickly, although it's designed to supplement the print and digital editions, not replace them. It provides:

- easy-to-access, text-only articles in a website format familiar to most;
- the most time-sensitive information presented front and centre;
- reader-friendly font size (that can easily be increased by customizing your personal computer or device display settings); and
- compatibility with most text-to-speech readers.

The web edition isn't the only exciting change in store for the magazine in the next while. A recent council decision has updated the editorial objectives for the magazine, which opens the door to covering many more topics than we previously could. The complete editorial objectives for *Engineering Dimensions* (particularly important to review if you would like to submit something for publication) are available at www.peo.on.ca.

Finally, we're also in the early stages of a redesign. Our new look will debut with our January/February 2017 issue. Σ

Engineering Dimensions (ISSN 0227-5147) is published bimonthly by the Association of Professional Engineers of Ontario and is distributed to all PEO licensed professional engineers.

Engineering Dimensions publishes articles on association business and professional topics of interest to the professional engineer. The magazine's content does not necessarily reflect the opinion or policy of the council of the association, nor does the association assume any responsibility for unsolicited manuscripts and art. Author's guidelines available on request. All material is copyright. Permission to reprint editorial copy or graphics should be requested from the editor.

Address all communications to The Editor, *Engineering Dimensions*, PEO, 40 Sheppard Avenue West, Suite 101, Toronto, ON M2N 6K9. Tel: 416-840-1062, 800-339-3716. Fax: 416-224-9525, 800-268-0496.

Engineering Dimensions is a member of Canadian Business Press.

Indexed by the Canadian Business Index and available online in the Canadian Business and Current Affairs Database. US POSTMASTER: send address changes to *Engineering Dimensions*, P.O. Box 1042, Niagara Falls, NY, 14304.

CANADA POST: send address changes to 40 Sheppard Avenue West, Suite 101, Toronto, ON M2N 6K9. Canada Publications Mail Product Sales Agreement No. 40063309. Printed in Canada by Web Offset.

SUBSCRIPTIONS (Non-members)

Canada (6 issues) \$28.25 incl. HST

Other (6 issues) \$30.00

Students (6 issues) \$14.00 incl. HST

Single copy \$4.50 incl. HST

Contact: Nicole Axworthy, 416-840-1093, naxworthy@peo.on.ca

Approximately \$5.00 from each membership fee is allocated to *Engineering Dimensions* and is non-deductible.

PEO has applied for membership with the Alliance for Audited Media.



ENGINEERING DIMENSIONS

PUBLICATIONS STAFF

Publisher

Connie Mucklestone
416-840-1061
cmucklestone@peo.on.ca

Editor

Jennifer Coombes
416-840-1062
jcoombes@peo.on.ca

Associate editor

Michael Mastromatteo
416-840-1098
mmastromatteo@peo.on.ca

Associate editor

Nicole Axworthy
416-840-1093
naxworthy@peo.on.ca

Senior graphic designer

Stephanie Katchmar
416-840-1063
skatchmar@peo.on.ca

Graphic designer

Cindy Reichle
416-840-1067
creichle@peo.on.ca

ADVERTISING SALES

Sales manager

Beth Kukkonen
bkukkonen@dvtail.com

Dovetail Communications
30 East Beaver Creek Road
Suite 202

Richmond Hill, ON
L4B 1J2

Tel: 905-886-6640
Fax: 905-886-6615

PEO COUNCIL

OFFICERS

President

George Comrie, MEng, P.Eng., CMC, FEC
gcomrie@peo.on.ca

Past president

Thomas Chong, MSc, P.Eng., PMP, FEC
thomas.chong@rogers.com

President-elect

Bob Dony, PhD, P.Eng., FIEE, FEC
bdony@peo.on.ca

Vice president (elected)

Patrick Quinn, PhD (honoris causa), P.Eng.,
CEng, FCAE, FEC
pquinn@peo.on.ca

Vice president (appointed)

David Brown, P.Eng., BDS, C.E.T.
dbrown@peo.on.ca

Executive members

Changiz Sadr, P.Eng., FEC, CTP,
CTME, ITILv3
csadr@peo.on.ca

Marilyn Spink, P.Eng.
mspink@peo.on.ca

COUNCILLORS

Councillors-at-large

Roydon A. Fraser, PhD, P.Eng., FEC
rafraser@uwaterloo.ca

Roger Jones, P.Eng., FEC, MBA, SMIEEE
rjones@peo.on.ca

Christian Bellini, P.Eng., FEC
cbellini@peo.on.ca

Northern Region councillors

Dan Preley, P.Eng.
dpreley@peo.on.ca

Michael Wesa, P.Eng., FEC
mwesa@peo.on.ca

Eastern Region councillors

David Brown, P.Eng., BDS, C.E.T.
dbrown@peo.on.ca

Guy Boone, P.Eng.
gboone@peo.on.ca

East Central Region councillors

Changiz Sadr, P.Eng., FEC, CTP,
CTME, ITILv3
csadr@peo.on.ca

Noubar Takessian, P.Eng., FEC
ntakessian@peo.on.ca

Western Region councillors

Ewald Kuczera, MSc, P.Eng.
ekuczera@peo.on.ca

Gary Houghton, P.Eng., FEC
ghoughton@peo.on.ca

West Central Region councillors

Warren Turnbull, P.Eng.
wturnbull@peo.on.ca

Danny Chui, P.Eng., FEC
dchui@peo.on.ca

Lieutenant governor-in-council appointees

Ishwar Bhatia, MEng, P.Eng., FEC
ibhatia@peo.on.ca

Santosh K. Gupta, PhD, MEng,
P.Eng., FEC
sgupta@peo.on.ca

Richard J. Hilton, P.Eng.
rhilton@peo.on.ca

Vassilios Kossta
vkossta@peo.on.ca

Mary Long-Irwin
mlongirwin@peo.on.ca

Sharon Reid, C.Tech.
sreid@peo.on.ca

Rakesh K. Shreewastav, P.Eng., AVS, FEC
rshreewastav@peo.on.ca

Marilyn Spink, P.Eng.
mspink@peo.on.ca

ENGINEERS CANADA DIRECTORS

Annette Bergeron, P.Eng., FEC
abergeron@peo.on.ca

George Comrie, P.Eng., FEC
gcomrie@peo.on.ca

Diane Freeman, P.Eng., FEC
dfreeman@peo.on.ca

Chris D. Roney, P.Eng., BDS, FEC
croney@peo.on.ca

Rakesh K. Shreewastav, P.Eng., AVS, FEC
rshreewastav@peo.on.ca

PEO EXECUTIVE STAFF

Registrar

Gerard McDonald, MBA, P.Eng.
gmcdonald@peo.on.ca

Deputy registrar, licensing and registration

Michael Price, MBA, P.Eng., FEC
mprice@peo.on.ca

Deputy registrar, regulatory compliance

Linda Latham, P.Eng.
llatham@peo.on.ca

Deputy registrar, tribunals and regulatory affairs

Johnny Zuccon, P.Eng., FEC
jzuccon@peo.on.ca

Chief administrative officer

Scott Clark, B.Comm, LLB, FEC (Hon)
sclark@peo.on.ca

Director, finance

Chetan Mehta, MS, MBA
cmehta@peo.on.ca

Director, communications

Connie Mucklestone
cmucklestone@peo.on.ca

Director, information technology

Zico Sarmiento
zsarmiento@peo.on.ca



Professional Engineers Ontario

THIS ISSUE: It's all about us this issue—*Engineering Dimensions*, that is. We're adding a fourth platform—our web edition—to allow licence holders to get news and information about engineering regulation in a simplified, website format. We discuss the new site, plus other enhancements over the years to keep PEO's official publication in step with changing communications technology.

ENFORCEMENT HOTLINE

Please report any person or company you suspect is practising engineering illegally or illegally using engineering titles. Call the PEO enforcement hotline at 416-840-1444 or 800-339-3716, ext. 1444. Or email enforcement@peo.on.ca.

Through the *Professional Engineers Act*, Professional Engineers Ontario governs licence and certificate holders and regulates professional engineering in Ontario to serve and protect the public.

MEMBERS ELECT BOB DONY as president-elect

By Jennifer Coombes

On March 4, PEO received the official council elections results revealing Bob Dony, PhD, P.Eng., has been elected to the office of president-elect. He will be president for the 2017-2018 term.

Patrick Quinn, PhD (hons), P.Eng., FEC, also a former PEO president (1999-2000 and 2006-2007), will serve a second year as vice president for the 2016-2017 term. Quinn, elected vice president for 2015-2016, was acclaimed going into this year's elections.

The new council, including 2016-2017 President George Comrie, P.Eng., FEC, and the following newly elected and acclaimed councillors, took office on April 30 at PEO's annual general meeting in Toronto.

- Councillor-at-Large Christian Bellini, P.Eng., FEC
- Eastern Region Councillor Guy Boone, P.Eng.
- East Central Region Councillor Noubar Takessian, P.Eng., FEC
- Northern Region Councillor Michael Wesa, P.Eng. (acclaimed)
- West Central Region Councillor Danny Chui, P.Eng., FEC
- Western Region Councillor Gary Houghton, P.Eng., FEC

At the first meeting of council on April 30, David Brown, P.Eng., BDS, C.E.T., was appointed to the position of vice president elected by and from the members of council, and Marilyn Spink, P.Eng., and Changiz Sadr, P.Eng., FEC, were elected as additional members of the Executive Committee.

HOW YOU VOTED

PRESIDENT-ELECT

Bob Dony	3611
Peter DeVita	2814
Nicholas Colucci	1710

VICE PRESIDENT

Patrick Quinn	acclaimed
---------------	-----------

COUNCILLOR-AT-LARGE

Christian Bellini	4229
Fred Saghezchi	3852

EASTERN REGION COUNCILLOR

Guy Boone	648
Tim Kirkby	421
Orijit Pandit	324

EAST CENTRAL REGION COUNCILLOR

Noubar Takessian	1113
Peter Cushman	950

NORTHERN REGION COUNCILLOR

Michael Wesa	acclaimed
--------------	-----------

WESTERN REGION COUNCILLOR

Gary Houghton	1024
Miguel Pelletier	334
Vaj Banday	320
Amin Mali	106

WEST CENTRAL REGION COUNCILLOR

Danny Chui	719
James Chisholm	654
Galal Abdelmessih	382



PRESIDENT COMRIE BEGINS HIS TERM

Incoming PEO President George Comrie, P.Eng., FEC, received not only the ceremonial gavel when he succeeded Past President Thomas Chong, P.Eng., FEC, April 30, but also PEO's new president's chain of office.

CPD task force looking to implementation options

By Michael Mastromatteo

PEO's NEW Continuing Professional Competence Program (CP)² Task Force is now three meetings into developing the Continuing Professional Development, Competence and Quality Assurance (CPDCQA) Task Force's vision for a risk-based continuing professional development (CPD) program into a viable, member-supported system. The CPDCQA Task Force completed its work in November 2015.

The new task force met on February 29, March 31, and April 25.

Chaired by Annette Bergeron, P.Eng., FEC, who for nearly two years headed the CPDCQA Task Force, the new body is focusing on a timeline for when an online risk review and CPD reporting program for PEO members might be rolled out.

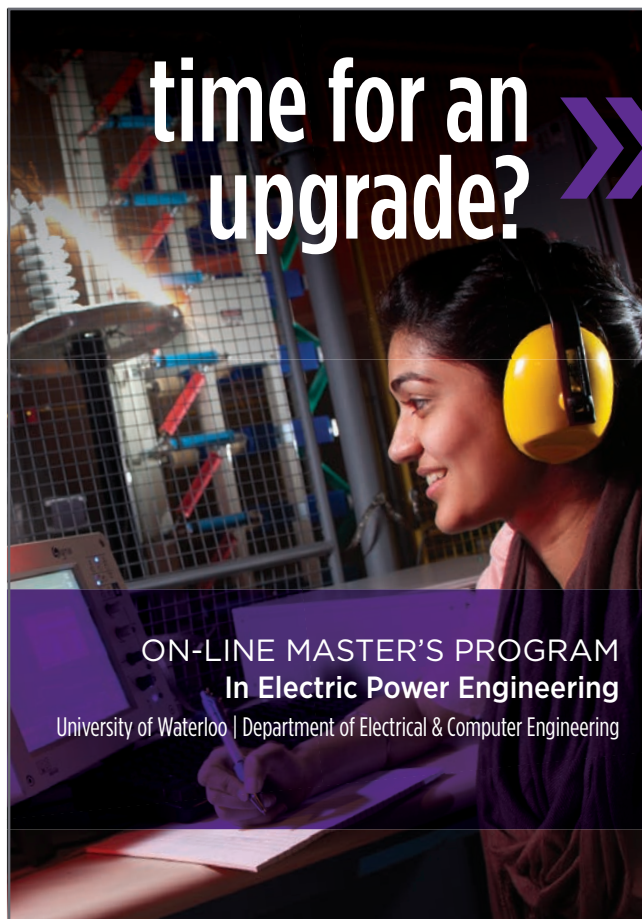
According to the council-approved terms of reference, the task force is also looking to fine-tune the weighted criteria each member would use to review the risk a member's engineering practice might pose to the public.

PEO has long established that risk to the public would determine what level of CPD a member should be expected to attain.

Each member would then pursue professional development opportunities most relevant to their situation. PEO has assured members that mandatory CPD requirements will not be implemented without approval through a member referendum.

At its most recent meeting, the (CP)² Task Force volunteers discussed some of the key objectives they hope to meet before November 2016, reviewed the risk review questionnaire, and looked at requirements for online risk review and activity reporting.

A short presentation on the task force's work to date was presented at PEO's annual general meeting on April 30. The task force is also scheduled to update PEO council on its work at the council retreat in early June. A Frequently Asked Questions document based on questions from the seven President's Town Hall meetings last fall is being developed for publishing to the PEO website.



time for an upgrade? »»

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

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

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

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

Program Information

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

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

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



CO09287

PEO on track to complete INDUSTRIAL EXCEPTION RESEARCH STUDY

By Michael Mastromatteo

PEO is continuing its review of relevant Ministry of Labour prosecutions, field visit reports and stop work orders under the *Occupational Health and Safety Act*, despite the current government's position that it has no plans to repeal the controversial industrial exception.

The industrial exception (section 12(3)(a) of the *Professional Engineers Act*) allows non-licensed workers to carry out engineering acts on machinery or equipment used to produce products in their employers' facilities. PEO believes the exception, which exists only in Ontario and which had been slated for repeal in 2013 after a change to the act in 2010, represents a gap in its ability to regulate professional engineering practice in Ontario.

The Ontario government announced its intention in November 2015 to permanently maintain the industrial exception.

While PEO recognizes that repeal of the exception is no longer a government priority, it is still working with the Ministry of Labour and other safety organizations to determine any causal links between a lack of engineering oversight and accident rates in industrial and manufacturing settings. A final report is expected to be ready for PEO council in June.

On March 3, PEO President Thomas Chong, P.Eng., FEC, President-elect George Comrie, P.Eng., FEC, and Registrar Gerard McDonald, P.Eng., met NDP Leader Andrea Horwath to discuss the repeal.

Horwath attended the meeting with Chief of Staff Michael Balagus, and NDP Chief Researcher Bilbo Poynter.

Over the course of the meeting with the NDP leader, President Chong outlined the role and function of PEO, while Registrar McDonald explained the regulator's position with respect to the industrial exception.

Horwath later asked PEO officials to explain why the repeal would be beneficial to the people of Ontario and to demonstrate how its elimination would satisfy the government's stated policy of reducing red tape and improving administrative efficiency. She has since been provided a written response to her questions.

The NDP has been generally supportive of PEO's case for repeal of the industrial exception, arguing that any move to improve worker safety in the province is welcome.

Last September, a PEO delegation met with Progressive Conservative Party and Opposition Leader Patrick Brown to discuss the exception.

In addition to meeting with government leaders, PEO is continuing to work with the labour ministry to gather data and look at how reporting processes might be changed to make data easier to access. PEO is also developing a program to highlight the value of using licence holders in industry, as well as ensure the scope of the exception is not exceeded in Ontario manufacturing.

PROVINCE STILL LOOKING FOR answers in bridge failure

By Michael Mastromatteo

THE PROVINCE'S TRANSPORTATION ministry continues its review of the causes of the recent failure of the Nipigon Bridge in northwestern Ontario, an investigation of significant concern to PEO.

The newly completed, cable-stayed bridge had to be closed to traffic January 10 after part of the bridge deck separated from the road surface during a mid-winter storm. The bridge was partially opened to traffic days later after the ministry completed emergency repairs.

It was later determined that bolts on part of the new bridge's supporting structure snapped off and allowed the deck to rise about 60 cm above the road surface.

The Ontario Ministry of Transportation (MTO) has since sent the broken bolts to two independent labs to determine the exact cause of the failure.

A temporary repair was reviewed by an independent engineering firm and found to be appropriate.

Annamarie Piscopo, an official with MTO's northwestern region office, said April 1 that testing of the bolts continues at the two labs and work is ongoing to determine the cause of the failure. "Once a cause has been determined, the information will be made public," she said.

Two of the new bridge's four lanes were opened to traffic in late February. And the ministry will now go forward with the next stage of construction as it is confident the recent issues will not reoccur.

The next phase of work includes demolition of the old bridge, which is expected to take approximately six weeks, weather permitting. Work will then shift to construction of the second half of the new bridge, and to construction of the third tower for the remainder of the year.

MTO says the recent problems with the bridge were not related to the tower design.

As reported (*Engineering Dimensions*, March/April 2016, p. 16), PEO is monitoring the ministry's investigation into the Nipigon Bridge failure with PEO staff, including the registrar, liaising regularly with the ministry as it conducts its investigation, to determine where engineering may have been a factor in the failure. The information received is being assessed from PEO's standpoint as a regulator.



INTRODUCING THE 2016 PROMASTER CITY.[™]

PART TRUCK. PART VAN. ALL BUSINESS.

There's a new Ram on the job. Ram ProMaster City. It's upfit-friendly, offers Best-in-Class payload¹ with plenty of horsepower and torque. An innovative 60/40-split swing rear door opens 180 degrees to more cargo capacity than Ford Transit Connect, Nissan NV200 and Chevrolet City Express. Further proof that the new Ram ProMaster City gives you a lot more truck in one hardworking van.

**BEST-IN-CLASS
PAYLOAD¹**
862 KG
(1,900 LB)

**BEST-IN-CLASS
CARGO
CAPACITY¹**
3,729 L
(131.7 CU FT)

**CLASS-EXCLUSIVE
9-SPEED
AUTOMATIC
TRANSMISSION**

**OFFERED AS TWO-SEAT
CARGO VAN OR FIVE-SEAT
PASSENGER WAGON**



**BEST-IN-CLASS
STANDARD
PAYLOAD²**
2,014 KG
(4,440 LB)

**BEST-IN-CLASS
STANDARD
CARGO
CAPACITY²**
13,108 L
(462.9 CU FT)

**4 BODY TYPES,
3 WHEELBASES,
4 CARGO LENGTHS &
2 ROOF HEIGHTS**

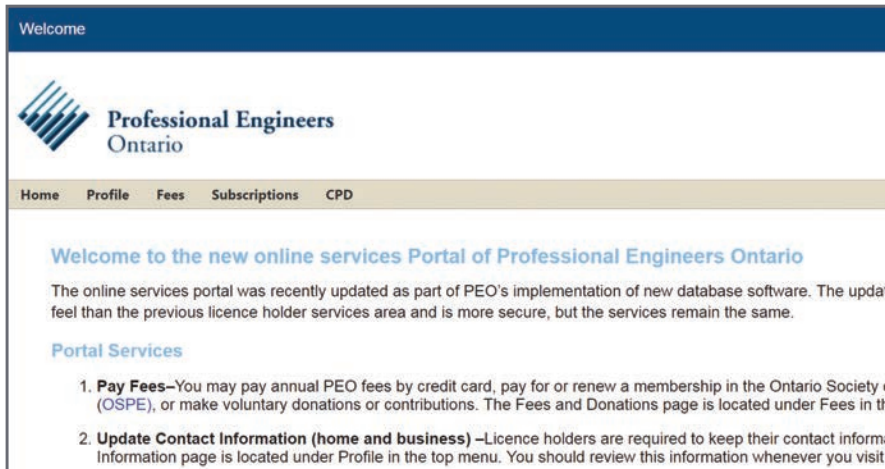


¹Based on Class¹ small vans.

²Based on *Ward's* Large Van segmentation.

SUCCESSFUL LAUNCH FOR PEO'S NEW MEMBERSHIP DATABASE

By Michael Mastromatteo



Landing page of PEO's new online services portal.

PEO has successfully introduced its new membership database, which will bring a number of administrative and record-keeping enhancements to its overall operations.

Launched April 1 after more than two years of development and testing, the Aptify licence holder management software replaces PEO's LicenseEase system, which had been in use since 2001. LicenseEase had exceeded its lifespan and is no longer supported by its vendor.

The main benefit of the new software is that it will allow PEO greater flexibility to scale and grow by easily adapting to staff requirements to configure new process workflows or add new services. It will be used primarily by PEO employees in conducting the regulator's core licensing, complaints and discipline functions.

However, the new database also enables the new, updated PEO website member portal, where licence holders, engineering interns and, for the first time, applicants may interact online with PEO, including updating their contact information, downloading editable applications and registering for exams. The new PEO portal adheres to current best practices for system security and data protection, specifically:

- site pages involving display or transfer of personal user information are secured via HTTPS/SSL/TLS;
- public Internet clients cannot access the site's administrative functions;
- site forms are protected from known intrusions (SQL injection attacks, JavaScript injection attacks, file upload attacks, SPAM, etc.); and
- sensitive personal data (e.g. passwords) is stored in an encrypted format.

Members who have used PEO's online services previously are required to set up a new password to log in to the new portal (under Pay Fees/Manage Account) at www.peo.on.ca. If a member has forgotten their password, they cannot use the "Forgot licence number or password" link to retrieve it, and must instead register on the portal as if they were a new user. The portal login page has all the information required to register. Once registered, a forgotten password may be retrieved. Those who have never used PEO's online services must register on the portal to begin

online transactions with PEO. Further information about PEO's new member portal is available at www.peo.on.ca/index.php/ci_id/29738/la_id/1.htm.

Aptify was originally scheduled to come online in December 2014. However, a number of problems came to light, forcing PEO to revert to LicenseEase until this April.

"Our existing licence holder management software had reached the end of its useful life and we had no choice but to upgrade," PEO Registrar Gerard McDonald, P.Eng., said April 18.

"That being said, the Aptify product is a proven association-centric membership application that allows us to enhance the online experience for our members and to be able to improve functionality for our staff."

McDonald says, at present, members using Aptify will not see a big difference in the member portal. "However, we have now put in place the foundation to allow us to move to greater member self-service that can be rich, mobile and completely automated. Over time, we can expose as much functionality as we desire on our public website to chapters, committees and other groups."

Paula Habas, PEO's senior IT project manager, says the April 1 launch was the culmination of more than two years of intense effort by the IT group and launch team.

If members encounter technical issues trying to access the portal, or when interacting with PEO online through the portal, they are advised to report them to technical@peo.on.ca.

There was a place for everyone during NEM 2016

*By Alan Ham and
Erica Lee Garcia, P.Eng.*

MARCH MADNESS spread across Ontario during National Engineering Month (NEM) this year. To promote a message of diversity and inclusion, this year's theme, "There is a Place for You," gave engineers and engineering technologists a chance to show youth and members of the public how anyone can find a place in engineering if they have passion and dedication. Over 300 NEM-supported events were held over the course of the campaign.

The coalition of the Ontario Association of Certified Engineering Technicians and Technologists, Ontario Society of Professional Engineers, Engineers Without Borders Canada and PEO worked together to bring engineering and engineering technology to schools, colleges and universities, workplaces, malls and public spaces across Ontario. Passionate volunteers from all walks of life contributed their time and expertise to make these events happen. Role modeling and creating open and safe spaces for youth are key in attracting the next generation of problem solvers.

Our generous sponsors contributed more than ever to the NEM 2016 campaign—including a few that contributed to the campaign for the first time. We look forward to building on these relationships in future years. Sponsors were encouraged to participate in the festivities by contributing their branded merchandise and content for the NEM blog, much to the delight of event participants.

Twenty-four PEO chapters ran events across the province, continuing the association's excellent participation in the yearly campaign. For the first time, PEO's Upper Canada Chapter joined our legion of volunteers to offer



Nick Parcher, EIT, speaks to the students of The Grove Community School on the possibilities and power of engineering to create meaningful social and environmental change.

an amazing event in Cornwall. In addition, Lambton Chapter received innovation funding for their Impromptu Design Challenge and the Etobicoke Chapter amazed again with its annual Engineering Idol event (see p. 19).

NEM 2016 made a huge impact in the media, too—from dozens of articles appearing in local newspapers, to engineers taking the time to do interviews on local TV and radio. On social media, hashtag #NEM2016 was popular in Ontario, with photos, videos and stories being shared throughout the network. The new radio campaign for NEM on 680 NEWS AM in the greater Toronto area also made a lasting impression on listeners.

continued on p. 14



THURBER ENGINEERING LTD.



Alastair Gorman,
M.Sc., P.Eng., AVS.
Senior Geotechnical
Engineer
(Senior Associate, Toronto)



Fred Griffiths,
Ph.D., P.Eng.
Senior Geotechnical
Engineer/Branch
Manager
(Senior Associate, Ottawa)

Thurber's
Board of Directors
is pleased to
announce the
appointment of
our new Senior
Associates in
Ontario

**Great
People.
Great
Projects.**

www.thurber.ca



Students from Denis Morris Catholic High School accept their first-place prize in PEO Niagara Chapter's Design and Build Competition. Photo: Ellie Kenny

A student puts his bridge under the weight of PEO Sudbury Chapter's bridge buster at Science North.

The NEM website features a blog (nemontario.ca/blog), with coverage and photos of NEM events. This year, the site featured personal reflections from recent graduates on what their new iron rings mean to them. You can also find us on Twitter, Instagram and Facebook @NEMOntario.

Even with NEM 2016 fresh on our minds, preparation for NEM 2017 is already underway. Chapters: don't forget to include an event budget in your business plan in June. Applications for the next great outreach events are due to the National Engineering Month Ontario Steering Committee in November. Contact Erica Lee Garcia, P.Eng., at nemontario@ewb.ca with comments or questions.

GETTING THE WORD OUT ON EQUITY AND DIVERSITY

By Ann Holmes



PEO's Equity and Diversity Committee (EDC) is looking for members' ideas and help to raise awareness of the rights and responsibilities of PEO members and staff under the regulator's Equity and Diversity (E&D) Policy.

One of EDC's roles is to ensure there is equity and diversity information and training available to all PEO members and staff. The main tool the committee uses to explain PEO's E&D policy is a PowerPoint presentation. Over the past two years, the presentation has been promoted to chapters, council and committees, in eblasts to members, and in presentations to related groups, such as the National Council of Deans of Engineering and Applied Science, with the goal of encouraging people to view *Engineers Make a Difference*, an equity and diversity training module created by the committee. The module, which is available at peo.scholarlab.ca, encourages PEO members to consider equity and diversity concerns in their actions and activities.

The E&D module has been recognized by Engineers Canada as a best practice and a link to the module from the Engineers Canada website is planned.

If you have ideas about how you or your group might collaborate with EDC to spread the word on equity and diversity, please email Márta Ecsedi, P.Eng., chair, Equity and Diversity Committee, at mj.ecsedi@sympatico.ca.

Ann Holmes is an equity and diversity consultant.

WHO WILL YOU NOMINATE?

The Ontario Professional Engineers Awards recognize professional engineering excellence in innovation, leadership and entrepreneurship, and honour contributions to society as well. In 2015, an exciting new award category was added to recognize a project or achievement by a team of professional engineers that has had a significant impact on society, industry or engineering.

OPEA eligibility requirements and nomination forms are available at www.peo.on.ca.

The nomination deadline is Wednesday, February 22, 2017.

TD Insurance

Meloche Monnex

Get more out of your membership.

Get preferred insurance rates today!

Take advantage of
your group privileges:

You could save **\$415***
or more when you
combine your home and
auto insurance with us.

Because you've earned it.

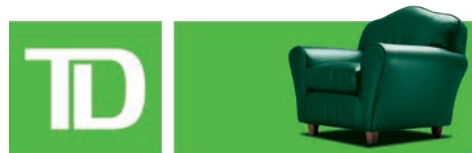
At TD Insurance we believe your efforts should be recognized. That's why, as a professional engineer in Ontario, you have access to the TD Insurance Meloche Monnex program, which offers you preferred insurance rates and highly personalized service, along with additional discounts. Request a quote and find out how much you could save!

Our extended business hours make it easy.
Monday to Friday: 8 a.m. to 8 p.m. (ET)
Saturday: 9 a.m. to 4 p.m. (ET)



HOME | AUTO

Ask for your quote today at 1-866-269-1371
or visit melochemonnex.com/peo



The TD Insurance Meloche Monnex program is underwritten by SECURITY NATIONAL INSURANCE COMPANY. It is distributed by Meloche Monnex Insurance and Financial Services Inc. in Quebec, by Meloche Monnex Financial Services Inc. in Ontario, and by TD Insurance Direct Agency Inc. in the rest of Canada. Our address: 50 Place Crémazie, Montreal (Quebec) H2P 1B6.

Due to provincial legislation, our auto and recreational vehicle insurance program is not offered in British Columbia, Manitoba or Saskatchewan.

*Nationally, 90% of all of our clients who belong to a professional or an alumni group (underwritten by SECURITY NATIONAL INSURANCE COMPANY) or an employer group (underwritten by PRIMMUM INSURANCE COMPANY) that have an agreement with us and who insure a home (excluding rentals and condos) and a car on July 31, 2015 saved \$415 when compared to the premiums they would have paid with the same insurer without the preferred insurance rate for groups and the multi-product discount. Savings are not guaranteed and may vary based on the client's profile.

© The TD logo and other TD trade-marks are the property of The Toronto-Dominion Bank.

FROM TESLA TO TISSUE ENGINEERING: Forum examines wide swath of innovation

By Michael Mastromatteo

DIFFERING PERSPECTIVES ON INNOVATION highlighted discussion March 2 at this year's Engineering Innovations Forum (EIF), organized annually by PEO, the Ontario Society of Professional Engineers (OSPE) and the Ontario Association of Certified Engineering Technicians and Technologists (OACETT), as part of National Engineering Month.

Held this year at the Toronto Botanical Garden, the forum attracted three high-profile speakers and more than 200 guests to a discussion of how engineering innovation was perceived in the past, and its potential for contemporary and future practitioners.

Looking at innovation of the past, Milomir Gavrilovic, P.Eng., a senior design engineer with Hydro One Networks Inc., offered a one-person performance, entitled "Nicola Tesla, Inventor of the Electrical Age."

Tesla is of special interest for engineers because of his work with electricity generation and distribution in the late 19th and early 20th centuries. Although regarded as a gifted eccentric in some circles, Tesla is esteemed by others as the father of the "second industrial revolution," primarily because of his work with polyphase alternating current.

For the first half of his presentation, Gavrilovic took on the guise of Tesla, complete with mustache, fedora and walking stick. He outlined many of the electricity pioneer's numerous patents and inventions, all the while recounting the struggles he faced in winning full acceptance by the scientific community of his time.

Gavrilovic later dispensed with the Tesla persona to outline some of the biographies written about the man and to argue that despite a lack of true appreciation, Tesla can be regarded as a founder of modern-day civilization.



Milomir Gavrilovic, P.Eng., in the guise of inventor Nikola Tesla, offered a dramatic portrayal of the iconic electrical engineer's life and work at the annual Engineering Innovations Forum March 2 at the Toronto Botanical Garden.

Victor Ragusila, a doctoral student at the University of Toronto's Institute for Aerospace Studies, followed the Tesla presentation with an outline of his team's human-powered aircraft, coined the "ornithopter."

Now finishing his doctoral program in "legged robotics," Ragusila is project team member of AeroVelo at the University of Toronto, which over the last five years has won acclaim for its work with human-powered aircraft. He and his team are also working on developing the world's fastest bicycle, which the team hopes can break the land speed record of 133 km/hour.

With respect to a pathway to innovation, Ragusila urged engineers to study the work of predecessors and contemporaries and, above all, look for a specific area where an innovation or new way of doing something will best resolve the design challenge.

The final presenter, Milica Radisic, PhD, P.Eng., professor at University of Toronto's Institute of Biomaterials and Biomedical Engineering, and Canada research chair in functional cardiovascular tissue engineering, gave an overview of her research that uses living tissue as an experimental platform for drug testing and tissue and organ repair.

The recipient of numerous awards, including the Ontario Professional Engineers Engineering Medal in the

continued on p. 18



PRIMAVERA



SAR Associates has been providing Project Management Solutions for over 20 years to the Architecture, Engineering & Construction Industry.

- Primavera Software has been required by most of the Public 'P3' Infrastructure Projects as the primary tool for Planning & Scheduling
- SAR as an Oracle Certified Gold Partner is Specialized in the latest Technology that Oracle Primavera offers
- We provide a full spectrum of services, including: Implementation, Configuration, Integration, Training, Staff Augmentation and Continuous Support

Find us at www.SARsystems.com
7050 Woodbine Ave., Suite 201, Markham, ON, L3R 4G8



A YEAR *can*
CHANGE
EVERYTHING

MEL | Master of
Engineering
Leadership

UBC'S MASTER OF ENGINEERING LEADERSHIP This one-year degree program combines intensive technical training with a focus on enhancing individual leadership ability. If you want to excel in your career, broaden your technical perspectives and gain new business skills—this program is for you!

Degree Programs Offered Include: Advanced Materials Manufacturing · Clean Energy Engineering · Dependable Software Systems · Green Bio-Products · Integrated Water Management · Naval Architecture & Marine Engineering · Urban Systems

604.827.4136 or mel.ubc.ca



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Applied Science

UBC SAUDER
SCHOOL OF BUSINESS

[NEWS]

continued from p. 16



Speakers at this year's forum included (left to right) Milomir Gavrilovic, P.Eng., Milica Radisic, PhD, P.Eng., Mike Wise of the CBC (moderator), and Victor Ragusila.

Young Engineer category (2011), Radisic described her recent work with “organ on a chip” engineering, a state-of-the-art system for creating human tissue to mimic the progression of certain diseases, and assist in the development of directly tailored treatments.

Radisic paid tribute to professional engineers for their contributions to the entire field of biomaterials and tissue engineering.

CBC television journalist Mike Wise was moderator for this year's event.

The Engineering Innovations Forum was initiated in 1990, under the name Engineering Action Forum, to help raise awareness of the role of engineers in harnessing science and technology for the public good. Previous forums have covered engineering and health care, disaster relief, wireless communications enhancement, forensic investigation and, in 2015, the role of engineers in preparing to stage the Toronto PanAm Games.

A FRIENDLY REMINDER TO KEEP US UPDATED!

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

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

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



Yukon engineering association CHANGES NAME

By Jennifer Coombes



In addition to a new name, Engineers Yukon has introduced a new logo that depicts elements associated with the far north territory, including a midnight sun, a stylized silhouette of the territory and an orange gear placed over the general path of the Alaska Highway, one of the territory's most significant engineering achievements.

The Association of Professional Engineers of Yukon (APEY) announced April 9 it is changing its operating name to Engineers Yukon. At the same time, Yukon's professional engineering regulator will also update its visual identity with a new logo.

In a press release, Engineers Yukon President Rod Savoie, P.Eng., said, “Our new name and visual identity will help further our efforts to become more active both in Yukon and nationally, through our involvement with Engineers Canada.”

The rebranding process will occur over the next few months; however, the former APEY website URL and email addresses remain in place for now.

Engineers Yukon's membership includes nearly 1000 professional engineers.

COMPETITION PROVING A TRAINING GROUND FOR FUTURE ENGINEERS

By Michael Mastromatteo

THE PEO ETOBICOKE CHAPTER continues to help make the engineering profession attractive to young people by way of its popular Engineering Idol competition.

The 2016 Engineering Idol contest, in which teams of high school students compete in a specially devised engineering design challenge, took place March 5 at the Bahen Centre for Information Technology at the University of Toronto (U of T). Since the founding of Engineering Idol in 2007, nearly 1000 high school students have enjoyed the opportunity to experience engineering by taking part. A handful of former Engineering Idol participants have even gone on to earn their P.Eng. licence or are engineering interns.

In another show of the contest's growing influence, this year's final was hosted by Adam Caprini, who was a student participant in the very first competition in 2007.

continued on p. 20



Students from Toronto's Loretto Abbey Catholic Secondary School won second place in the Engineering Idol contest with their "spring step" assistive device. Left to right are: Michela Trozzi, Vanessa Cristini, Daniela Roscetti, Anne Maria Marchesan and Asucena DiGiovanni.



**National
ENGINEERING
Month**



**THANK YOU
TO OUR 2016
SPONSORS**

#NEM2016





www.nemontario.ca

LEAD PRESENTER



thePersonal
Home and Auto Group Insurer

PARTNERS



Professional Engineers
Ontario



OACETT



ONTARIO
SOCIETY
OF PROFESSIONAL
ENGINEERS



engineers without borders
ingénieurs sans frontières
Canada

INVESTOR



General Contractors'
Section
TORONTO



GE



GEORGE BROWN
COLLEGE
Construction &
Engineering
Technology



HATCH



hydro
one
Partners in Powerful Communities



Manulife Financial
For your future™



McMaster
University
ENGINEERING



ONTARIO
POWER
GENERATION



Queens
UNIVERSITY



FACULTY OF
Engineering and
Applied Science



Ryerson
University



The St. Lawrence
Seaway Management
Corporation



Corporation de Gestion
de la Voie Maritime
du Saint-Laurent



Stantec



TORONTO
HYDRO



UNIVERSITY
OF ONTARIO
INSTITUTE OF TECHNOLOGY



UNIVERSITY OF
TORONTO



UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING



University
of Windsor

ALLY

Bruce Power ClearPath Promotions

Dillon Environment Humber College Seneca College



Thomas Garside shared his experience in designing assistive devices at the 2016 Engineering Idol competition.

“The idea was born when we considered the effects of earthquakes on Third World countries and we realized that these countries would need access to quick and inexpensive prosthetic devices,” Drisdelle says. “The idea morphed into a more generalized version, which we used for Engineering Idol, where teams were challenged to connect with an amputee, discern a need they had with their device, and propose a solution.”

This year’s event included a presentation to students by Thomas Garside of Sault Ste. Marie, a recent graduate of the University of Toronto who was diagnosed with cerebral palsy at an early age. As an undergraduate, Garside worked with a team of U of T engineering students to design a series of muscle-sensing knee braces that help people with disabilities regain mobility.

In Garside’s case, the knee braces are integrated with his body signals and take information from his legs to help him move forward. A series of pressure plates in the feet and electrodes reading the signals from his muscles translate information from Garside’s body to initiate a step.

Garside emphasized to students the engineering profession’s enormous potential in designing innovative, assistive devices for people with disabilities.

“In any year, Engineering Idol gives hundreds of students the chance to experience our profession and learn what engineers do,” Drisdelle told *Engineering Dimensions*. “One member of my executive explains that Engineering Idol gave the ‘geeky’ kids from his school the chance to be popular as well. When they entered with the Engineering Idol trophy at the school’s pep rally, they were all instantly as popular and successful as the quarterback on the high school football team. The experience caused him to choose engineering over computer science.”

In addition to the chance to compete for the Engineering Idol trophy, the event also includes presenting scholarships to deserving students.

The winner of the 2016 contest was the student team from Martingrove Collegiate Institute for their “Real Heel” assistive device. Second place went to Loretto Abbey students for the “Spring Step,” while third place went to students from Leaside High School for their work with “HydraFlex,” a device to assist swimmers who have lost a hand or upper arm.

For the 2016 competition, students from nine Toronto high schools designed and built prosthetic devices for amputees.

The chapter this year worked with the Champs/War Amps organization to come up with the design challenge. The student teams worked on their devices in February and presented the finished product before a panel of three judges, including two representatives from the Champs organization.

Linda Drisdelle, P.Eng., chair of the chapter’s Engineering Idol Committee, says the idea of designing a prosthetic device grew from the organizing committee’s review of disaster relief problems in developing countries.

INFRASTRUCTURE REBUILD BECKONS ENGINEERS’ POLICY- SHAPING INPUT

By Michael Mastromatteo

PEO chapters continue to offer members new opportunities to appreciate the profession’s contributions to the development of technically sound public policy.

The latest example came by way of the York Chapter’s March 22 engineering technology symposium attended by about 300 engineers, municipal government officials, and at least three members of the provincial cabinet: Hon. Reza Moridi, MPP (Richmond Hill), minister of training, colleges and universities and minister of research and innovation; Hon. Michael Chan, MPP (Markham-Unionville), minister of citizenship, immigration and international trade; and Hon. Helena Jaczek, MD, MPP (Oak Ridges-Markham), minister of community and social services.

York Chapter is one of the fastest growing of PEO’s 36 chapters, with some 8500 members.

This spring’s symposium followed up on the chapter’s 2015 event dedicated to a study of transportation and sustainable land use.

The 2016 event was divided into four categories—renewable energy, public transportation, the “fourth” industrial revolution (the Internet of things) and digital health care. Chapter volunteers arranged for special guest experts to headline panel discussions in each subject area.

City of Markham Mayor Frank Scarpitti, for example, moderated the panel discus-



Markham Mayor Frank Scarpitti (left) headed a panel discussion on transit improvements in the greater Toronto area during PEO York Chapter's March 22 engineering technology symposium. With Scarpitti on the panel are (from left) Richmond Hill City Councillor Godwin Chan; Markham Region Councillor Joe Li; Mary-Frances Turner, president of York Region Rapid Transit; and Chris Gauer, P.Eng., Infrastructure Ontario.

sion on public transportation, in particular the more efficient movement throughout the greater Toronto/Hamilton area.

Minister Moridi said the province must rely on its engineering expertise to remain competitive in an innovation economy.

"From digital health care to renewable energy to the next generation of transportation networks, engineering is critical to supporting the good jobs, modern infrastructure and advanced manufacturing sector our province needs to enjoy long-term economic growth," Moridi said.

Gordon Ip, P.Eng., FEC, former York Chapter chair, moderated the fourth industrial revolution discussion. He urged all professional engineers to prepare for rapid technological and administrative changes as the "Internet of things" unfolds over the next 10 years.

York Chapter Vice Chair Patrick Yeung, P.Eng., said it's important to maintain a non-partisan approach to the proceedings. He called engineers, business owners and elected officials the three important pillars of society. "Our goal is to encourage intelligent exchange of ideas among the three pillar groups, and to allow networking between engineers and business leaders," Yeung said, adding the chapter is already thinking of organizing another symposium next spring.

The symposium also featured a 90-second video welcome from Ontario Premier Kathleen Wynne. The premier praised engineers for their leadership in helping move the province to a "sustainable and prosperous low-cost carbon economy." She also said engineers will continue to play an essential role as the province embarks on the largest investment in public infrastructure in its history.



BUILDING FUTURE LEADERS

\$2.6 million
in scholarships

3044
engineering
students helped



Funding for engineering students at all Ontario accredited schools, and for professional engineers in financial need.

DONATE TODAY

- Online: engineersfoundation.ca
- Call: 1.800.339.3716, ext. 1222
- PEO fee renewal: [check the donation box](#)

Charitable Number: 104001573 RR0001

[DATEPAD]

MAY 2016

MAY 22-24

IEEE Radio Frequency Integrated Circuits Symposium, San Francisco, CA
rfic-ieee.org



MAY 22-25

IEEE International Symposium on Circuits & Systems, Montreal, QC
dev.iscas2016.org

MAY 22-25

TechConnect World Innovation Conference, Washington, DC
www.techconnectworld.com/World2016

MAY 23-24

IEEE Women in Engineering International Leadership Conference, San Jose, CA
ieee-wie-ilc.org

JUNE 2016

JUNE 1-4

CSCE Annual Conference, London, ON
www.csce2016.ca

JUNE 5-10

IEEE Photovoltaic Specialists Conference, Portland, OR
www.ieee-pvsc.org/PVSC43/index.php



JUNE 6-8

Canada Green Building Council National Conference & Expo, Toronto, ON
www.cagbc.org

JUNE 8-10

IEEE International Symposium on Industrial Electronics, Santa Clara, CA
isie2016.org



JUNE 13-17

AIAA Aviation 2016 Conference, Washington, DC
www.aiaa-aviation.org

JUNE 13-17

ASME Turbo Expo, Seoul, South Korea
<https://www.asme.org/events/turbo-expo>

JUNE 19-22

Canadian Engineering Education Association's Annual Conference, Halifax, NS
<https://ceea.ca/en/conferences>

JUNE 19-22

Canadian Nuclear Society Annual Conference, Toronto, ON
cns2016conference.org

JUNE 20-21

Information Storage & Processing Systems Conference, Santa Clara, CA
<https://www.asme.org/events/isps>



JUNE 26-30

International Conference on Nuclear Engineering, Charlotte, NC
<https://www.asme.org/events/icone>

JUNE 26-30

Power & Energy Conference & Exhibition, Charlotte, NC
<https://www.asme.org/events/power-energy>

JULY 2016

JULY 10-14

Heat Transfer, Fluids Engineering, & Nanochannels, Microchannels & Minichannels Conference, Washington, DC
<https://www.asme.org/events/htfeicnmm>



JULY 17-20

American Society for Agricultural & Biological Engineering Annual International Meeting, Orlando, FL
asabemeetings.org

JULY 17-21

IEEE Power & Energy Society General Meeting, Boston, MA
www.pes-gm.org/2016

JULY 17-21

Pressure Vessels & Piping Conference, Vancouver, BC
<https://www.asme.org/events/pvp>

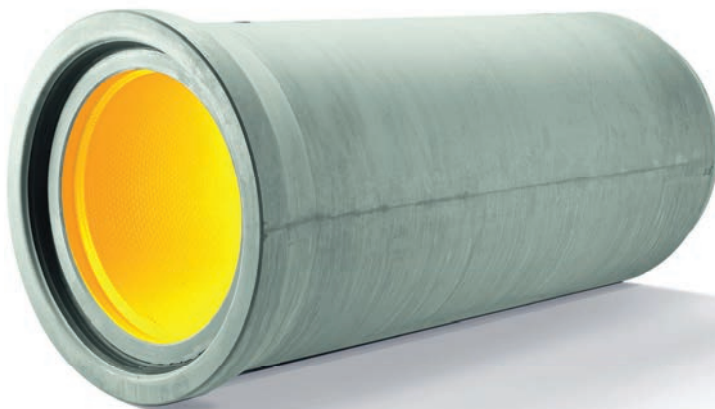
JULY 18-20

1st International Interactive Symposium on Ultra-High Performance Concrete, Des Moines, IA
register.extension.iastate.edu/uahpc2016

JULY 25-27

AIAA Propulsion & Energy Forum & Exhibition, Salt Lake City, UT
www.aiaa-propulsion-energy.org

The pipe that will
revolutionize
the landscape of
infrastructure systems
is here,
and it's **PERFECT.**



PERFECT PIPE, a concrete pipe product manufactured with a high density polyethylene (HDPE) liner and thermoplastic internal connectors with dual elastomeric rubber gaskets for the ultimate in joint integrity and durability. It's the future of waste water systems and it's only available in Canada through Con Cast Pipe. Contact us to learn more or for a plant tour to view the production of the PERFECT Pipe.

concastpipe.com | 1 800 668 PIPE | sales@concastpipe.com


CON CAST PIPE
ISO 9001:2008

[IN MEMORIAM]

THE ASSOCIATION HAS RECEIVED WITH REGRET NOTIFICATION OF THE DEATHS OF THE FOLLOWING MEMBERS (AS OF MARCH 2016).

ABDELMESSIH, Abdelmessih Halim
Toronto, ON

ADAMS, Thomas Bruce
Scarborough, ON

ALLAN, Alexander Bishop
Toronto, ON

AMON, Alex Muir Patrick
Etobicoke, ON

ANGURIAS, Filippos
Montreal, QC

ANTHONY, Arthur Lawrence
Toronto, ON

ARGUE, Lawrence Whitfield
Guelph, ON

BAILEY, Milton Edward
Waterloo, ON

BELLINGER, Nicholas Charles
Gloucester, ON

BENDER, Jerry Kenneth
Calgary, AB

BERNAL PARADA, Andres Arturo
Toronto, ON

BIRD, Richard Kenneth
Brights Grove, ON

BLAKELEY, James
Etobicoke, ON

BLAY, Arthur Barrington
Timberville, VA

BOLAND, Charles Howard
Thunder Bay, ON

BOULDEN, Robert Stuart
Ottawa, ON

BOWLES, Mervyn Edward
Guelph, ON

BRADY, Raymond Vincent
Hawkesbury, ON

BRECHIN, Alan Hamilton
Kingston, ON

BROWN, Clifford John
Roxburgh
St. Catharines, ON

BRYCE, Ronald Campbell
Delta, BC

BURGESS, John David
Huntsville, ON

CAMPBELL, Ian Cameron
Virgil, ON

CHAUHAN, Jaisal
Waterloo, ON

CHOUDHARY, Manoj Kumar
Richmond Hill, ON

CHOWANIEC, Adam
Ottawa, ON

CIARDULLO, Luigi
Woodbridge, ON

CLARK, James Calverley
Burlington, ON

CLARKE, Keith Albert
Vineland, ON

COCKBURN, Donald Howard
Newmarket, ON

COMPLIN, Paul Gordon
Toronto, ON

COULTER, Michael Arthur
Mississauga, ON

COULTER, Philip Edward
Oshawa, ON

CRANDELL, Gordon Earl
Innisfil, ON

CULBERT, Ian McKendrick
Burlington, ON

CZASTKIEWICZ, Witold Seweryn
Ottawa, ON

DAWE, James Russell
Burlington, ON

DENIS, Robert Fernand
Embrun, ON

DOBIS, Joseph Victor
Scarborough, ON

DOGGETT, Ailsa MacCorquodale
Mississauga, ON

DOHERTY, William Albert
Thornhill, ON

DRON, Dru James
Embrun, ON

DUBE, Howard Alexander
Windsor, ON

DUNK, Brian Edwin
Toronto, ON

EATON, Kenneth Clark
Sarnia, ON

EDGERLEY, William Llewellyn
Thornhill, ON

ELLIOTT, Thomas Bruce
Etobicoke, ON

EWING, Hector Ballentyne
Nepean, ON

FILIPOWICH, Edward William
Hamilton, ON

GARWOOD, Anthony John
Ottawa, ON

GIERUSZCZAK, Thaddeus Edward
North York, ON

GLOVEN, Marvin Sheldon
Thornhill, ON

GOEL, Anand Saroop
Scarborough, ON

GRIFFITHS, Brian Hughes
Georgetown, ON

HAINES, Paul Michael
Rockwood, ON

HAJAS, Robert Louis
Brantford, ON

HANCOCK, John Francis
Hamilton, ON

HAROLD, John Ormonde
Milton, ON

HEINZE, Georg Richard Kurt
Scarborough, ON

HOPE, Brian Bradshaw
Kingston, ON

HOWARD, Donald William
North York, ON

HRUTKA, John
North York, ON

JEFFERSON, Peter John
Stittsville, ON

JIANG, Jixing
Mississauga, ON

JOHNSON, William Ormand
Toronto, ON

KAMEL, Mohamed Salem
Waterloo, ON

KAWAR, Issa
North York, ON

KEAST, Leslie
Brampton, ON

KIMMETT, Kevin James
Winchester, ON

KISILEWICZ, Anna Maria
Whitby, ON

KLAUKE, John Joseph Christian
Sarnia, ON

KOEHLER, Hans Joachim
Lively, ON

KOVACEVIC, Vladimir
Toronto, ON

KRUEGER, Helmut
Kitchener, ON

LAYTON, Mark Snelgrove
Langley, BC

LOUCKS, Adam William Ross
Cobourg, ON

MACKENZIE, Hugh John
Invermere, BC

MATSUI, Thomas
Scarborough, ON

MATTHEWS, John Douglas
Mississauga, ON

MAYO, Geoffrey
Niagara-on-the-Lake, ON

McCRANK, Michael M.K.
Kirkland Lake, ON

McEWEN, Robert Duncan
Markham, ON

McGOEY, Joseph Patrick
Etobicoke, ON

McHENRY, Bruce Leslie
Mississauga, ON

MEADLEY, Reginald Frank
Orillia, ON

MESSERVEY, William Albert
Peterborough, ON

MITCHELL, William McKerron
Scarborough, ON

MORRISON, Ian Young
Toronto, ON

NANUT, Miroslav
Oakville, ON

NASH, Ronald James
Nobel, ON

NORMAN, George Edward
Barrie, ON

NOWAK, Stanley
Onaping, ON

O'FLAHERTY, Kevin Finbarr
Keewatin, ON

ORMOND, James David
Rochester, NY

OSHINOWO, Olatokunbo Toks
Scarborough, ON

PAKKALA, Denis Raymond
St. Catharines, ON

PARKER, Donald Charles
Kanata, ON

PATIENCE, Paul John
Kanata, ON

PHELAN, John Benedict
Etobicoke, ON

QUILLIAN, Ronald Gene
Kelowna, BC

RAHIM, Abdul A.
North York, ON

RAWLEY, John Wallace
Scarborough, ON

REID, Donald Hector
Terrace Bay, ON

ROBINSON, John Douglas
Port Dover, ON

ROBINSON, Randal Dawson
Bancroft, ON

RODMELL, Roy William
Peterborough, ON

ROY, Denis Raymond
Etobicoke, ON

RUDD, Harold E.
North York, ON

RUEBSAM, Ingo F.K.
London, ON

RUSHKA, Ronald John
Dillsburg, PA

SAURO, Giuseppe Daniele
Mississauga, ON

SCOTT, James Reid
Pincourt, QC

SCOTT, John William
Uxbridge, ON

SHAW, Donald Bruce
St. Catharines, ON

SHELSON, William
North York, ON

SHEPHERD, Clifton Monroe
Oshawa, ON

SICIUNAS, Virginus Joseph
Toronto, ON

SLATER, William McCarthy
Toronto, ON

SMAIL, Alexander Munro
Etobicoke, ON

SMITH, Roland Victor
Gloucester, ON

SOLOGYKA, Edward Richard
Sudbury, ON

SPAT, Attilio Giorgio
North Vancouver, BC

STEED, Gilbert Roy
Halifax, NS

STEELS, Douglas Evan
Whitby, ON

STEPHENSON, David Ewing
Kincardine, ON

STUHNE, Lidija
North York, ON

SWANSON, Glenn August
Mississauga, ON

SWIDER, Richard Charles
Toronto, ON

TENCH, Donald Keith
Oakville, ON

THOBURN, Weldon John
Toronto, ON

THOMPSON, Gordon Alexander
Hudson, QC

THOMSON, James Mackay
Sudbury, ON

THOMSON, William Walter
London, ON

THORNE, Edward William
St. Catharines, ON

TITCOMB, Bertram Richard
Ottawa, ON

TODGHAM, Herbert Harvey
Chatham, ON

TORMA, Bela
Toronto, ON

UNIAT, Daniel Bohdan
Victoria, BC

VAN CRUYNINGEN, Jan
Sidney, BC

VERBRUGGEN, Henry Arend
Schomberg, ON

WAGNER, William Lawrence
Ottawa, ON

WEBB, Paul Rhodes William
Nepean, ON

WELCH, James Ernest
Peterborough, ON

WHITMAN, Douglas Hume
St. Catharines, ON

WILKES, John Ballingal
Aurora, ON

WILSON, Robert Alexander
Kincardine, ON

WINCH, Peter Ernest
Chatham, ON

WINER, Albert Abraham
Ottawa, ON

WITHERS, Ramsey Muir
Kanata, ON

WOOD, Gerald Montague
North York, ON

WOODGATE, Harold Allen
Bobcaygeon, ON

YACYSHYN, Roy Roman
Etobicoke, ON

YATES, Raymond Graham
London, ON

ATTENTION

PEO volunteers and vendors

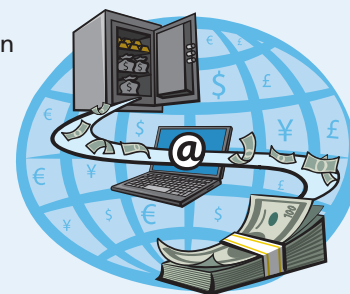
Still getting your PEO payments by cheque?

There's a much easier way! It's simple to sign up for our Electronic Funds Transfer Program (EFT). All we need is a void cheque from you or your company's accounts receivable staff emailed to:

PEOfinancialservices@PEO.on.ca.

What you get in return is a fast, convenient and secure way to receive your money. With EFT, funds can only be deposited to your account, never withdrawn.

For more information about EFT, email **APfinancialservices@peo.on.ca.**



PEO'S RELATIONSHIP WITH GOVERNMENT A TWO-WAY STREET

By Michael Mastromatteo

THE ENGINEERING REGULATOR'S relationship with the provincial government has had its ups and downs over the last 20 years. For years, the "silent profession," as engineering was widely known, went about its business of enforcing the *Professional Engineers Act* (PEA), establishing standards and regulations, and licensing new members with little fanfare and only routine contact with the government and the ministry with carriage of its legislation—the Ministry of the Attorney General.

For example, section 48 of the PEA requires PEO to report annually to the attorney general (AG), who submits the report to the lieutenant governor in council and the legislature, while one of PEO's additional objects (section 2(4)(4) of the PEA) requires the association "to promote public awareness of the role of the association." Presumably, legislators are part of this public.

However, Brendan Crawley, senior coordinator, media relations, Ministry of the Attorney General, told *Engineering Dimensions* in June 2015 the government has other means of keeping tabs on engineering regulation, citing the *Fair Access to Regulated Professions and Trades Act* with its creation of the Ontario Fairness Commissioner as a mechanism the province has developed to review the registration practices of regulated professions and trades. The fairness legislation is aimed at ensuring there are no unnecessary obstacles to internationally educated professionals (IEPs) becoming licensed in Ontario. PEO has a largely positive relationship with the provincial fairness commissioner and gets fairly positive reviews of its Fair Registration Practices Reports (www.peo.on.ca/index.php?ci_id=2103&la_id=1), although the Canadian experience required for licensing remains of concern.

The AG is also responsible for ensuring that engineering and the other professions under the ministry's purview comply with the requirements of the *Ontario Labour Mobility Act*, which supports full labour mobility for professional and skilled workers across Canada who want to work in Ontario.

In addition, the lieutenant governor in council appoints lay people to the various councils and boards of the self-regulated professions to ensure the public interest is represented. In PEO's case, up to 12 lieutenant governor appointees (LGAs) are appointed to PEO council by the government.

"The attorney general and ministry officials meet periodically with representatives of the self-governing professions [the ministry oversees] to discuss issues of mutual concern," Crawley said. "In the professional engineering context, for example, there have been ongoing discussions

on the recommendations made by the Elliot Lake Commission of Inquiry."

ONGOING DIALOGUE

The silent profession moniker does not suggest PEO has always taken government relations work entirely for granted. The Elliot Lake Commission of Inquiry cited by Crawley is just one example of PEO liaising with the provincial government to better protect public safety. Several times over the past 25 years, the regulator has been called on to offer input and advice to various provincial ministries in the development of technically sound public policy.

In 1995, for example, PEO put together a team of engineer experts to respond to incidents of breakaway wheel assemblies on tractor trailers. The resulting PEO report in September 1995 made 11 recommendations, ranging from better training for truck mechanics to more severe penalties for operators looking to cut corners on safety and maintenance schedules.

The Walkerton, Ontario, tainted water incident in 2000, which resulted in the deaths of seven people, and the December 2003 Uptown Theatre collapse in Toronto, which killed an international student, are two additional examples of PEO being impelled by circumstances to work with the provincial government to improve public safety and close gaps in regulation.

Before the creation of PEO's Government Liaison Program (GLP) in 2005, most government relations work at PEO was carried out on an issue-driven basis, overseen by a Government Affairs Committee (GAC). PEO's government relations manager, Hanna Pilar, and then-Executive Director Peter Large, P.Eng., carried out environmental scans to stay on top of issues of public importance. If a regulatory issue concerning engineering was identified, the GAC recruited a team of experts to offer advice and recommendations to elected officials.

ONE LASTING OUTCOME OF THE HOUSING MINISTRY INCURSION ISSUE AND BRYANT'S CHALLENGE TO PEO IS THE ONGOING WORK OF THE REGULATOR'S GLP.

Now working as manager of digital communications for the Ontario Ministry of Health and Long-term Care, Pilar believes this early government relations work succeeded in having the province look to PEO as a trusted partner.

"I think PEO's government relations work was relatively sophisticated for its time," Pilar said in April. "I think what we had was a very thoroughly thought-out process for getting submissions in. And by showing that we knew what we were talking about, [we were] getting PEO's name known within government. I think that was a very good way of doing it. We were trying to show them how good we are and demonstrate what we know."

Pilar cited PEO's involvement in a safety review of the Highway 407 express toll road (ETR) north of Toronto as an example of positive, mutually beneficial government relations. At the time, the province was committed to using the services of US-based experts for its safety review of the highway, which officially opened to traffic in 1997. By engaging with the ministry of transportation, however, PEO convinced it that a safety review of the highway was best left to a panel of Ontario engineers.

GOVERNMENT INCURSION

Yet despite the positive track record of PEO-Ontario government interaction, in 2003 the dynamic changed when the provincial government strayed into PEO's statutory jurisdiction by way of the Building Regulatory Review Advisory Group (BRRAG), through which the Ministry of Municipal Affairs and Housing (MMAH) sought to revise and update certain elements of the Ontario Building Code.

Early on in the public consultation, PEO noticed the ministry was looking to impose additional qualifications on practitioners involved in the building design area. Because much building design work is clearly within the purview of professional engineering, and because the PEA authorizes PEO to set the qualifications for engineering practice, the additional qualifications regime proposed by the housing ministry was at odds with the PEA.

In a 2005 media release, PEO took issue with provincial ministries introducing amendments to their legislation to impose additional regulatory control over licensed professionals.

"Such additional regulatory regimes typically create conflict for the established regulatory bodies, and provide questionable enhancements to public protection," PEO states in the release.

In the months preceding the ultimate legal showdown between PEO and MMAH—a judicial review eventually won by PEO—the regulator's top officials approached then-Attorney General Michael Bryant with a message about protecting the regulator's statutory authority in matters of engineering. It was Bryant who first suggested that if PEO wanted the province to better understand the regulator's role and function, it was incumbent on PEO to educate all MPPs to that effect.

One lasting outcome of the housing ministry incursion issue and Bryant's challenge to PEO is the ongoing work of the regulator's GLP. Now entering its second decade of operations, the GLP enables volunteer engineers from each of PEO's 36 chapters to build new or strengthen existing partnerships with MPPs and other government leaders. It is through chapter GLP subcommittees that the regulator's response to contemporary issues that impact engineering regulation and public safety are disseminated to legislators across the province.

PARTNERS IN PROBLEM-SOLVING

Supported by PEO's chapter system, the GLP engages members through a comprehensive three-pronged approach: facilitating strong, ongoing relationships between chapter members and their local MPPs; actively monitoring and taking action on policy proposals and upcoming legislation that could affect PEO and the PEA; and expressing PEO policy positions to government policy-makers.

Other hallmarks of the GLP and PEO's stepped-up government relations work are such activities as the regulator's Queen's Park receptions, and the Take Your MPP to Work days, an idea borrowed from the Registered Nurses' Association of Ontario that allows MPPs to experience first-hand a day in the life of a professional engineer.

Jeannette Chau, P.Eng., PEO's manager, government liaison programs, reported in April that PEO is taking stock of past GLP efforts to make the program even more effective.

"It's clear the GLP has been a real benefit to PEO over the years," Chau says. "It has played a key role in keeping the engineering profession top of mind with MPPs throughout the province. In fact, some MPPs are now asking us for opportunities to come out and meet engineers in their constituencies."

[GOVERNANCE]

Chau adds, however, that while the GLP handles the lion's share of PEO's government relations with elected officials, there is still an important role for senior management. When the PEO president, registrar or deputy registrar feel the need to bring a regulatory issue to the attention of government, they now sit down with Chau and Howard Brown, PEO's government relations consultant, to schedule meetings and prepare briefing notes. Over the past 12 months, PEO officials have met with AG Madeleine Meilleur, cabinet members and both opposition party leaders to articulate PEO's position on matters ranging from the Elliot Lake Commission of Inquiry into the partial collapse of the Algo Centre Mall to the repeal of the industrial exception.

Meanwhile, PEO's Legislation Committee, which was resurrected in 2009, provides additional oversight and guidance on matters pertaining to the PEA, regulations and bylaws.

These meetings complement a more grassroots approach as chapter-based GLP volunteers often meet local MPPs, not only to discuss engineering in general, but also to keep regulatory and licensing issues front and centre in the policy development area.

Darla Campbell, P.Eng., chair of PEO's Government Liaison Committee, which oversees the GLP and coordinates activity, said in April that it's important for the regulator to continually review its government relations work, especially as governments at all levels strive for increased transparency and openness in their stakeholder engagement.

"Our workplan is to take a look at ways to improve the effectiveness of the overall program," she says, adding that while there have been past achievements, there are always ways to become even more successful.

The committee will also review the government relations work of other self-regulated professions to see if best practices can be incorporated into PEO's efforts.

"In some ways, government relations work is a culture shift for engineers," Campbell says. "Engineers didn't like their work being discussed in the newspapers, because it generally meant that something went wrong. But now there is an expectation that engineers can assist government in developing more effective public policy options and they have to be more prepared to talk about what they do and how they can assist the government in some of its policy options."

GLP volunteers echo Campbell's statements. Daniel Liao, P.Eng., for example, chair of York Chapter's GLP Committee, is one of the most active GLP volunteers in the province.

"Any legislated profession requires strong relationships with the government and elected officials," Liao told *Engineering Dimensions* in April. "Generally, people think that engineers

are a highly respected but inward-facing group of professionals. I try to change that perception by engaging politicians who have the capability to magnify the voice of the profession as they are most often leaders within their communities. I also became interested in GLP after volunteering a number of years for York Chapter and realizing the program's relevance in terms of public engagement, as it is essentially a top-down approach through the elected politicians, which is complementary to the rest of the chapter's activities that are more grassroots."

This kind of motivation on the part of GLP volunteers and other socially conscious engineers bodes well for government relations work going forward. It's most manifest at PEO's engineering reception at Queen's Park. Now in its 10th year, the reception is a showcase for PEO and the Ontario government to celebrate a growing partnership. This year's reception, scheduled for October 26, will be preceded by a conference featuring a government relations panel of experts who will give GLP volunteers special insight into their work. It should provide additional inspiration to these PEO spokespeople as they look to take government relations work into the next decade. **Σ**

INTRODUCING PEO COUNCIL 2016-2017

EXECUTIVE COMMITTEE



GEORGE COMRIE, MENG, P.ENG., CMC, FEC
President

George Comrie holds BAsC and MEng degrees in industrial engineering from the University of Toronto, and has had a successful career as a software/systems engineer, management consultant, entrepreneur and business manager. As a volunteer for the profession, he is a long-time executive member of PEO's Etobicoke Chapter; chair of the Licensing and Human Resources committees; vice chair of the Emerging Disciplines Task Force; and a director of Engineers Canada. He was PEO president in 2004-2005, and is a past president of the Ontario Professional Engineers Foundation for Education. The founder of PEO's Engineer-in-Residence and Government Liaison programs, he was invested as an Officer in the Order of the Sons of Martha in 1982 and a Companion of PEO's Order of Honour in 2007 to recognize his contributions to PEO. A passionate advocate for our Canadian model of professional self-regulation, Comrie believes in PEO's accountability to its membership, and in strengthening its core regulatory functions. He also serves as a municipal councillor in the Municipality of Whitestone, Ontario. gcomrie@peo.on.ca



THOMAS CHONG, MSC, P.ENG., FEC, PMP
Past President

Thomas Chong earned a master's degree in mechanical engineering from University of Strathclyde, Glasgow, Scotland, in 1973. He became fellow of Engineers Canada in 2011; International Project Management Professional (PMP) in 2009; senior member, American Institute of Industrial Engineers in 1977; PEO member in 1976; and Chartered Engineer (Britain) in 1974. Chong was recruited from London, England, by Northern Telecom Canada as a corporate engineering manager in 1976. He has been president of a 4000-member network since 2008, and currently works as system lead with the Ministry of Health and Long-term Care. Chong won the Canada Cup 2014 in dragon boating. His OPS Ride for Heart team won the Gold Wheel Award in 2015 and 2014. Chong received an Amethyst Award twice, in 2014 and 2009. He won the ACE award from the Ministry of Health and Long-term Care in 2015 and 2014. Chong received a Queen Elizabeth II Diamond Jubilee Medal in 2013. Since 2009, he has also won 15 other major awards. Chong has been a mentor, York University engineering design program since 2008; mentor, Chinese Professionals Association of Canada (CPAC) since 2008; Knight of Columbus and Lector, St. Agnes Tsao Church since 2011; founding member, Popular Music Club since 2007; and former board member, Legal Aid Ontario Clinic, 2004 to 2009. Chong was vice president (elected) 2014; vice president (appointed) 2013; East Central Region councillor 2006 to 2013; and director, York Chapter, 2000 to 2008. He sits on the Human Resources Committee, 2015 to present, Audit Committee, 2006 to present; Discipline Committee, 2012 to present; and Government Liaison Program, 2006 to present. Chong has published many technical papers. thomas.chong3@gmail.com



BOB DONY, PHD, P.ENG., FIEE, FEC
President-elect

Bob Dony holds BAsC and MASc degrees in systems design engineering from the University of Waterloo and a PhD in electrical and computer engineering from McMaster University. He is an associate professor in the School of Engineering, University of Guelph. Licensed by PEO in 1989, Dony was a member of PEO's Emerging Disciplines Task Group (1997-2002) and the Evolution of Engineering Admissions Task Force (2000-2005) and of Engineers Canada's Canadian Engineering Qualifications Board (2001-2004). From 2008 to 2011, Dony was co-editor-in-chief, *Canadian Journal of Electrical and Computer Engineering*, Institute of Electrical and Electronics Engineers. He is currently a member (since 1998) and past chair (2011-2012) of the Academic Requirements Committee, a member (since 2012) and past chair (2012-2015) of the Legislation Committee, and PEO's representative on Engineers Canada's Canadian Engineering Accreditation Board since 2014. He previously served two terms (2012-2016) as councillor-at-large and one year as vice president (appointed) at PEO before his recent election as president-elect. Dony believes that to restore the relevance of self-regulation in engineering for all its member licensees, the profession must be responsive to the concerns of the entire cross-section of new and existing licence holders. bdony@peo.on.ca



PATRICK QUINN, PHD (HONORIS CAUSA), P.ENG., CENG, FCAE, FEC, FIEI
Vice President (elected)

Patrick Quinn is a founding partner of Quinn Dressel Associates, one of Canada's foremost structural engineering firms responsible for award-winning, landmark buildings throughout North America, Europe, the Middle East and Asia. A public activist on equality and violence issues, Quinn has contributed to TV and radio programs and presented on violence against women to the Ontario government, the Canadian Committee on Women in Engineering, and the Canadian Committee on Violence Against Women. He has published in a variety of newspapers and publications on technical and social topics. In 2007, Quinn was conferred with the Dublin Institute of Technology's Doctorate of Philosophy, honoris causa, at the faculty of engineering's graduation ceremony in St. Patrick's Cathedral, Dublin, Ireland, and was cited for outstanding personal achievements as an engineer and a model representative of the engineering profession. Elected a PEO regional councillor in 1996, and vice president in 1997 and 2015, Quinn was also president in 1999 and in 2006, when he led the successful court challenge to protect PEO's jurisdiction. A Member of the Order of Honour, Quinn has been elected to the boards of the Ordre des ingénieurs du Québec and the Ontario Society of Professional Engineers, and twice appointed to Engineers Canada's board. He is currently serving on the boards of Enersource Hydro Mississauga, and the City of Mississauga Committee of Adjustment. pquinn0121@rogers.com

PEO COUNCIL



DAVID BROWN, P.ENG., BDS, C.E.T.
Vice President (appointed)

David Brown is both a principal and practising structural engineer with TaskForce Engineering Inc., a Belleville-based design-build firm that specializes in the ICI construction sector. He is a founding partner of TaskForce and holds a diploma in civil engineering technology from St. Clair College of Applied Arts and Technology and a bachelor of applied science in civil engineering from Queen's University. Brown is a member of PEO, the Ontario Society of Professional Engineers, Canadian Society for Civil Engineering, and the Ontario Association of Certified Engineering Technicians and Technologists. Aside from his work at PEO, Brown volunteers extensively within his community and, in particular, with the United Way, where he was chair of the 2013 Campaign Committee. He is happily married to his wonderfully supportive wife, Liza, and between them have four amazing children. dbrown@peo.on.ca



CHANGIZ SADR, P.ENG., FEC

As East Central Region councillor for the last three years, Changiz Sadr has achieved many milestones for PEO, and for all regions within the past year as the Regional Councillors Committee (RCC) chair. Taking transparency to the chapters and getting them involved in their allotments distribution, which was a great point of concern for many chapters, is just an example of those achievements. Prior to being elected as an East Central Region councillor in 2013, Sadr held several positions with the board of executives of Willowdale/Thornhill Chapter, including chair of the Program and GLP committees, vice chair, chair and past chair—over 14 years of service to the chapter. Sadr has served as a member of PEO's Experience Requirements Committee (ERC) since 2003. He also served PEO's Emerging Disciplines Task Force as vice chair of the Communications Infrastructure Engineering subgroup from 2008 to 2011. Sadr has participated in several engineering program accreditation visits through the Canadian Engineering Accreditation Board, representing PEO as a general visitor since 2007. Sadr has volunteered as a mentor and coach to settlement agencies and community associations to assist newcomer engineers and professionals in adapting to their new environment. As a result of his work, Sadr has received four Ontario Volunteer Service Awards. He was made a fellow of Engineers Canada in 2010 and became a Member of PEO's Order of Honour in 2011. Sadr is a telecom engineer by education, and works as an ICT/CIE consultant. csadr@peo.on.ca



MARILYN SPINK, P.ENG.

Marilyn Spink's 30-year engineering career began in northern Ontario's mining and pulp and paper industries and then moved to steelmaking operations in both the US and Canada. After executing capital projects with Dofasco, she moved into the consulting engineering EPCM world, working on large, complex mining and minerals projects around the world. At Hatch, SNC-Lavalin, Wardrop (now Tetra Tech) and Golder Associates, as a multi-discipline engineering manager and a process engineer at heart, she led and supported teams of professional engineers and designers. She is now mentoring engineers and project managers with Isherwood Geostuctural Engineers. Spink continues to fulfill her passion for education through her volunteer commitments with Humber College and with Scientists in School, a Canadian science outreach not-for-profit, where she has served on the board for six years. Giving back to the engineering profession is also important to Spink via her appointment as an lieutenant governor-appointed councillor to PEO and by contributing to several committees and task forces. She has been a licensed professional engineer (PEO) since 1995, a member of the Ontario Society of Professional Engineers (OSPE) since its inception, and a long-time member of several mining industry associations. Her long-term goals are to build board/directorship experience to feed her strong interest in corporate governance and to ensure the voice of engineering is heard at the boardroom table. Marilyn is married to Jamie Gerson, also a professional engineer, who is extremely supportive of all her interests and a wonderful father to their three boys. mspink@peo.on.ca

COUNCILLORS

Councillors-at-large



ROYDON FRASER, PH.D., P.ENG., FEC

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. Fraser supervises the University of Waterloo Alternative Fuels Team (UWAFT), which competes internationally in the Advanced Vehicle Technology Competitions (AVTCs), such as the current EcoCar 3 Competition, with the goal of offering unparalleled hands-on, real-world experience to engineering students. He received the 2014 National

Science Foundation Outstanding Long Term Faculty Advisor Award. Over a multi-year design and build cycle, UWAFT achieves reduced fuel consumption, reduced greenhouse gas emissions, and reduced tailpipe emissions, all while maintaining consumer acceptability in the areas of performance, utility and safety. UWAFT is proud to have built the world's first, student-built, fuel-cell vehicle to complete successfully all of AVTC's production vehicle tests. Fraser continues to lead the organization of Explorations, an evening where the University of Waterloo's faculty of engineering is open to hundreds of grades 6, 7 and 8 students to see and explore the wonders of engineering. He is a member of the Society of Automotive Engineers, the American Society of Mechanical Engineers, and the Ontario Society of Professional Engineers, and is a lifetime member of the Sandford Fleming Foundation. He serves on PEO's Academic Requirements and Discipline committees, both since 1999. rafraser@uwaterloo.ca



ROGER JONES, P.ENG., MBA, SMIEEE, FEC
 Educated at Imperial College in London, England (BSc, DIC, M.Phil), and McGill University, Montreal (MBA), Roger Jones retired from George Kelk Corporation as vice president and chief engineer. His career has covered many engineering roles from design engineer to executive at several major firms, including Ferranti (UK aerospace), GEC (UK), Foxboro Canada, Cowan-Lavalin and Noranda. He has published over 35 technical papers and is a life/senior member of the Institute of Electrical and Electronics Engineers. Jones serves on several PEO committees: council (2010-12, 2013-15), Finance, Professional Standards (PSC) and the Emerging Disciplines Task Force (Nanotechnology and Molecular Engineering, and Communications Infrastructure Engineering subcommittees). He chaired the PSC Industry Subcommittee and is a member of the Professional Engineers Foundation for Education board. A vintage radio and aviation enthusiast, Jones is a member of the Ontario Vintage Radio Association and the Canadian Warplane Heritage Museum. Until it moved from Downsview, he volunteered at the Canadian Air and Space Museum, restoring vintage avionics for the Lancaster exhibit. In the local community, he serves on the Thornhill Festival Committee, the Thornhill Heritage Foundation board, and is a board member of Heintzman House, an historic building and community centre in Thornhill. With a long-time interest in economics, Jones is a member of the Queen's Park Economy Political Action Committee and in 2012 wrote its *Report on Industry in Ontario*. He is also an original member of the Society of Manufacturing Engineers' "Take Back Manufacturing" forum. rjones@peo.on.ca



CHRISTIAN BELLINI, P.ENG., FEC
 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 45 strong with offices in Toronto, Waterloo, Victoria and Halifax and an international portfolio of projects. A key characteristic of the firm is a high level of engineering engagement at all levels, which allows him to carry out engineering design on a daily basis in addition to his administrative duties. His volunteer career at PEO began in 2005 when he joined the Experience Requirements Committee (ERC), serving in later years as vice chair and chair. In 2012, he chaired the Overlapping Practices Committee, which successfully developed an approach to deal with perceived scope overlap between engineering and natural science. In addition to the ERC, he now serves on the Licensing Committee and the Advisory Committee on Volunteers. He has contributed to various Engineers Canada initiatives, holding the position of vice chair on Engineers Canada's Licensing Affairs Committee and having served on PEO's National Framework Task Force, which was struck to provide PEO feedback to Engineers Canada on their Canadian Framework for Licensure project, and participated in Engineers Canada's competency-based experience assessment project. 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, Ryerson University and Dalhousie University. cbellini@peo.on.ca

Regional councillors

EASTERN REGION COUNCILLORS

DAVID BROWN, P.ENG., BDS, C.E.T.
 (see Executive Committee)



GUY BOONE, P.ENG.
 Guy Boone was elected in February 2016 as an Eastern Region councillor, after serving as the PEO Ottawa Chapter (oPEO) 2015 chair and the oPEO Government Liaison Program (GLP) 2013 and 2014 committee chair. Boone joined the Ottawa Chapter executive in 2008 after serving as PEO Algonquin Chapter vice chair. As a public safety engineer for certification of products, machines and systems, Boone has had first-hand experience protecting the public and influencing safety designs and practices on a daily basis. He is an electrical engineering graduate from Memorial University of Newfoundland (MUN), and a safety advisor with SafetyGuy Consulting Inc. He has worked with Alcatel, Nortel and Nemko Canada as a product safety engineer, and as a system

safety engineer with Atomic Energy of Canada Ltd. (AECL) and Alcatel Transportation. Boone is a strong, active advocate for the engineering profession, serving on OSPE's Chapter Liaison Committee and working within both oPEO and OSPE to initiate and develop unique programs to support the engineering profession in the greater Ottawa region. These included joint social and technical seminars, engineering employment events (OSPE E3), joint GLP/PAN meetings with MPPs, and the 2015 launch of the oPEO/OSPE Engineering Innovation Ecosystem program. Boone is a tireless advocate for services that engineers need and supports co-operation among PEO, OSPE, Engineers without Borders (EWB), learned engineering societies (IEEE, IET, CIMarE/SNAME, INCOSE, cISSS and SRE Ottawa) and the faculties of engineering at University of Ottawa and Carleton University. gboone@peo.on.ca

EAST CENTRAL REGION COUNCILLORS

CHANGIZ SADR, P.ENG., FEC (see Executive Committee)



NOUBAR TAKESSIAN, P.ENG., FEC

Noubar Takessian received his BSc in mechanical engineering in 1972. He worked extensively in the Middle East and Europe before moving to Canada in 1985. He obtained his P.Eng. licence in 1987 and has been working in mechanical engineering services for buildings since. He has been a holder of a Certificate of Authorization from PEO for many years. Currently, Takessian is the chief mechanical engineer and senior project manager involved in the design and construction of mechanical services for commercial and industrial buildings. He has been a member of the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) since 1983 and a life member since 2013. Takessian vol-

unteered on the board of trustees for Holy Trinity Church Saturday School from 1995 to 1998. He volunteered for York Condominium Corporation YCC433—for a 25-storey condominium building—from 1988 to 2004, and as president of the board of directors during the last four years. Takessian has volunteered extensively for PEO. He joined PEO's Willowdale Thornhill Chapter in 1997. He has been continuously serving PEO since, serving all executive positions in his local chapter, including chapter chair from 2004 to 2008. He continued with the chapter executive in an advisory and consulting role and was vice chair from 2014 to 2016. He left the chapter executive after being elected regional councillor in 2016. Takessian received his FEC designation in 2010. He was made a member of PEO's Order of Honour in 2013.
ntakessian@peo.on.ca

NORTHERN REGION COUNCILLORS



DAN PRELEY, P.ENG.

Dan Preley was born and raised in Thunder Bay. He received a bachelor of civil engineering degree from Lakehead University in 1981. He has completed several advanced alternative dispute resolution courses with the University of Windsor. Preley has been a PEO member since 1983. Since joining the Lakehead Chapter executive in 2004, he has served as the chair, past chair, vice chair and treasurer. He is an associate value specialist with the Society of American Value Engineering. Preley is a senior project engineer and regional value engineering co-ordinator with the Ontario Ministry of Transportation. He has also worked for R.V. Anderson Consulting Engineers, Wardrop Consulting Engineers, Public Works Canada and Ontario First Nations Technical Services Corporation. Preley was a board member with the Canadian Society of Value Engineering and National Development Centre, Thunder Bay. He is an avid cross-country skier, hiker, cyclist and sea kayaker. His priority as a councillor is to implement the 2015-2017 Strategic Plan. By following the strategic objectives with respect to the goal areas, PEO shall perform to its full potential. dpreley@peo.on.ca



MICHAEL WESA, P.ENG., FEC

Michael Wesa received his BAsC (MechEng) degree from the University of Waterloo (co-op) in 1974, was registered in 1976, and is also a member of OSPE. The son of an engineer, Wesa attended local chapter functions with his dad before graduation, and since 1980 has served on the Lakehead Chapter executive. Wesa is proud that Lakehead Chapter will host the 2017 PEO AGM in Thunder Bay. Having previously served as a Northern Region councillor from 1992 to 1996, and 2011 to 2015, Wesa also contributed to numerous PEO committees—Executive, Finance, Regional Councillors, OSPE Joint Relations and CLC Planning—and various task forces. He has served on the Discipline Committee since 1992. Wesa was inducted into the Order of Honour in 2008. Wesa's engineering career included service in the forestry industry, three consulting firms, and Hydro One electrical utility. His technical expertise includes HVAC, power transmission, material handling, diesel generation and mechanical building services. Retirement in 2012 affords more time on travel adventures, as well as other local volunteer positions (minor hockey, symphony orchestra, church treasurer). Wesa recently traced his ancestral roots to 1665 in the Rheinland-Pfalz, DE, without resorting to commercial websites, by researching the history of the region and turning travel into journeys of discovery. Other interests include classical music, musical theatre, computing and trying to learn Deutsch. Although retired from squash and tennis, he can still hike and bicycle. Wesa and wife Arlien (married in 1975) raised two sons and a daughter and became grandparents last January. mwesa@peo.on.ca

WESTERN REGION COUNCILLORS



EWALD KUCZERA, MSc, P.ENG.

Having graduated from Queen's University with bachelor of science and master of science degrees in civil engineering, Ewald Kuczera obtained his licence in January 1980. Shortly after, he joined the Municipal Engineers Association. His career touched on most areas of municipal engineering.

During his working career, he served in various roles on work-related and volunteer committees, ranging from chair to technical advisor. In June 2014, he retired after serving over 16 years as director of public works for the Town of Niagara-on-the-Lake. Since being elected to council in 2013, he served on PEO's Audit Committee, Regional Councillors Committee and Volunteer Expense Claims Appeal Subcommittee. He chairs the Audit Committee, and is a member of the Legislation Committee and council liaison for the Enforcement Committee. He and his wife of 38 years, Wanda Gora, reside in the Niagara region and have three grown children and six grandchildren. His passions include his faith, his family's heritage and his calling to the profession. This spring, Kuczera is midway through his second, two-year term as a Western Region councillor. He feels privileged to be able to continue to represent the constituents of the Western Region on council. ekuczera@peo.on.ca



GARY HOUGHTON, P.ENG., FEC

Gary Houghton graduated from Western University with a bachelor of engineering science. He has been a professional engineer since 1979. Houghton has spent over 30 years in consulting, working primarily on environmental projects in water and wastewater. He had the opportunity to plan and design several significant water treatment, transmission and distribution projects in southwestern Ontario. He is currently manager of engineering for Norfolk County, overseeing planning and capital projects in water, wastewater, roads, bridges and stormwater. He has been a member of the PEO Enforcement Committee since 2000, and given the designation fellow of Engineers Canada. He assisted in the founding of the London Chapter of Consulting Engineers of Ontario. He has been a member of the Ontario Water Works Association (a section of AWWA) board for several years, serving as president in 2015-2016. He is an NFPA and Ontario Fire Marshal certified firefighter with additional NFPA certification in water rescue, and is an active firefighter with Central Elgin Fire Rescue. Pastimes include restoring, driving and riding old cars and motorcycles. ghoughton@peo.on.ca

WEST CENTRAL REGION COUNCILLORS



WARREN TURNBULL, P.ENG.

Warren Turnbull is a retired senior executive with over 33 years of engineering and senior sales management experience. He holds a BSc (electrical) from the University of Waterloo. Turnbull's career included involvement in and management of many multi-disciplinary teams related to instrumentation,

product design, maintenance, marketing and sales. Turnbull moved from successful assignments in engineering, customer technical service and new product development to senior marketing and sales management roles. His career included assignments at Du Pont Canada Inc., Continental Group of Canada Ltd., Fabrene Inc., Flexia Corporation and Intertape Polymer Group. Turnbull is currently providing technical sales, market consulting and distribution management services. Turnbull was actively involved in PEO's North Bay Chapter executive up to and including the position of chapter chair. In the past five years, he has held various positions on the Oakville Chapter executive, including event coordinator, event chair, chapter chair for two years and past chair. While with Oakville Chapter, Turnbull led implementation of its first all-day symposium, entitled "The Future of Energy in Ontario," which resulted in an ongoing partnership with the Oakville Chamber of Commerce for future symposiums and other events. As well, the chapter initiated programs with local businesses and the town to encourage innovation in Oakville and Halton Region. Turnbull was a board member of the Glen Abbey Residents Association and served two, one-year terms as president. He chaired the Group Homes Advisory Committee for the Town of Oakville. wturnbull@peo.on.ca



DANNY CHUI, P.ENG., FEC

Danny Chui received his BSc in civil engineering in 1984. He has been in the position of manager of capital works for Toronto's Exhibition Place since 1991. He was a member of the owner project implementation team for the construction of the then National Trade Centre (now Enercare Centre), Ricoh Coliseum, BMO Field and Allstream Centre. He undertook many innovative energy projects, such as photovoltaic, tri-generation, geothermal, green and white roofs and back pressure steam turbine. He completed on time and within budget in 2011 the Infrastructure Stimulus Fund's \$27.3 million program in 18 months, for which he received a citation from the board of Exhibition Place. Chui was a member of PEO's Mississauga Chapter executive from 1986 to 1995, serving in all officer positions and was elected as West Central Region councillor from 1995 to 2002. He was again elected to PEO council in 2012 and has begun serving his fifth year. While on council, he served on various committees, including as an Executive Committee member, appointed vice president and Finance Committee chair. He was invested as a Member of the Order of Honour in 2002 and fellow of Engineers Canada in 2009. He received a 15-Year Volunteer Service Award from the Ontario government and a 25-year volunteer service certificate from PEO in 2015. Chui is also a past member of APEGA, ASCE, AAET and OACETT, and served one term as a Mississauga Public Library board member in the mid-1990s. He has been a member and director of the Ontario Construction User Council for over 20 years, serving on its board in many executive capacities, including as chair. He remains a board director and was the appointed executive director in 2015. dchui@peo.on.ca

Appointed councillors



ISHWAR BHATIA, MEng, P.ENG., FEC

Ishwar Bhatia completed his BEng at BHU, Indian Institute of Technology (IIT) in 1970, and his MEng (civil) at Dalhousie University in 1972. After working with McNeely and Northland Engineering, Bhatia joined the City of Ottawa in 1974 as head of sewer maintenance. As a senior project leader in infrastructure, Bhatia supervised project managers, conducted environmental assessments, hired consultants, and managed multi-

million-dollar complex construction projects. He worked for GENIVAR from May 2009 to June 2011 to set up its municipal group. He is a past president (twice) of Ottawa's Civic Institute of Professional Personnel. Bhatia continues to serve on council, is a past member of the executive and chair of the Audit Committee; past chair of the 40 Sheppard Renovation Task Force and vice chair of the Finance Committee, and continues to serve on the Discipline Committee and its panels. He is also an active member of the Government Liaison Committee and council liaison for both the Discipline and Government Liaison committees. ibhatia@peo.on.ca

Appointed councillors



SANTOSH GUPTA, PHD, MENG, P.ENG., FEC

Santosh Gupta earned a bachelor of science (engineering) in 1961 and a master of engineering in 1962. He obtained a PhD from the University of Waterloo in 1974 and became a member of PEO in 1976. Gupta worked for Hydro One/Ontario Hydro in several management and professional engineering positions from 1981 to 2000. Prior to this, he worked in Montreal, Kenya and India on a variety of engineering projects and as a professor. Gupta chairs PEO's Experience Requirements Committee (ERC), and serves on the Audit, Licensing and Discipline committees, the Volunteer Expenses Appeals Subcommittee, and the Academic Requirements Committee/ERC Subcommittee. He is also the executive secretary of the Council of Ontario Deans of Engineering, and participates on Canadian Engineering Accreditation Board engineering program accreditation teams at Ontario universities. Gupta served on PEO's Professional Engineers Awards Committee until December 2011, and on the Finance and Legislation committees and the National Framework Task Force in the recent past. Prior to his current appointment to PEO council by the lieutenant governor of Ontario, Gupta sat on council as an East Central Region councillor for two years and was vice chair of the Scarborough Chapter for two years. sgupta@peo.on.ca



RICHARD J. HILTON, P.ENG.

Richard Hilton worked for over 30 years in the Canadian mining industry, mostly in the environment, health and safety (EHS) area. In his job, he travelled to many parts of the world to deal with operational and governmental issues. He has been on the cusp of the development of forward-thinking EHS programs and legislation. Hilton retired from full-time work in 2005. He is now a part-time consultant in environment, health and safety. rhilton@peo.on.ca



VASSILIOS (BILL) KOSSTA

Bill Kossta graduated with a bachelor of administrative studies from York University and a business administration, marketing management, diploma from Centennial College. He has 38 years of sales and management experience with leading companies in consumer packaged goods, including Seagram Company distillers, Carling O'Keefe Breweries, Molson Breweries and Great Lakes Brewing Company. He is sales manager at Cool Beer Brewing Company in Toronto. Kossta was appointed to PEO council in November 2006 and is a member of the Complaints, Registration, Audit and Legislation committees, and the Volunteer Expense Appeals Subcommittee. vkossta@peo.on.ca



MARY LONG-IRWIN

Mary Long-Irwin is the executive director of northern Ontario Angels, an organization that matches entrepreneurs with investors across Northern Ontario. Under her guidance, Northern Ontario Angels has been one of the top-performing angel groups across the country with over 120 deals and approximately \$45M in private investments. Prior to this, Long-Irwin was the president/CEO of the Thunder Bay Chamber of Commerce for 10 years. She worked closely with three levels of government to ensure the growth of business and economic development opportunities throughout northwestern Ontario. She was also the CEO for Northwestern Ontario Associated Chambers of Commerce. During the 1990s, Long-Irwin was the general manager, principal lender and business consultant to over 500 businesses for Superior North Community Corporation for 10 years. Prior to this, she was an owner of two very successful businesses and taught business at Confederation College. Long-Irwin was born, raised and educated in Thunder Bay, continues to

provide business advisory services to many area businesses and remains a strong advocate for business and industry. She continues to serve on many boards and non-profit organizations. She is involved with fundraising and awareness, as well as public speaking and education for many non-profit and charitable organizations. mlongirwin@peo.on.ca



SHARON REID, C.TECH.

Sharon Reid graduated from the electronics engineering technician program at Fleming College. She is currently employed as a senior technician at Canadian Instrumentation Services Group, Peterborough, where her responsibilities include the calibration and verification of electronic and electromechanical test equipment, maintenance of medical equipment and assistance with acceptance and efficiency testing of hydro generators in Canada and abroad. Reid's community service has included work with Girl Guides of Canada, regional and Canada-wide science fairs, National Engineering Month activities and over a decade of involvement with the Ontario Association of Certified Engineering Technicians and Technologists (OACETT). Reid is a certified member of OACETT and has served OACETT as chapter director, chair of the Women in Technology Committee, regional secretary/treasurer and eastern regional councillor. She currently sits on OACETT's Women in Technology Task Force. Reid was a delegate to the OACETT technology exchange in China in 2008 and was an OACETT representative with the Applied Science Technicians and Technologists of BC (ASTTBC) on the BC/Canada and India Mutual Recognition Agreement site visit in 2014. She was inducted to the Klaus Woerner Skilled Trades Hall of Fame in 2010 and was a recipient of OACETT's Women in Technology Award for 2012. Reid is a lieutenant governor appointee to PEO council and sits on PEO's Equity and Diversity, Discipline, and Legislation committees. sreid@peo.on.ca



RAKESH SHREEWASTAV, P.ENG., AVS, FEC

Rakesh Shreewastav obtained his MSc degree in civil engineering from Moscow State University, Russia, and works for the Ontario Ministry of Transportation (MTO). Previously, he worked for Ontario Power Generation and multi-disciplinary engineering companies and government sectors in Russia and Nepal. Shreewastav has actively participated on several PEO chapter committees and Conference for Internationally Educated Professionals engineering panels, and been involved in other professional organizations, such as the Ontario Society of Professional Engineers, the Canadian Society for Civil Engineering, Value Analysis Canada and the Value Society SAVE International. Dedicated to science awareness and community involvement, Shreewastav has served on judging panels in FIRST Robotics Canada competitions and regional science fairs and also on the board of directors of the Rotary Club of Nipissing and London South. Shreewastav was selected among thousands as one of 17 people in Canada to be featured in the video vignette *Potential to Prosperity*, a project sponsored by the Canadian Foundation for Economic Education. Shreewastav is also a member of PEO's Discipline, Equity and Diversity, and Awards committees, board member of Engineers Canada and a past member of the Sustaining the Ontario Centre for Engineering and Public Policy Task Force. rshreewastav@peo.on.ca

MARILYN SPINK, P.ENG.

(see Executive Committee)

DECISION AND REASONS

In the matter of a hearing under the *Professional Engineers Act*, RSO 1990, c. P.28; and in the matter of a complaint regarding the conduct of GREGORY J. SAUNDERS, P.ENG., a member of the Association of Professional Engineers of Ontario, and M.R. WRIGHT AND ASSOCIATES CO. LTD., a holder of a Certificate of Authorization.

This matter relates to the structural investigation of the Algo Centre Mall (the mall) in Elliot Lake, Ontario, and the subsequent partial collapse of the rooftop parking structure of the mall on June 23, 2012, which killed two people.

The Complaints Committee of the Association of Professional Engineers of Ontario (the association) referred this matter to the Discipline Committee on April 1, 2015, under section 24(2)(a) of the *Professional Engineers Act* (the act).

PRELIMINARY MATTER—SERVICE OF NOTICE OF HEARING ON M.R. WRIGHT AND ASSOCIATES CO. LTD.

The association entered into evidence a copy of the Notice of Hearing issued September 16, 2015, and advised the panel that, although the holder of the Certificate of Authorization, M.R. Wright and Associates Co. Ltd. (MRW), was neither present nor represented, it would, nonetheless, be asking the panel to make certain findings of guilt against MRW. The association explained that it would be asking this based on findings of fact agreed to between it and Gregory J. Saunders (the member), who was the contact professional for MRW, in accordance with section 47 of Regulation 941 (1) of the act, at the time of the mall collapse. The association clarified that the member was not currently an officer and director of MRW. It further explained that it had cancelled MRW's Certificate of Authorization for non-payment on October 11, 2012.

The panel asked the association whether MRW had been notified of the hearing and the association advised that the Notice of Hearing for MRW had

been sent to the member's lawyer in accordance with its understanding that the lawyer was counsel of record for MRW.

The panel expressed concern about whether the Notice of Hearing had been properly served on MRW and asked for the parties' submissions.

The association advised that its files indicated that counsel for the member was counsel of record for MRW at the time that the Notice of Hearing was issued. The association stated that it relied on the Statement of Readiness submitted by counsel for the member, which it understood to have been filed on the belief that MRW was a defunct company. The association submitted that evidence provided at the Elliot Lake Inquiry (2) indicated that MRW had been shut down and was no longer in operation. The association included, as Schedule E to the Agreed Statement of Facts (ASF) entered into evidence as Exhibit 5, an excerpt from Chapter 12 of Part One of the *Report of the Elliot Lake Inquiry*, which confirmed that MRW was dissolved after the collapse of the mall (3). The association stated that this information, along with the fact that MRW does not currently hold a Certificate of Authorization, should be considered by the panel. The association stated that it had maintained contact with the member, who was the contact professional for MRW at the time of the collapse and continued to be an officer and director of MRW until November 11, 2015, according to the corporation profile report tendered as evidence. The association added that its practice is to deal with the contact professional and that it followed its usual practice, noting that the member was still technically an officer and director of MRW when the Notice of Hearing was issued.

The association conceded that if, in fact, Johnson was not counsel for MRW, service on MRW may not have been properly made. Nonetheless, the association submitted that, because the ASF and the Joint Submission on Penalty (JSP) between Saunders and the association were to be introduced at the hearing, the hearing should proceed in MRW's absence. The association asked the panel to proceed with the hearing based on the ASF and to make findings subject to providing an opportunity for MRW to come forward and make submissions

after being served with the Notice of Hearing again. It argued that this approach would allow the hearing to proceed so that the evidentiary portion could be dealt with, while still providing an opportunity for MRW to provide submissions should it wish to do so.

Counsel for the member advised the panel that he was not counsel for MRW and that his firm did not represent MRW. In support of his position, Johnson referred to the Statement of Readiness that he sent to the association on June 29, 2015, which stated that he was responding on behalf of Saunders “and to the extent necessary where the interests of Saunders require the within response applies to [MRW].” Johnson submitted that Saunders resigned as an officer and director of MRW in August 2012, but that MRW had not updated its corporate records to reflect the resignation. He stated that his firm updated the corporate records recently to reflect the fact that Saunders was no longer involved with MRW. Johnson concluded by stating that he has no legal authority to take a position on MRW or to proceed with the hearing as it relates to MRW’s interests. However, he advised that he agreed to proceed with the hearing in accordance with the association’s request.

Independent legal counsel (ILC) advised the panel that the Notice of Hearing was not served on MRW in accordance with section 43 of the act, which requires notice to be served personally or by mail in order to be sufficiently given. ILC advised that in the circumstances—the hearing related primarily to the member and MRW was likely defunct and no longer holds a Certificate of Authorization—there were no natural justice or procedural concerns to prevent the panel from hearing the evidence.

However, ILC advised that it would be necessary to provide MRW with a Notice of Hearing and an opportunity to make submissions and/or call evidence if it contested the ASF or the association’s submissions on penalty.

The panel considered the submissions of the parties and the advice provided by ILC, and decided to proceed with the hearing against the member and to hear the evidence against MRW. The panel directed ILC to notify MRW at the conclusion of the hearing and give it the opportunity to call evidence and/or make submissions with respect to the allegations and/or penalty against it. The panel asked ILC to send the notice to MRW’s last known address at 17 Black Road, Suite 8, Sault Ste. Marie, Ontario, providing a copy to the panel and the association of both the notice and MRW’s response, if any.

In accordance with the panel’s direction, ILC notified MRW of the hearing by letter dated December 2, 2015, and invited its submissions on the allegations against it and the order and fine requested by the association with respect to MRW during the hearing of November 16, 2015. MRW did not provide submissions or respond to the letter. The panel, therefore, issues its Decision and Reasons regarding MRW after having given MRW an opportunity to address the issues herein.

THE ALLEGATIONS

The Statement of Allegations referred by the Complaints Committee to the Discipline Committee on February 12, 2015, was filed with the panel for the purpose of establishing its jurisdiction. With respect to

MRW, the association submitted that section 22(1) of the act, which addresses the cancellation of a Certificate of Authorization for default of fees, gives it continuing jurisdiction to deal with the conduct of a certificate holder. After reviewing the Statement of Allegations for this purpose, the panel was satisfied that it had jurisdiction under sections 5(1) and 22(1) of the act to hear and determine the matter with respect to the member and MRW, respectively.

The Statement of Allegations alleged that the member and MRW are guilty of professional misconduct as follows:

1. signing an engineering opinion dated April 30, 2012, without having prepared or checked the work supporting the opinion, amounting to professional misconduct pursuant to sections 72(2) (a), (b), (e) and (j) of Regulation 941 of the act.
2. signing a final engineering opinion dated April 30, 2012, without applying a seal contrary to section 53 of Regulation 941 of the act, amounting to professional misconduct pursuant to sections 72(2)(g) and (j) of Regulation 941 of the act.
3. signing an engineering opinion dated April 30, 2012, confirming the structural integrity of a building without making reasonable provision to ensure the validity of the opinion, amounting to professional misconduct pursuant to sections 72(2)(a), (b), (d) and (j) of Regulation 941 of the act.
4. signing an engineering opinion dated May 3, 2012, without having prepared or checked the work underlying the opinion, amounting to professional misconduct pursuant to sections 72(2) (a), (b), (e) and (j) of Regulation 941 of the act.
5. signing a final engineering opinion dated May 3, 2012, without applying a seal contrary to section 53 of Regulation 941 of the act, amounting to professional misconduct pursuant to sections 72(2)(g) and (j) of Regulation 941 of the act.
6. signing an engineering opinion dated May 3, 2012, confirming the structural integrity of a building without making reasonable provision to ensure the validity of the opinion, amounting to professional misconduct pursuant to sections 72(2)(a), (b), (d) and (j) of Regulation 941 of the act.
7. permitting or assisting a non-practitioner to engage in the practice of professional engineering in or about April and/or May 2012, amounting to professional misconduct pursuant to sections 72(2)(m) and (j) of Regulation 941 of the act.

AGREED STATEMENT OF FACTS AND MEMBER'S PLEA

The association provided a copy of the ASF signed by the member. The member admitted all of the facts in the ASF and pled guilty to the allegations of professional misconduct as follows (the schedules referred to in the ASF below are omitted):

1. Saunders was, at all material times, a professional engineer licensed pursuant to the *Professional Engineers Act* (the act). The respondent, M.R. Wright and Associates Co. Ltd. (MRW), was, at all material times, the holder of a Certificate of Authorization under the act.
2. Robert G. Wood (Wood) was, at all material times, the president of MRW. Until on or about October 28, 2011, Wood was the member of the association designated by MRW under section 47 of Regulation 941 under the act as assuming responsibility for the professional engineering services provided by MRW (the contact professional). At all material times thereafter, Saunders was the contact professional for MRW.
3. Wood, Saunders and MRW were convicted by a panel of the Discipline Committee of professional misconduct on the basis of a consent plea and joint submission as to penalty in connection with work done on a bridge rehabilitation design in 2005 (the previous work). Attached, as Schedule A, is a copy of the decision of the panel dated November 15, 2010, as published in the March/April 2011 edition of *Engineering Dimensions*.
4. Although Saunders signed and sealed the drawings at issue in connection with the previous work, he was not directly involved in the project, and did not actually attend at the site. Rather, he relied upon the drawings, information and representations provided to him by Wood, who had attended at the site and who had performed the site inspections referred to in the panel's decision (Schedule A).
5. As part of the penalty arising out of the previous work, the panel imposed a requirement on each of Saunders and Wood that they write and pass the association's professional practice examination (PPE) by November 15, 2011. In addition, Wood was required to write and pass certain technical examinations by November 15, 2011. In both instances, failure to write and pass the specified examinations by the deadline would result in licence suspension for 12 months, and failure to write and pass the examinations within 12 months thereafter would result in licence revocation. Saunders wrote and passed the PPE within the time allowed, but Wood did not write any of the examinations he had agreed to write. Saunders knew that Wood, within the time allowed, did not write any of the required examinations.
6. As a result of Wood's failure to write any of the specified examinations, his licence was suspended effective November 16, 2011. As the contact professional for MRW, Saunders was notified of the suspension by a letter from Linda Latham, P.Eng., deputy registrar, regulatory compliance, dated November 24, 2011. Attached, at Schedule B, is a copy of this letter.
7. On or about April 12, 2012, Wood attended at the Algo Centre Mall in Elliot Lake, Ontario (the mall), to conduct a "structural condition inspection" at the request of the mall's management. On or about April 30, 2012, Saunders co-signed, with Wood, a letter to the mall's management, a copy of which is attached as Schedule C, stating in part: "We have no structural concerns over the additional loading of caulking or waterproofing."
8. Saunders had, in fact, not attended the mall on April 12, 2012, and had no involvement in the "on-site review." In fact, Saunders had never been to the mall. The letter was not sealed, contrary to the requirements of section 53 of Regulation 941 under the act.
9. On or about May 3, 2012, Saunders co-signed, with Wood, a report entitled "Structural Condition Inspection" based on Wood's April 12, 2012 on-site review. Attached, as Schedule D, is a copy of the May 3, 2012 report (the May 3rd report) co-signed by Saunders.
10. The May 3rd report stated that "we" had been requested to "inspect the above-noted mall complex." The May 3rd report was not sealed, contrary to the requirements of section 53 of Regulation 941 under the act. The May 3rd report did not identify any structural concerns with the mall, and stated that the beams inspected were "structurally sound" and that "no visual signs of structural distress were observed."
11. Prior to co-signing the May 3rd report, Saunders met with Wood at the MRW office, during which meeting Saunders reviewed the said report with Wood. During that meeting, Wood told Saunders that the report was requisitioned by mall representatives for the purposes of financing and that Wood, during his on-site inspection, had been taken by a mall employee to the worst areas of leakage in the mall. Wood informed Saunders that he looked at the steel above the ceiling tiles in these areas and found no loss of section on any of the beams inspected. Wood reviewed with Saunders all of the pictures Wood took of the mall structure during his on-site inspection. Based upon Wood's representations, Saunders co-signed the May 3rd report. Those representations of Wood turned out to be false.
12. The April 12 on-site review, the April 30th letter (Schedule C) and the May 3rd report were all deficient because Wood:
 - (a) failed to consider previous reports that were available to him;
 - (b) failed to look at important parts of the mall that he knew, or should have known, ought to be inspected;
 - (c) failed to adequately inspect or examine those parts of the mall that he did look at;
 - (d) failed to notice, or failed to appreciate, the effects of continued leakage on the structural integrity of the mall;

- (e) drew conclusions about the structural integrity of the mall without an adequate basis for doing so;
- (f) failed to notice or to identify the effects of corrosion on structural elements of the mall;
- (g) failed to identify deficiencies that compromised the structural integrity of the mall; and
- (h) implicitly affirmed the structural integrity of the mall without having an adequate basis for doing so.

Attached, as Schedule E hereto, is a copy of that portion of the *Report of the Elliot Lake Commission of Inquiry* that discusses Wood's and Saunders' conduct in connection with the May 3rd report.

13. Although Saunders co-signed the April 30th letter and the May 3rd report, he had not visited the mall. Rather, he again relied upon the information and representations provided by Wood. He did not insist on seeing any drawings or field notes, nor did he examine MRW's own records to ascertain whether there had been any prior reports relating to the mall. He did not inquire, and therefore did not know, that there was a long history of leakage at the mall. He did not closely question Wood as to the limited scope of his inspection and whether it was sufficiently comprehensive in the circumstances. Saunders did not ask, and therefore did not know, that Wood had failed to take any measurements of the beams that were referred to in the May 3rd report as being "structurally sound," nor had Wood inspected the condition of the welds at connections in the areas experiencing leakage.
14. Saunders should have known, as a result of the previous conviction, that Wood was not always as thorough as he should be. Further, Saunders knew that Wood was planning to "retire" and that he had made no effort to write any of the examinations he had agreed to write. In all the circumstances, Saunders should have taken steps to double-check Wood's work. He should have been much more careful. Saunders did not conduct a proper or adequate review of the April 30th letter or the May 3rd report or the work leading to them, and fell below the expected standard of practice in his supervision of Wood's work in connection with the April 30th letter and the May 3rd report.
15. Saunders admits that the work carried out by him in connection with the April 30th letter and the May 3rd report was deficient, as set out

above, and fell below the expected standard of practice for engineering work of this type.

16. On June 23, 2012, about two months after the April 12th inspection, a portion of the mall's rooftop parking structure collapsed causing two deaths, several non-fatal injuries, and substantial damage to a number of areas of the mall. After the mall collapse, Saunders co-operated with the association and the Ontario Provincial Police in their investigations.
17. The cause of the collapse was failure of a heavily corroded steel connection located below the parking deck. The expert report commissioned by the Ontario Provincial Police following the collapse concluded that the general condition of the structure of the mall was poor. The experts found that the welds and other components of the connections in more than 40 per cent of the locations they inspected had severe to very severe corrosion. The expert report concluded that corrosion was a widespread issue that affected significantly more than the connection that ultimately failed.
18. By reason of the aforesaid, the parties agree that Saunders is guilty of professional misconduct as follows:
 - (a) on or about April 30, 2012 and May 3, 2012, signing a final engineering opinion without applying a seal contrary to section 53 of Regulation 941 of the act, amounting to professional misconduct pursuant to section 72(2)(g) of Regulation 941 of the act;
 - (b) on or about April 30, 2012 and May 3, 2012, signing an engineering opinion confirming the structural integrity of a building without making reasonable provision to ensure the validity of the opinion, amounting to professional misconduct pursuant to sections 72(2)(a) and (d) of Regulation 941 of the act; and
 - (c) by reason of the foregoing, engaged in conduct or performed an act relevant to the practice of professional engineering that, having regard to all the circumstances, would reasonably be regarded by the engineering profession as unprofessional, amounting to professional misconduct under section 72(2)(j) of the act.

DECISION REGARDING THE MEMBER

The panel conducted a plea inquiry and was satisfied that the member's admission and plea were voluntary, informed and unequivocal. Having considered the ASF and the submissions and agreement of the parties, the panel found that the facts, as agreed, supported a finding of professional misconduct against the member. The panel found that Gregory J. Saunders, P.Eng., committed the acts of professional misconduct set out in paragraphs 18(a), (b) and (c) of the ASF set out above, and was guilty of professional misconduct under sections 72(2)(a), (d), (g) and (j) of Regulation 941.

PENALTY DECISION REGARDING THE MEMBER

The association advised the panel that it and the member had agreed to the Joint Submission on Penalty (JSP), which they submitted to the panel for its consideration. Counsel for the parties then provided submissions on the appropriateness and adequacy of the penalty agreed to.

The association submitted that the purposes of penalty are served in this matter in the following ways: the long suspension, fine, reprimand

and discipline publication will specifically deter the member and generally deter other engineers who may be inclined to breach the law, while protecting the public interest. The penalty also demonstrates the seriousness with which the association takes the member's professional misconduct, and maintains the association's reputation in appropriately and effectively regulating the practice of engineering. The association added that there is no evidence the member is incompetent and, therefore, no remediation is required. As well, the association submitted that the penalty accounts for the member's discipline history and the mitigating steps he took in the present matter, including his co-operation with the association and with the authorities after the mall collapse, and his serious admission of the allegations of professional misconduct, which made a difficult, contested hearing unnecessary. It added that these mitigating factors also demonstrate that the member has learned his lesson and is unlikely to reoffend. The association referred the panel to three decisions of the Discipline Committee that supported its submission that the penalty was reasonable: the 2009 decision regarding Suli Braunshtein, P.Eng. (4); the 2002 decision regarding Man-Woon Lai, P.Eng. (5); and the 2005 decision regarding Kwang-Ray Hsu, P.Eng. (6).

Counsel for the member acknowledged the submissions of the association on the mitigating factors in this matter. He added that the member has been practising for 24 years in good standing. Regarding the member's previous discipline matter, Johnson noted that the member complied with the remediation requirement of his penalty and the fine ordered was paid. Counsel for the member submitted that the member co-operated with the association throughout the complaint and discipline processes, and spared the association the cost of a lengthy hearing by making his consent plea at the earliest stage of this discipline matter. He added that the member has accepted responsibility and a suitable penalty that satisfies the principles of penalty.

The panel concluded that the proposed penalty is reasonable and clearly within the appropriate range. The member co-operated with the association, accepted responsibility for his actions, pled guilty, and spared the association the costs of a contested hearing by agreeing to the facts and to an appropriate penalty. The panel accepted the JSP set out below and, accordingly, ordered:

- (a) Pursuant to section 28(4)(f) of the act, the member shall be reprimanded, and the fact of the reprimand shall be recorded on the register for a period of one (1) year;
- (b) Pursuant to section 28(4)(b) of the act, the member's licence shall be suspended for a period of seven (7) months, commencing 14 days after the day the penalty decision is pronounced by the Discipline Committee;
- (c) Pursuant to section 28(4)(h) of the act, the member shall pay a fine in the amount of \$2,000 (two thousand dollars) within 30 days of the date the penalty decision is pronounced by the Discipline Committee;
- (d) The findings and order of the Discipline Committee shall be published in full under sections 28(4)(i) and 28(5) of the act, with reference to the member's name; and
- (e) There shall be no order as to costs.

The panel then asked the member if he wished to waive his right to appeal and have the penalty and reprimand administered without delay.

The member confirmed that he waived his right to appeal. As a result, the panel administered the reprimand to the member at the conclusion of the hearing.

ALLEGATIONS AND SUBMISSIONS REGARDING MRW AND PLEA ENTERED

As noted above, MRW was neither present at the hearing, nor represented; nor did MRW make submissions after the hearing when it was invited to do so by ILC. A plea of not guilty was, thus, entered on MRW's behalf at the hearing.

The association stated that it was withdrawing allegations 1, 4 and 7 against MRW and was only pursuing allegations 2, 3, 5 and 6 of the Statement of Allegations, which are set out in the allegations section above.

In accordance with allegations 2, 3, 5 and 6, the association asked the panel to make findings of professional misconduct against MRW under sections 72(2)(a), (b), (d), (g) and (j) of Regulation 941. It submitted that, despite the fact that MRW is not a signatory to the ASF, the member, who has agreed to the ASF, was the contact professional responsible for MRW at the relevant time, and the evidence before the panel in the form of the member's admissions is sufficient to ground a finding of guilt in respect of MRW. The association also argued that MRW, as the holder of the Certificate of Authorization and as the employer of Wood, was responsible for Wood's conduct. The association referred the panel to Wood's conduct as set out in the ASF, and as set out in the excerpt from Chapter 12 of the *Report of the Elliot Lake Commission of Inquiry* attached as Schedule E to the ASF. The association asked the panel to make findings of professional misconduct based on the evidence before it that was adduced during the hearing. The association submitted that allegations 2, 3, 5 and 6 are made out against MRW based on the evidence and that the panel can make findings against MRW on the basis of this evidence. In support of its submission, the association referred the panel to the Discipline Committee's decision in Jiri Krupka, P.Eng., and CA Elliott Inc. issued on May 12, 2014 (7). In that matter, the Discipline Committee made a finding of guilt with respect to the certificate holder based on a finding of guilt for the member.

With respect to penalty, the association asked the panel to impose a fine of \$5,000. It noted that, because MRW no longer holds a Certificate of Authorization to provide engineering services, the fine would be payable if and when MRW sought a new or renewed Certificate of Authorization in the

future. The association noted the principles of penalty and emphasized that a fine of \$5,000, which is the maximum permitted under the act, would signal the seriousness with which the association takes MRW's professional misconduct, thus upholding the association's reputation in protecting the public interest.

REASONS FOR DECISION AND PENALTY REGARDING MRW

The panel considered all of the evidence before it, including the ASF and the schedules to it. The panel accepted the ASF between the member and the association as evidence of MRW's professional misconduct in allowing Wood, who did not hold a licence as a professional engineer at the time, to attend the mall and perform an inadequate engineering inspection. The panel found MRW guilty of professional misconduct contrary to sections 72(2)(a), (b), (d), (g) and (j) of Regulation 941.

The panel also accepted the penalty sought by the association as appropriate in the circumstances. The panel was satisfied that MRW does not currently pose a risk to the public since it no longer holds a Certificate of Authorization. The panel was also

satisfied that the imposition of a \$5,000 fine and the publication of this penalty would demonstrate to the public that the association is capably protecting the public interest. Accordingly, the panel ordered MRW to pay a fine in the amount of \$5,000 to the Minister of Finance for payment into the Consolidated Revenue Fund, pursuant to section 28(4)(h) of the act, if and when MRW seeks reinstatement as a holder of the Certificate of Authorization to provide engineering services in Ontario. The panel also directed that its findings and order with respect to MRW be published in *Engineering Dimensions* in full with reference to MRW by name, pursuant to section 28(4)(i) of the act.

Glenn Richardson, 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: Stella Ball, LLB, Ishwar Bhatia, P.Eng., and Anne Poschmann, P.Eng.

END NOTES

1. RRO 1990, Reg 941 (Regulation 941).
2. The Elliot Lake Commission of Inquiry was established on July 19, 2012, by the Government of Ontario to inquire into and report on events surrounding the mall collapse. The results of the inquiry were released in a report published October 15, 2014, at: www.attorneygeneral.jus.gov.on.ca/inquiries/elliottlake/report/index.html.
3. See part one, chapter 12 of the report, at paragraph 2, page 573 and footnote 138 citing the testimony of Wood on June 7, 2013 (at pages 13467-9) and Saunders on June 6, 2013 (at page 13089).
4. Published in the September/October 2010 issue of *Engineering Dimensions*.
5. Published in the January/February 2002 issue of *Engineering Dimensions*.
6. Published in the July/August 2005 issue of *Engineering Dimensions*.
7. Published in the March/April 2015 issue of *Engineering Dimensions*.

SUMMARY OF DECISION AND REASONS

In the matter of a hearing under the *Professional Engineers Act, R.S.O. 1990, c. P.28*, of a complaint regarding the conduct of **GEORGE MIKHAEL, P.ENG.**, a member of the Association of Professional Engineers of Ontario.

The panel of the Discipline Committee met to hear this matter on January 12, 2016 at the Association of Professional Engineers of Ontario in Toronto.

THE ALLEGATIONS

This case arose from a complaint filed by Albert Bastien concerning a solar panel system installed on the roof of his house. The Statement of Allegations dated April 24, 2015 against George Mikhael, P.Eng. (the member), alleged that he was guilty of professional misconduct.

AGREED STATEMENT OF FACTS

Counsel for the association advised the panel that agreement had been reached on the facts and introduced an Agreed Statement of Facts summarized as follows:

In 2011, the complainant, Albert Bastien, retained Powerserve/Neighbourhood Electric Company (Neighbourhood Electric) to install a solar panel system on the roof of his residence located in Amherstburg, Ontario. Neighbourhood Electric applied for a building permit from the Town of Amherstburg on April 1, 2011 for the project.

Bastien and/or Neighbourhood Electric retained the member to analyze the impact of the solar panel system on the structural integrity of the roof. There was no written contract between the member in respect to the scope of his retainer.

As part of the permit application, the member prepared a letter of conformance for Bastien dated March 25, 2011 addressed “to whom it may concern.” He described his analysis of the existing roof trusses to sustain an additional load of the solar panel system. The member stated that, “The existing structure will sustain the additional load of 5 pounds per square foot (PSF), imposed from the solar system.”

This letter was signed, dated and sealed by the member.

On March 30, 2011, the member revised his March 25, 2011 letter as follows:

“I certify that the anchors have the required strength to withstand any uplift caused by the wind.”

The March 30, 2011 letter was signed and sealed by the member. The member also dated, signed and sealed a construction drawing bearing the title block of Mitek, as supplier of roof trusses.

On or about March 31, 2011, the town issued a building permit for the installation of a solar panel system at Bastien’s home. The permit was issued to Bastien.

Neighbourhood Electric installed the solar panel system. The member was not involved with the installation of the solar panel system.

During the installation, Bastien was concerned about the security of the framing on the roof. As a result, Neighbourhood Electric added numerous additional anchors that attached the frame to the roof.

After installation, at Bastien’s request, Neighbourhood Electric inspected and photographed his attic area to confirm that the anchorage points were sufficient and properly installed. Neighbourhood Electric noted that one anchorage in the garage was protruding through the side of the roof truss. Neighbourhood Electric offered to fix it, but Bastien declined.

On October 25, 2011, the building department of the town requested a General Review Certificate or Letter of Conformance from the design engineer in accordance with Division C, section 1.2 and division A, section 1.3.1.1 of the Ontario Building Code. The building department required confirmation that the member had inspected and reviewed the site installation and that the installation was compliant with his design.

The member reviewed information forwarded to him by Neighbourhood Electric, which consisted of: installation specifications, anchor drawings (showing location and number), and photographs of Neighbourhood Electric’s inspection of Bastien’s attic. He did not physically attend Bastien’s home or inspect the solar panel system.

On October 26, 2011, the member prepared a Letter of Conformance, to Bastien’s attention, in which he stated that he had reviewed the solar system installation. The member stated that “after reviewing the installation of the solar panels on your roof” and the technical data, he confirmed that the solar system was installed according to the manufacturing recommendations, and with two bolts where only one bolt was required. The member gave the structure a safety factor of 3, and stated that there “will be no danger that the rack solar system will be blown in the future.” He confirmed that the installation was acceptable and “structurally safe, sound and capable to sustain the wind loads.”

The association obtained an independent engineer’s report dated January 30, 2015. The independent engineer’s report concluded that:

- (a) The member failed to comply with the Ontario Building Code in his review and analysis of the trusses as set out in his March 25, 2011 and March 30, 2011 letters. He did not consider the possible load conditions or the actual load conditions, nor did he apply the design requirements of the Ontario Building Code, including the assessment of the dead loads, snow loads, downward wind loading, and concentrated loads, or any loading caused by wind uplift. The loads imposed on the trusses are in excess of their original design load. As a result, his opinion set out in his March 25, 2011 and March 30, 2011 letters was incomplete, inaccurate and not in compliance with sections 4.1.5.1 and 4.1.5.9 of the Ontario Building Code. In the circumstances, he failed to maintain the minimum standards that a reasonable and prudent practitioner would maintain in the circumstances; and
- (b) The member failed to comply with the Ontario Building Code in his review and analysis of the trusses as set out in his October 26, 2011 Letter of Conformance. He did not consider the possible load conditions or the actual load conditions, nor did he apply the design requirements of the Ontario Building Code, including the assessment of the dead loads, snow loads, downward wind loading, and concentrated loads, or any loading caused by wind uplift. The member also failed to properly consider the installation variances to assess the anchor capacity. He provided his opinion that there would be no danger of the solar rack being “blown in the future” without adequate information to come to such a conclusion. As a result, his opinion set out in this October 26, 2011 Letter of Conformance was incomplete, inaccurate and not in compliance with the Ontario Building Code. In the circumstances, he failed to maintain the minimum standards that a reasonable and prudent practitioner would maintain in the circumstances.

The member admitted that the work carried out by him, as set out in the Agreed Statement of Facts, was deficient, and fell below the expected standard of practice for engineering work of this type, and that he failed to comply with the applicable standards and codes, as set out in the independent engineer’s report.

PLEA BY MEMBER

The member admitted to the allegations as set out in the Agreed Statement of Facts. The panel conducted a plea inquiry and was satisfied that the member’s admission was voluntary, informed and unequivocal.

DECISION

The panel considered the Agreed Statement of Facts and finds that the facts support a finding of professional misconduct and found that George Mikhael, P.Eng., committed an act of professional misconduct.

JOINT SUBMISSION ON PENALTY

Counsel for the association advised the panel that a Joint Submission as to Penalty had been agreed upon. The association put forward that the penalty would:

- (a) provide sufficient protection to the public by ensuring that the member had the necessary technical knowledge to undertake structural engineering, noting that the member is a sole practitioner and failure to pass the required exams would mean that he would be unable to practise for 10 months, which would be a severe penalty;
- (b) maintain the reputation of the profession by publishing this decision with the member’s name;
- (c) provide general deterrence to others in the profession to be careful in all their dealings, including on relatively small jobs;
- (d) provide specific deterrence to the member to be more careful in the future to ensure that his work does not give rise to a complaint; and
- (e) rehabilitate the member, which was demonstrated by his willingness to co-operate with the association in its investigation and with the association’s engineer, the member’s admission of guilt and his willingness to write two difficult exams on his technical knowledge.

The association cited two previous decisions of the Discipline Committee, demonstrating that the proposed penalty in the current matter was within the acceptable range of penalties. The association submitted that the penalty would be fair and appropriate in this matter.

Counsel for the member noted that the matter involved an isolated incident, that it was the member’s first and only complaint, that the member has great remorse, and that he recognizes what he should have done in the circumstances.

PENALTY DECISION

The panel concluded that the proposed penalty is reasonable and in the public interest and accepted the Joint Submission as to Penalty. George Mikhael, P.Eng., co-operated with the association and, by agreeing to the facts and a proposed penalty, has accepted responsibility for his actions and has avoided unnecessary expense to the association.

The panel ordered:

- (a) Pursuant to s. 28(4)(f) of the *Professional Engineers Act*, George Mikhael, P.Eng., shall be reprimanded orally, and the fact of the reprimand shall be recorded on the register for a period of three (3) months from January 12, 2016;
- (b) The finding and order of the Discipline Committee shall be published in summary form under s. 28(4)(i) of the *Professional Engineers Act* and include George Mikhael’s name;
- (c) Pursuant to s. 28(4)(d) of the *Professional Engineers Act*, it shall be a term or condition on George Mikhael’s licence that he shall,

within fourteen (14) months from January 12, 2016, successfully complete the following two technical examinations administered by the association: 98 Civ-B1 (Advanced Structural Analysis) and 98-Civ-B2 (Advanced Structural Design);

- (d) Pursuant to s. 28(4)(b) and (k) of the *Professional Engineers Act*, in the event that George Mikhael, P.Eng., does not successfully complete the two examinations within the time set out in (c) above, his licence shall be suspended for a period of ten (10) months thereafter, or until he successfully completed the examinations, whichever comes first.

George Mikhael, P.Eng., waived his right to appeal and the oral reprimand was delivered following the hearing.

Patrick Quinn, P.Eng., signed the Decision and Reasons on January 19, 2016 on behalf of the discipline panel: Santosh Gupta, P.Eng., Rishi Kumar, P.Eng., Sharon Reid, C.Tech., and Glenn Richardson, P.Eng.

.....

SUMMARY OF 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 JAMES R. McGERRIGLE, P.ENG., a member of the Association of Professional Engineers of Ontario and EFCO CANADA CO., a holder of a Certificate of Authorization.

James R. McGerrigle, P.Eng. (the member), and EFCO Canada Co. (EFCO), a holder of a Certificate of Authorization, pled guilty to allegations of professional misconduct as defined in the *Profes-*

sional Engineers Act (the act) and Regulation 941 thereunder as follows:

- (a) The member and the certificate holder designed a falsework structure containing clip connections without making responsible provisions for complying with the applicable CSA standard, amounting to professional misconduct under subsection 72(2)(d) of Regulation 941; and
- (b) The member and the certificate holder designed a falsework structure without taking any or adequate steps to determine whether its clip connections could withstand the loads to which the falsework would be subjected, amounting to professional misconduct under subsections 72(2)(a), (b) and (j) of Regulation 941.

In respect of subsection 72(2)(j) of the Regulation, “conduct or an act relevant to the practice of professional engineering that, having regard to all the circumstances, would reasonably be regarded by the engineering profession as disgraceful, dishonourable or unprofessional,” the parties agreed that the conduct in question was “unprofessional,” not disgraceful or dishonourable.

The actions giving rise to the allegations relate to a bridge being constructed with rebar reinforced concrete by GBL Construction across the 18 Mile River near Lucknow, Ontario. The bridge required a falsework structure to provide temporary support for the bridge formwork while the concrete was being poured and had sufficient time to set.

The member and EFCO designed and supplied the materials for the bridge falsework structure. On or about November 5, 2007, the member sealed and signed a letter that certified that EFCO’s falsework installation conformed to EFCO’s erection drawings. On November 10, 2007, the partially-built bridge collapsed while workers were pouring concrete. Several workers were injured as a result of the collapse. It was agreed that the member and EFCO had not conducted any or sufficient testing to determine whether the clip connections were an adequate substitute for the bolts called for in the original design, including whether they could withstand the loads to which the false work would be subjected. It was also agreed that the member and EFCO had not taken steps to ensure that the clip connections complied with Canadian Standards Association Standard 5269.1–1975.

At the time of the hearing, McGerrigle was a retired member of the association who had no record of past disciplinary proceedings.

The member and EFCO were found guilty of professional misconduct under section 28(2)(b) of the

act as a result of having committed acts of professional misconduct as set out in subsections 72(2)(a)(b) and (d) and (j) of Regulation 941 under the act.

In respect of the finding under subsection 72(2)(j) the panel found that the conduct in question was unprofessional, but not disgraceful or dishonourable, in accord with the Agreed Statement of Facts from the parties.

PENALTY DECISION

The parties submitted a Joint Submission as to Penalty, which the panel imposed with one minor modification. In the original joint submission it was proposed that the member maintain his status as a retired member and required him not to resume the practice of professional engineering. The panel was concerned, among other things, about its authority to order a member to maintain his membership status. The parties thus agreed to the wording in paragraph (d) below in place of the original wording. The panel thus ordered:

- (a) Pursuant to paragraph 28(4)(f) of the *Professional Engineers Act*, McGerrigle and EFCO Canada Co. shall both be reprimanded, and the fact of the reprimand shall be recorded on the register for a period of two (2) years;
- (b) The finding and order of the Discipline Committee shall be published in Gazette in summary form under paragraph 28(4)(i) of the *Professional Engineers Act*, with reference to names; and
- (c) Pursuant to paragraph 28(4)(h) of the *Professional Engineers Act*, either EFCO Canada Co. or McGerrigle shall pay a fine in the amount of \$5,000 (five thousand dollars) to the Minister of Finance (for payment to the consolidated revenue fund) within 45 days of the date of pronouncement of the penalty decision of the Discipline Committee;
- (d) Pursuant to paragraph 28(4)(c) of the *Professional Engineers Act*, McGerrigle shall provide a written undertaking to the Association of Professional Engineers of Ontario that he will not resume the practice of professional engineering; and
- (e) There shall be no order with respect to costs.

The reprimand was delivered by the panel immediately following the hearing on April 13, 2015.

The written summary of the Decision and Reasons was signed by Brian Ross, P.Eng., as chair on behalf of the other members of the discipline panel: Charles Kidd, P.Eng., Rishi Kumar, P.Eng., Kathleen Robichaud, LLB, and Edward Rohacek, P.Eng.

OTTAWA-AREA CONTRACTOR FINED \$7,500 FOR USE OF PROFESSIONAL ENGINEER'S SEAL AND USE OF TITLE "PROFESSIONAL ENGINEER"

On March 3, 2016, Jeff Rubino of Carleton Place, Ontario, was convicted of three counts of breaching the *Professional Engineers Act* and fined \$7,500 for using a fabricated professional engineer's seal and the title "professional engineer" on a report submitted to the Ottawa building department.

The City of Ottawa had sought additional information, including a professional engineer's approval, in relation to a building permit application to modify a local home that included the removal of a load-bearing wall and inserting a laminated veneer lumber beam and adjustable posts. The general contractor on the project had retained Rubino to respond to the city. Rubino has never been licensed as a professional engineer in the province of Ontario nor has he ever held or acted under and in accordance with a Certificate of Authorization.

In the report, Rubino used a seal that duplicated the wording, content and style of the seal reserved for professional engineers. He also referred to himself as a "Professional Engineer of Ontario" and used a purported licence number that was similar to those issued to professional engineers, but that did not match any number in PEO's register of licence holders.

The matter came to the attention of PEO after a city building department official attempted to check Rubino's licence status upon receiving the report bearing the seal and title.

His Worship, Justice of the Peace Richard C.P. Sculthorpe, of the Ontario Court of Justice at Ottawa, convicted Rubino of three offences relating to the illegal use of the seal and protected title, and for not acting under and in accordance with a Certificate of Authorization.

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

The success in this matter was due in no small part to the vigilance of the Ottawa building department and the co-operation of the general contractor and the homeowner during the investigation.

PICKERING MAN FINED \$6,000 FOR USE OF THE TITLE "PROFESSIONAL ENGINEER"

On March 14, 2016, Cosimo Polidoro of Pickering, Ontario, was convicted of three counts of breaching section 40(2)(a) of the *Professional Engineers Act* for using the protected title "P.Eng." in a resume and in two emails in response to an employment opportunity with a Toronto-area construction firm. The employer asked for confirmation of Polidoro's licensure status on several occasions before checking with PEO, which informed the employer that Polidoro had never been licensed as a professional engineer in Ontario.

His Worship, Justice of the Peace Sisay Woldermichael, of the Ontario Court of Justice in Toronto, levied a fine of \$2,000 on each of the three counts after finding Polidoro guilty of holding himself out as a professional engineer on three different occasions.

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

PEO thanks the construction firm and its employees for their co-operation in its investigation and for their vigilance in reporting the concern.

REGULATION 260/08 AMENDED, EFFECTIVE JULY 1, 2016

Amendments include the introduction of a new performance standard for tower crane inspection and housekeeping items.

On February 12, 2016, the registrar of regulations filed Ontario Regulation 29/16, amending Ontario Regulation 260/08, Performance Standards, made under the *Professional Engineers Act*. The amendments include housekeeping changes to better organize the regulation's content and introduction of a fourth performance standard. The new standard deals with tower crane inspections in accordance with sections 158 and 159 of Ontario Regulation 213/91 (Construction Projects) made under the *Occupational Health and Safety Act*. The following are the amended sections of Regulation 260/08. To view Regulation 260/08 as amended, visit www.peo.on.ca/index.php?ci_id=1812&la_id=1. To view the new performance standard *Review of Tower Cranes as Required by the Occupational Health and Safety Act*, visit www.peo.on.ca/index.php/ci_id/29690/la_id/1.htm.

CHANGES TO REGULATION 260/08, EFFECTIVE JULY 1

PART I

PERFORMANCE STANDARDS FOR BUILDING CONSTRUCTION, ENLARGEMENT, ALTERATION AND DEMOLITION

Definitions

1. In this part,
“building” means a building as defined in the *Building Code Act*, 1992;
“building code” means Ontario Regulation 332/12 (Building Code) made under the *Building Code Act*, 1992. O. Reg. 260/08, s. 1; O. Reg. 91/14, s. 1; O. Reg. 29/16, ss. 1, 2.

PART II

PERFORMANCE STANDARDS FOR DRINKING WATER SYSTEM EVALUATIONS

Engineering evaluation reports under *Safe Drinking Water Act, 2002* (drinking water systems)

4. (1) In this section,
“available” means, in reference to a document, that it is present at or immediately accessible from the site of a drinking water system, whether in paper or electronic format;
“distribution systems”, “drinking water system”, “raw water” and “raw water supply” have the same meaning as in the *Safe Drinking Water Act, 2002*;
“Drinking Water Systems Regulation” means Ontario Regulation 170/03 (Drinking Water Systems) made under the *Safe Drinking Water Act, 2002*;
“operational check equipment” means equipment installed in a drinking water system, or portable equipment present at the site of a drinking water system, for the purpose of carrying out,
 - (a) operational checks, sample and testing under Schedule 6 to the Drinking Water Systems Regulation, and
 - (b) the maintenance and operational checks under Schedules 8 and 9 to that Regulation. O. Reg. 91/14, s. 3; O. Reg. 29/16, s. 3.
- (2) The following are prescribed as performance standards with respect to the assess-

ment of a drinking water system and the preparation of an engineering evaluation report on a drinking water system under Schedule 21 to the Drinking Water Systems Regulation by a holder of a licence, temporary licence or limited licence: ...

5. If any part of the source of the raw water supply is ground water, the holder shall,
 - i. include in the site plan the location of any wells that form part of the drinking water system and the location of any known water courses, drains, septic tanks, tile fields and any other structures that may affect the quality of the well water, and
 - ii. include in the site plan a description of the physical characteristics of each well that forms part of the drinking water system including, if available, a copy of the well record, and an indication of whether any of the wells obtains water from a raw water supply that was determined for the purposes of section 2 of the Drinking Water Systems Regulation to be ground water that is under the direct influence of surface water. O. Reg. 29/16, s. 4.

PART III

PERFORMANCE STANDARDS FOR ENVIRONMENTAL SITE ASSESSMENT REPORTS

Environmental site assessment reports

5. (1) In this section,
“environmental site assessment” means an investigation in relation to land to determine the environmental condition of property, and includes a phase one environmental site assessment or a phase two environmental site assessment under Ontario Regulation 153/04 (Records of Site Condition—Part XV.1 of the Act) made under the *Environmental Protection Act*. O. Reg. 91/14, s. 3; O. Reg. 29/16, s. 5.

PART IV

PERFORMANCE STANDARDS FOR TOWER CRANE INSPECTIONS

Tower crane performance standards

6. The performance standards for inspecting a tower crane in accordance with sections 158 and 159 of Ontario Regulation 213/91 (Construction Projects) made under the *Occupational Health and Safety Act* are prescribed as being set out in the document entitled “Review of Tower Cranes as Required by the *Occupational Health and Safety Act*” and dated November 20, 2015, published by the Association and available on its website. O. Reg. 29/16, s. 6.

MANY PATHS TO LEGISLATION

By Howard Brown and Blake Keidan



Cheri DiNovo, MPP, represents the Toronto riding of Parkdale-High Park.

MANY BELIEVE that legislation only comes about as a result of a government initiative. We often forget that opposition can also bring it about.

On March 14, Municipal Affairs and Housing Minister Ted McMeekin, MPP (Ancaster-Dundas-Flamborough-Westdale), along with Deputy Premier Deb Matthews, MPP (London North Centre), who is also president of the Treasury Board and minister responsible for Ontario's poverty reduction strategy, announced new inclusionary zoning legislation for the province. The proposal would give municipalities the ability to require developers to include a certain percentage of affordable housing units in any new residential development.

"[Toronto] could have built 12,000 affordable housing units in the last five years had inclusionary zoning been in place," McMeekin says.

This proposal has been a long time coming. It is partially a result of five private member's bills brought by opposition NDP MPP Cheri DiNovo (Parkdale-High Park). She first introduced the proposal in 2009.

More recently, Peter Milczyn, MPP (Etobicoke-Lakeshore), who spent 17 years on Toronto city council and is the legislature's only architect, introduced a similar proposal.

DiNovo has consistently pushed for this legislation. In an interview with *Engineering Dimensions*, she said: "I believe this was the right route to go. [It] just depended on timing."

This is perhaps an example for PEO, which has worked for years to get its *Professional Engineers Act* amended to remove the so-called industrial exception that allows unlicensed people to perform work on machinery or equipment used to produce products in their employers' facilities. PEO's concern is that the repeal represents a gap in PEO's ability to regulate the practice of professional engineering and potentially puts manufacturing workers at risk. The NDP has a long history of championing causes for society and workers.

DiNovo, who was first elected in a by-election in 2006, is known for being outspoken on issues and was recently featured in an interview by Jane Taber in the *Globe and Mail* on women in politics (www.theglobeandmail.com/news/politics/at-queens-park-cheri-dinovos-social-activism-is-linked-with-her-past/article28921933/). DiNovo's brother, Paul DiNovo, P.Eng., FEC, was inducted into PEO's Order of Honour as an Officer at an April 29 gala. He was first inducted as a Member of the Order of Honour in 2000 and is an ambassador for the profession through his many volunteer roles.

It is easy to think only government decides. But as Mike Colle, MPP (Eglinton-Lawrence), pointed out in the March/April 2016 issue of *Engineering Dimensions* (p. 24), "the door is not always open at the top, but with MPPs, sooner or later you are going to be heard." So, it's important for PEO members to stay in touch with their MPPs—whether ministers, government MPPs, or opposition MPPs. You never know where your support will come from.

One year ago, the current prime minister was a third party leader. Many of his members are now sitting in cabinet. Σ

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





PEO LAUNCHES THE *Engineering Dimensions* web edition!

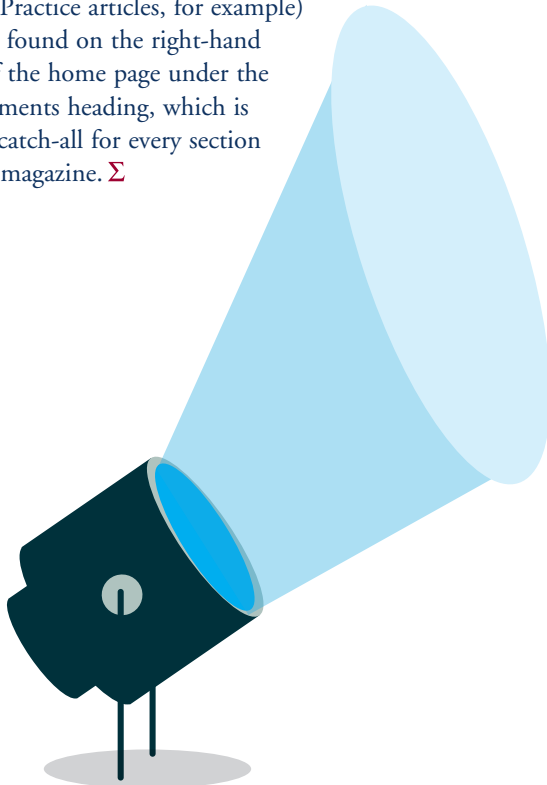
By Nicole Axworthy

Engineering Dimensions readers now have the opportunity to read a simpler, online version of the magazine on their computer, tablet or cell phone. The new web edition, available at www.engineeringdimensions.ca, was developed to enable readers to access the magazine's content quickly and easily. It should be especially attractive to readers who have difficulty reading fine print and require text-to-speech (TTS) readers, those located in areas with poor Internet service, and those who simply don't care for the existing digital edition but are concerned about the environmental impact of receiving a printed copy.

The new web edition features *Engineering Dimensions* content in a simple and clean, text-focused template to allow readers to easily search for and read articles online like a typical website. It intentionally contains only a few visuals, and any photos or diagrams are equipped with descriptive alt text that can be read by most TTS readers.

Developed over the last several months and refined by beta testers' feedback, the web edition supplements *Engineering Dimensions*' print and digital editions, and PDF files. For auditing purposes and to fulfil our obligations under the *Professional Engineers Act*, the magazine will continue to be officially distributed to members by either mail (print edition) or email (digital edition)—whichever delivery method they've chosen in their online member profiles.

To help readers navigate the web edition with ease, we've designed a template with several distinct sections. The main section displays the features, news, President's Message and other association business sections (Gazette, GLP Journal, etc.), of the latest issue. Feature articles appear in a banner at the top, which will rotate if there is more than one in a given issue. News and association business appear below the banner. Sections of the latest issue that aren't as timely (Regulation, Viewpoint and Professional Practice articles, for example) can be found on the right-hand side of the home page under the departments heading, which is also a catch-all for every section of the magazine. Σ



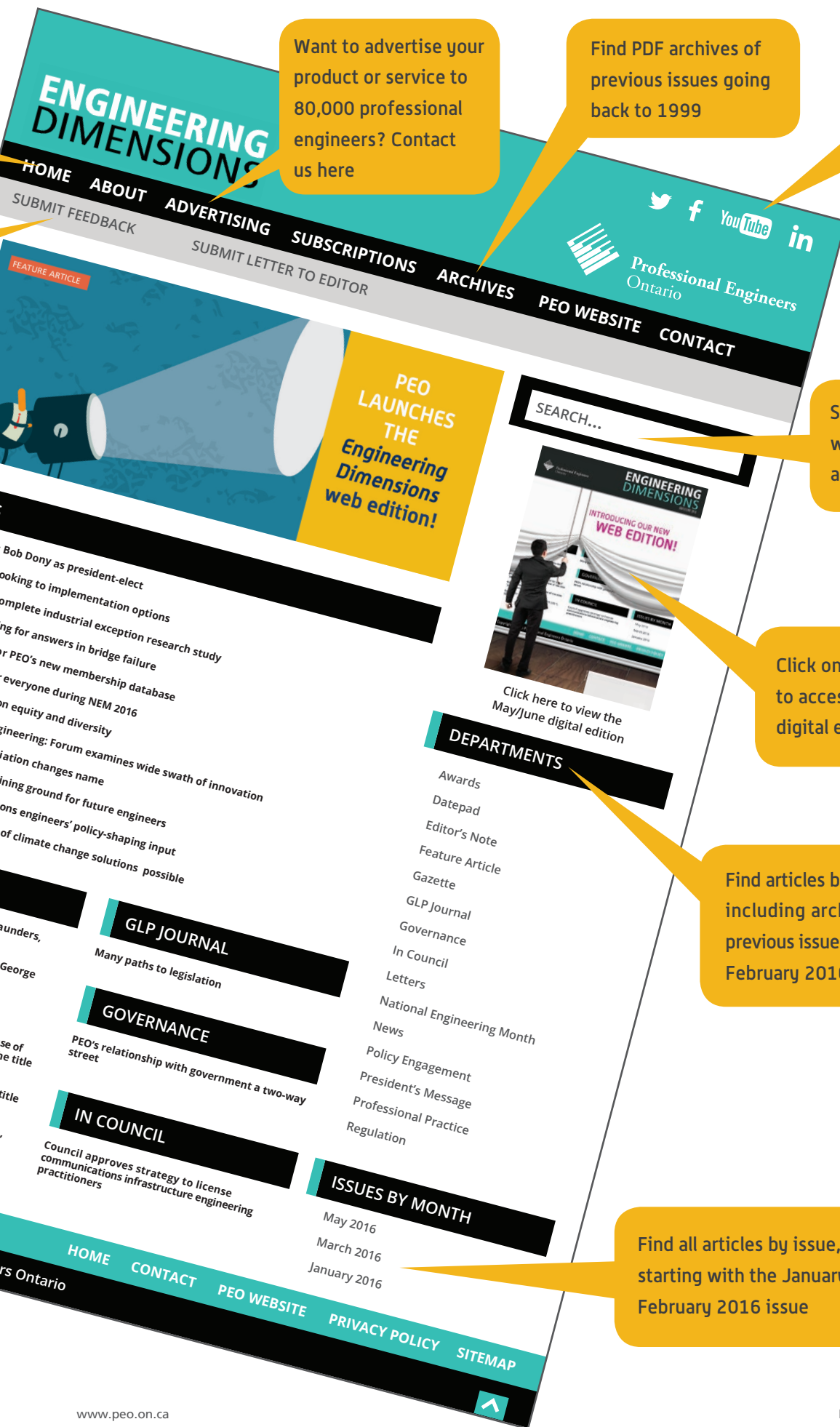
Finished reading an article and want to get back to the home page? Click here

Let us know what you think by submitting feedback or a letter to the editor

Feature articles appear in a rotating banner (if more than one; otherwise, the banner is static)

The latest news and association business sections are always displayed on the home page





Want to advertise your product or service to 80,000 professional engineers? Contact us here

Find PDF archives of previous issues going back to 1999

Interact online via PEO's social media channels

Search for articles by key word; search function is available from any page

Click on the cover image to access the magazine's digital edition

Find articles by department, including archives from previous issues (as of January/February 2016)

Find all articles by issue, starting with the January/February 2016 issue

The evolution of ENGINEERING DIMENSIONS

PEO's OFFICIAL PUBLICATION CAN'T AFFORD TO REMAIN STATIC FOR VERY LONG. AS COMMUNICATIONS TECHNOLOGY EVOLVES, READERS EXPECT MORE CHOICE AND CONVENIENCE IN HOW THEY ACCESS INFORMATION. **By Michael Mastromatteo**

Section 9 of the *Professional Engineers Act* (PEA) is a short item—in fact, a single sentence—describing PEO council's obligation to establish and designate “an official publication” of the association. Since 1980, PEO has fulfilled that obligation by publishing this magazine, with its central objective of focusing on the legal, regulatory and ethical aspects of the engineering profession, as well as reporting on PEO operations and chapter activities.

The magazine also serves as a forum for the exchange of ideas among licence holders and as a showcase for the achievements of engineers and the profession's public protection imperative. A more high-level intention is to promote public awareness of the PEA, the role of the association and the responsibilities of professional engineers.

PEO's official publication has the additional objective of being an interesting, informative and stimulating periodical.

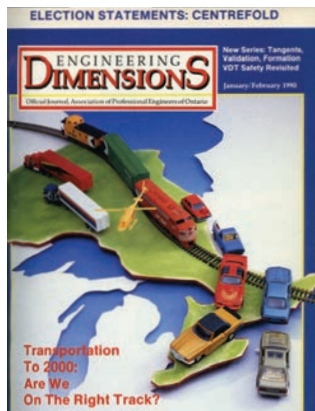
Engineering Dimensions has been the primary vehicle for communication with PEO's licence holders and engineering interns for more than 35 years. The inaugural issue appeared in May 1980. Prior to that, the association's publication was a yellow-paged insert known as *Ontario Digest*, which was carried within a commercial publication called *Engineering Digest*.

Since the early 1980s, the magazine has evolved to the colourful publication it is today.

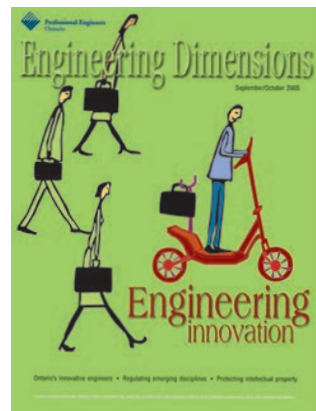
Over the last three and a half decades, there have been several redesigns to help keep *Engineering Dimensions* fresh and inviting to its now more than 90,000 readers. But the technological changes that have disrupted mainstream newspaper



1980



1990



2005

and magazine publishing require that PEO's official publication adapt to changing times.

OLD MEETS NEW

When adapting, however, *Engineering Dimensions* always looks to preserve the best of the old and combine it with the immediacy and convenience of the new. This explains not only the periodic magazine redesigns—the next one is scheduled to debut in January 2017—but also the launch this issue of our web edition.

The web edition was created to allow readers access to magazine content quickly and easily, and should be especially helpful for members who aren't comfortable with the existing digital edition, and those with vision difficulties who require text-to-speech tools. This new platform deliberately keeps photos and other visuals to a minimum. (See web edition feature on page 48.)

The most recent redesign of the print edition in 2008 was aimed, in part, at creating more white space to make the design less dense, and increasing the use of photos and other graphic elements throughout to increase the magazine's visual appeal and respond to reader complaints of long banks of unbroken text.

That effort also coincided with PEO's decision to offer readers the option of choosing a digital edition of *Engineering Dimensions* instead of the original print edition. PDF (portable document format) files of the magazine have been available from PEO's website since 1999.

Introduction of the magazine's optional digital edition was seen as an environmentally friendly, cost-conserving move that would allow readers to take advantage of the latest communications technology to read PEO's official publication in an interactive format on computers and other electronic devices.



While not replacing the print or digital editions, PEO's new web edition was created to let readers access magazine content quickly and easily.



2008



2010



2015



The *Engineering Dimensions* digital edition electronically replicates the experience of reading a physical magazine.

The digital edition was offered as a voluntary alternative to the print edition on request—and many readers did request it. Members had been telling us for years that we ought to offer the magazine in an electronic format—if only to save some trees.

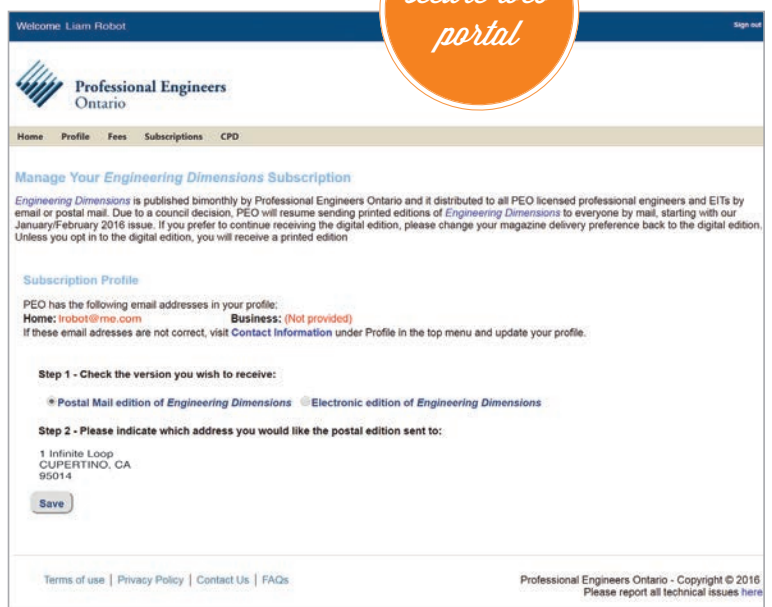
The digital edition allows readers to view the magazine online in the same way you would a printed magazine, by “flipping” electronic pages, with the added opportunity to have more interaction with source material, contributors and advertisers through embedded web links.

Some five years after the introduction of the digital version, PEO council decided the digital edition would be the default edition for members unless they requested the print edition, as part of PEO’s “going paperless” cost-saving, environmentally friendly initiative. The March/April 2013 issue was the first digital edition delivered by default to members who hadn’t requested that they continue to receive the print edition.

Readers were given six months’ notice of the impending digital default and some 15,000 of them opted to continue receiving the print edition in the mail by using the self-serve subscription options through the PEO web portal (www.peo.on.ca, under the Pay Fees/Manage Account tab), or by contacting PEO’s document management centre.

In fact, ever since the introduction of the digital edition in 2008, readers have had the option

of switching from print to digital—and back again—at any time by changing their subscription options. This ability to switch subscription preferences continues today, although licence holders and engineering interns must receive one of the print or digital editions, even if they decide to read the publication online through the new *Engineering Dimensions* web edition.



REVERTING TO PRINT

Despite the interactive and cost-saving advantages of the digital edition, in September 2015, PEO council voted to revert to the print edition as the edition to be sent to readers, unless they explicitly requested otherwise. PEO Vice President Pat Quinn, PhD (Hons), P.Eng., FEC, brought the motion to switch back to print to council.

Quinn explained to councillors the results of several magazine reader surveys and a third-party communications audit conducted in 2015 indicated fewer people actually read the digital edition of the magazine than read the print edition when it was the default version sent to readers. The communications audit stated: “*Engineering Dimensions* is the identified official publication of PEO. The magazine is well known but not necessarily well-read.” The audit report noted that most of the people interviewed during the course of the audit admitted to reading *Engineering Dimensions* less often or not at all since the digital edition became the default publishing and delivery option.

“Because *Engineering Dimensions* represents the most viable and widely recognized communications tool for an interactive relationship with licence holders and future licence holders, PEO must make it as engaging and accessible to as many of them as possible,” Quinn said in his briefing note to council. “Reverting to sending the print edition to everyone who does not request the digital edition would be a step in this direction.”

The January/February 2016 issue was the first of the assumptive “print for all” issues since the January/February 2013 issue.

MANAGING SUBSCRIPTIONS

As previously mentioned, members have been able to switch their personal magazine subscription preference at any time by visiting www.peo.on.ca and clicking the Pay Fees/Manage Account tab.

Although PDF files and the new web edition are available for the convenience of readers, licence holders and engineering interns must choose

between receiving the print edition or the digital edition (not both) for auditing purposes and to fulfill PEO’s requirements under the PEA.

There is an online tutorial that helps readers manage their subscription options, which details what readers must do to switch from one edition to another. It has been linked through the PEO website portal with the new Aptify database that was implemented April 1.

IN SOME WAYS, STATUS QUO

Despite the choice of delivery options, many elements of the magazine remain unchanged. There will always be a blend of news, commentary and in-depth features in each issue. Such departments as President’s Message, GLP Journal, Gazette, Professional Practice, Letters and Viewpoint are integral to the magazine and will remain a part of the next generation of *Engineering Dimensions*.

In particular, one of the most popular sections of the magazine, Gazette, which reports discipline decisions and reasons, enforcement actions, and regulation and PEA amendments, will always have special prominence, when material to fill the section is available.

As Linda Latham, P.Eng., deputy registrar, regulatory compliance, noted in a recent letter to the editor (“Responding to Mr. Baigent,” *Engineering Dimensions*, March/April 2016, p. 48), the Discipline Committee looks to issue its written decisions as soon as possible after each hearing. However, due to the varying amount of time it takes for some decisions to become final, there are times when insufficient material is available to fill Gazette. This results in some issues of the magazine not including any discipline decisions.

LOOKING AHEAD

By making additional platforms available, and by blending traditional with new, the *Engineering Dimensions* team hopes to extend the reach, influence and immediacy of PEO’s official publication, and produce a magazine that delivers content that is not only informative, but interesting, too. Σ

ENGINEERING PROFESSORS AND EXECUTIVES WIN AWARDS

By Nicole Axworthy



Hoda El Maraghy, PhD, P.Eng., was recently invested in the Order of Ontario.



Marisa Sterling, P.Eng., is being awarded the Meritorious Service Award from Engineers Canada.



Doug Hooton, PhD, P.Eng., received the Julian C. Smith Medal from the Engineering Institute of Canada.



Robert Bugden, P.Eng., was inducted into the Ontario Road Building Hall of Fame by the Ontario Road Builders' Association.

UNIVERSITY OF WINDSOR engineering professor Hoda El Maraghy, PhD, P.Eng., the first female dean of engineering in Canada and the first Canadian woman to obtain a PhD in mechanical engineering, has been invested in the Order of Ontario. El Maraghy founded and is currently director of the University of Windsor's Intelligent Manufacturing Systems Centre. Her research on flexible manufacturing has helped manufacturers around the world adapt and respond to market changes. This year marks the 30th anniversary of the Order of Ontario award, which recognizes individuals who have demonstrated excellence and achievement in any field benefitting the people of Ontario or anywhere in the world. Appointments are made on the recommendation of an independent advisory council based on public nominations.

Engineers Canada recently announced the 2016 recipients of the Engineers Canada Awards. Marisa Sterling, P.Eng., assistant dean, inclusivity and diversity, Lassonde School of Engineering, York University, and former PEO enforcement manager, is being awarded the Meritorious Service Award for Community Service. Nancy Nelson, P.Eng., engineering professor, Conestoga College, will receive the Medal for Distinction in Engineering Education. The Engineers Canada Awards are presented in nine categories to honour outstanding Canadian engineers, teams of engineers, engineering projects, achievements and engineering students.

The Engineering Institute of Canada (EIC) recently announced the 2016 recipients of its senior awards and fellowships. Doug Hooton, PhD, P.Eng., professor, department of civil engineering, University of Toronto (U of T), received the Julian C. Smith Medal, which honours individuals' achievements in the development of Canada. Marc Rosen, PhD, P.Eng., professor, department of automotive, mechanical and manufacturing engineering, University

of Ontario Institute of Technology, received the John B. Stirling Medal, which recognizes individuals' leadership and distinguished service at the national level within the institute and/or its member societies. These senior awards are the highest distinctions made by the institute. In addition, 11 PEO members were inducted as EIC fellows for their exceptional contributions to engineering in Canada. They are: Alidad Amirfazli, P.Eng., Reg Beddoes, P.Eng., Kamran Behdinan, P.Eng., Keith Brown, P.Eng., Simon Foo, P.Eng., Farrokh Janabi-Sharifi, P.Eng., Hugh Liu, P.Eng., Heather MacLean, PhD, P.Eng., John McPhee, P.Eng., and Khaled Sennah, P.Eng.

Two other U of T engineering professors have been awarded prizes by the Natural Sciences and Engineering Research Council (NSERC). The Brockhouse Canada Prize for Interdisciplinary Research in Science and Engineering, which is always awarded to more than one person, went to Shana Kelley and Edward Sargent, PhD, P.Eng., for their work on AuRA, a device that can reduce the time it takes to arrive at a medical diagnosis from days to less than 20 minutes. Combining Professor Kelley's expertise in electrochemistry and biochemistry with Professor Sargent's experience in electrical engineering and nanomaterials, the new technology has the potential to limit the spread of infectious diseases, particularly in the developing world. The E.W.R. Steacie Memorial Fellowship went to David Sinton, PhD, P.Eng., for his work in optofluidics, a field that involves manipulating light and nanoparticles to control the flow of fluids. Sinton has demonstrated its potential to create a new class of fuel cells, noted for their efficiency and energy density. His work also includes using light-harvesting bacteria as an environmentally friendly means of producing biofuel, and developing a technique to select better quality human sperm for use in fertility clinics.

Robert Bugden, P.Eng., was recently inducted into the Ontario Road Building Hall of Fame by the Ontario Road Builders' Association (ORBA). Bugden began his career in 1970 as manager of engineering for McAsphalt Industries, overseeing the construction of asphalt terminals and production facilities. In 1976, he was hired by Miller Paving (now The Miller Group) to help transform the company from a traditional heavy highway contractor to a pavement preservation and recycling company. Bugden eventually became the chief operating officer until his retirement in 2012. Established in 2005 by ORBA, the Ontario Road Building Hall of Fame recognizes individuals for their dedication to, and leadership and achievement in, Ontario's road building industry.

The 2016 Ontario Consulting Engineering Awards were recently handed out by Consulting Engineers of Ontario (CEO). CEO recognized 14 engineering firms whose projects contributed to improving Ontario's social, economic and environmental well-being. The premier award, the Willis Chipman Award, went to CH2M Hill Canada and Hatch Mott MacDonald (HMM) for their work on Union Station in Toronto. CH2M Hill was recognized for its project management of the Union Pearson Express. HMM's work of designing and constructing the Northwest PATH Pedestrian Tunnel was also recognized. The jury of five independent jurors selected five projects to win awards of excellence, categorized according to company size. Among firms with one to 25 employees, JADE Plus won for the Hazelton Lanes-Monorail and Gantry Track in Toronto. Among firms with 26 to 50 employees, Robinson Consultants won for the Hiawatha Park Road Culvert Replacement in Ottawa-Gatineau. Among firms with 51 to 100 employees, Associated Engineering won for the re-coating structural rehabilitation and electrical retrofit of West Main Street Bridge in Welland. Among firms with 100 to 350 employees, IBI Group won for the 2015 Pan Am/Parapan Am Games Transportation Delivery Plan. Among firms with more than 350 employees, Morrison Hershfield won for the Robinson Place Ontario Government Building in Peterborough. Awards of Merit were also given out to Blackwell Structural Engineers, Dillon Consulting, Hatch and R.V. Anderson Associates. The Ontario Consulting Engineering Awards were launched 13 years ago and have become the province's most prestigious awards program for the consulting engineering community.

CALLS FOR ENTRIES

Industrial design and engineering students, working alone or in teams of four, are invited to enter the 2016 James Dyson Award, an international student design award that challenges students to create a product or concept that solves a tangible problem, and has the potential to be commercially viable. The international prize is \$45,000 for the student(s), and \$9,000 for the student's university department. Entries close on July 19, 2016. For more information, visit www.jamesdysonaward.org.

Exporters are invited to self-apply for a 2016 Ontario Export Award. Non-exporters may also nominate an exporter customer, supplier or contact. Categories are: clean technology, consumer products and technology, food, beverage and agriculture, manufacturing and resources, services, transportation equipment. Awards of excellence are available for: exporter of the year, emerging exporter, global reach, leadership award, and business studies student award. Nomination deadline: June 30, 2016; application deadline: July 31, 2016. For information, visit www.ontarioexportawards.com. Σ

THE 70 PER CENT PROBLEM, THE 30 PER CENT SOLUTION

By Angelo Mattacchione, P.Eng., and Livia Mattacchione, P.Eng.

THREE SEEMINGLY DISPARATE topics in the January/February 2016 issue of *Engineering Dimensions* caught our attention. The first includes some of the candidate statements in the insert for the 2016 PEO council elections. The second was under the title “Members warming to idea of CPD [continuing professional development]” in the news section. The third was under the title “Decrease in discipline?” in the letters section. Yet, they are all fundamentally related.

In the 2016 council elections insert, Peter DeVita, P.Eng., FEC, running for president-elect, points out that “over 70 per cent of P.Engs do not require their P.Eng. (or stamp) to work,” and he agrees with engineer F.H. Peters’ 1918 statement that “we get neither the remuneration nor the respect that is due to us, as members of the profession.” Bob Dony, PhD, P.Eng., FEC, also running for president-elect, points out that “the perennial problem of low voter turn-out and acclaimed council positions shows that we are not engaging the entire membership.” And Pat Quinn, P.Eng., FEC, warns that “a regressive, costly, compulsory professional development programme” with a consequent “fee increase to pay for its administration” are coming and, worse yet, that “neither can be shown to be necessary or is evidence based.”

Under “Members warming to idea of CPD,” Annette Bergeron, P.Eng., the chair of PEO’s former Continuing Professional Development, Competence and Quality Assurance (CPDCQA) Task Force, described the experience of presenting at five of PEO’s “You talk. We listen.” town hall meetings. PEO’s survey data pointed to an 80 per cent support for the task force’s proposed program. Notwithstanding this, according to engineer Bergeron, “licence holders first arrived at their town halls with a little trepidation towards professional development in Ontario” but that after the attendees heard that non-practising engineers would have no CPD requirement other than a one-hour, no cost, ethics refresher, “70 per cent of attendees came around to

supporting our program, while 30 per cent of attendees didn’t really want to listen.”

Under “Decrease in discipline?,” David Baigent, P.Eng., was “shocked and concerned” by the absence of the Gazette section in the November/December 2015 *Engineering Dimensions*, questioning if PEO was “providing sufficient resources to the investigators and Discipline Committee to follow up on complaints from the public,” and wondering whether public complaints against licensees were being investigated as thoroughly, or members being prosecuted in Discipline Committee hearings “as rigorously by PEO as in the past.” With a membership of over 80,000, engineer Baigent argues “there are likely thousands of complaints received by PEO every year...,” and asserts that “our statutory responsibilities as a self-regulated profession may be at stake...”

Engineer Baigent’s concern is not a new one. It has its origin in PEO’s 1991 Task Force on Discipline and Enforcement (TFDE). At that time, PEO’s membership numbered 58,000. The task force concluded that only 25 per cent of membership was being effectively governed because only 25 per cent of licensees were covered by a Certificate of Authorization. Based on this simple statistic, TFDE recommended PEO undertake a review of its responsibility for governing the profession as a whole.

PEO reacted strongly, initiating a lengthy fundamental review of the profession that was costly, controversial, divisive and produced no clear benefit to the public.

During a fundamental review meeting on a Saturday, for which about 800 PEO members registered, subgroup after subgroup asked what was wrong with the current process that required such a radical change. Not surprisingly, the process was described by some as a solution in search of a problem.

To attempt to validate the basis of the recommendations by the 1991 TFDE, we undertook an in-depth demographic analysis of PEO’s 60,000-member database as part of the 1999 Task Force on Admissions, Complaints, Discipline and Enforcement (ACDE). After many nights spent poring over the database, the data mining effort revealed that only about 25 per cent of PEO’s members worked as professional engineers. So, unlike what the 1991 TFDE concluded, it was not that PEO was governing only 25 per cent of its members, rather it was that only 25 per cent of the PEO membership were practising professional engineers. Thus the 1991 call for a fundamental review was based on an incomplete understanding of the demographics of the PEO membership.

How have things fared since then? The feature article “Improving a finely tuned complaints process” in the July/August 2006 issue of *Engineering Dimensions* quoted Jane Phillips, P.Eng., then Complaints Committee chair, as saying: “We have over 67,000 licence holders and only about 35 filed complaints per year, which encourages confidence in the effectiveness of PEO’s licensing regime with its current emphasis on ethics and standards of practice for licence holders.” The Fast Facts article “RC changes reflect latest views on natural justice” in the March/April 2008 issue of *Engineering Dimensions* boasted that “PEO’s investigation, complaint and discipline activities recently obtained a passing grade from an external audit.” More recently, according to PEO’s 2014 annual report, the Complaints Committee disposed of 91 complaints, of which six were referred to the Discipline Committee; the Discipline Committee held four pre-hearing conferences, completed three hearings, wrote six final decisions and had a pending caseload of 12 matters. The Registration Committee held six pre-hearing conferences, completed two hearings, wrote three final decisions and had a pending caseload of 10 matters. And, enforcement opened 392 files, of which only 5 per cent involved practice violations, with the rest being title violations by non-professional engineers.

Considering the foregoing, we must concur with engineer Quinn’s view that PEO’s current CPD initiative lacks justification. Moreover, we cannot help but get the impression that, like PEO’s previous fundamental review, this current CPD program is another solution in search of a problem.

So, engineer Baigent’s belief that a PEO membership exceeding 80,000 must be generating thousands of complaints per year is unfounded. But to be fair, this perception is also more than understandable. In fact, it is this same perception that led the 1991 TFDE to call for a fundamental review, specifically the assumption that all PEO members are doing professional engineering work. If this were the case, indeed we, too, would expect PEO to be receiving complaints in the thousands per year. But since 70 per cent of the membership is non-practising, their work would not fall under the scrutiny of PEO. Yet, if our own membership is not aware of this and concludes that PEO may be falling short of its mandate, even when it is not so, what can we expect the perception of the public to be?

We stated earlier that all of these topics were fundamentally related. In fact, they are more than just related. It is clear to us they all result from the

AS A BODY WHOSE MANDATE IS TO REGULATE THE PRACTICE OF PROFESSIONAL ENGINEERING IN ONTARIO, WHY DOES PEO ALLOW INDIVIDUALS WHO ARE NOT ENGAGED IN THE PRACTICE OF PROFESSIONAL ENGINEERING TO BE MEMBERS?

same single-source problem, which is that 70 per cent of PEO membership is non-practising and so do not need to be members of PEO.

What is this 70 per cent doing if not professional engineering? Our previous in-depth analysis for the 1999 ACDE Task Force revealed that they were teachers, lawyers, real estate agents, financial analysts/advisors, insurance adjusters and accountants, to name a few, with many more in administration and management positions supervising non-engineering staff in non-engineering organizations. Still others were out of province and/or country or retired. A less in-depth search through the PEO website’s current licence holder directory page reveals the demographic makeup to be the same.

Some see this 70 per cent group as underutilized or underemployed. We do not. We see it as a function of the breadth of the applicability of the rigorous education provided by undergraduate studies in engineering or applied science. We recall two particularly indelible comments from the orientation by professors during our very first day at University of Toronto’s faculty of applied science and engineering. The first was: look to your right, look to your left, by graduation one of the three of you will be gone; the second was that after graduation, as few as 15 per cent of us would be working as professional engineers.

PEO seems to have no issue with a membership in which 70 per cent are non-practising. We, however, cannot help but ask the obvious question: Why would PEO be prepared to waive a CPD requirement for this group, if not to engage this majority of members not working in engineering to accept and adopt a CPD program that engineer Quinn quite correctly points out will be costly and lacks proof for its need?

The *Professional Engineers Act* states: “The principal object of the Association is to regulate the practice of professional engineering and to govern its members, holders of certificates of authorization, holders of temporary licences, holders of provisional licences and holders of limited licences in accordance with this Act, the regulations and the by-laws in order that the public interest may be served and protected.”

As a body whose mandate is to regulate the practice of professional engineering in Ontario, why does PEO allow individuals who are not engaged in the practice of professional engineering to be members? Further, why is this group of non-practising members, who now represent seven out of every 10 members, allowed to dictate CPD requirements, or any other requirements for that matter, that will be imposed on members who are actual working professional engineers? If it is public

input that's required, PEO already has it via the lay members who are among the up to 12 lieutenant governor-in-council appointees to the 29-member PEO council.

With respect to engineer Dony's concern for low voter turnout—is it any wonder only 11 per cent vote during council elections? Why would the 70 per cent non-practising members bother, since nothing that the association does or will do will typically affect them? With respect to their support of the proposed CPD program, as engineer Bergeron pointed out, after the attendees heard that “non-practising engineers would have no CPD requirement other than a one-hour, no cost, ethics refresher...70 per cent of attendees came around to supporting our program.” Of course the majority of non-practising members would support a CPD regime that allows them to avoid CPD. If you were a member who doesn't need a P.Eng. licence to work, and didn't want to do CPD, wouldn't you support such a proposal?

It was reported that during the town hall meetings “...30 per cent didn't really want to listen.” Could it be that this 30 per cent represented the practising members as opposed to non-practising engineers, and what happened to these town hall meetings being “You Talk. We Listen.” in nature?

With respect to engineer DeVita's concern that PEO members get neither remuneration nor respect, when we consider this in terms of the 70 per cent non-practising members who do not require a P.Eng. but have one, should we be surprised? As far as the public is concerned, the members of PEO that the public runs across are doing the same job as they, the public, are. That is, PEO members are teachers, lawyers, real estate agents, financial analysts/advisors, insurance adjusters, accountants, administrators or managers. So as far as the public is concerned, why should a non-practising member of PEO get any more remuneration or recognition than a public individual doing the same job?

As radical as it may sound, and as difficult as it may be to implement, the solution to all of these issues is to restrict PEO membership to the 30 per cent who need to be licensed professional engineers.

In this way, PEO can truly fulfill its mandate under the act, which will allow PEO to best serve the public interest.

The secondary consequence of properly restricting membership to only practising engineers is that it will eventually allow the public to see that professional engineers do things that the general public cannot do, in the same way that the public sees that teachers, lawyers and accountants do things that the general public cannot.

Finally, if PEO lacks the will to restrict membership to only practising engineers, and additionally is set on foisting a CPD program on the membership, then we say make it the same CPD for every member, like all of the professional engineering associations in the rest of Canada. PEO should be ready, willing and have the temerity to say to the current non-practising members that if you want to be a member of a self-regulated professional engineering body, then that is what it is going to take.

Let us not start creating different classes of members, for in such division can come only confusion and discord for both PEO members and the general public. The practising professional engineers deserve better and, more importantly, the public merits no less. Σ

Angelo Mattacchione, P.Eng., and Livia Mattacchione, P.Eng., are president and senior engineer, respectively, at Prosum Engineering Ltd.

THE SOLUTION TO ALL OF THESE ISSUES IS TO RESTRICT PEO MEMBERSHIP TO THE 30 PER CENT WHO NEED TO BE LICENSED PROFESSIONAL ENGINEERS.

[FINANCIAL STATEMENTS]

TO THE MEMBERS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF ONTARIO

We have audited the accompanying financial statements of the Association of Professional Engineers of Ontario, which comprise the balance sheet as at December 31, 2015, and the statements of revenue, expenses and changes in net assets and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the financial statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Association of Professional Engineers of Ontario as at December 31, 2015, and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

Deloitte.

Chartered Professional Accountants
Licensed Public Accountants
March 11, 2016

[FINANCIAL STATEMENTS]

STATEMENT OF REVENUE, EXPENSES AND CHANGES IN NET ASSETS year ended December 31, 2015

		2015	2014
REVENUE	P.Eng. revenue	\$ 15,134,271	\$ 14,840,457
	Application, registration, examination and other fees	6,064,234	5,884,172
	Building operations (Note 4)	2,127,016	2,083,065
	Advertising income	292,679	355,572
	Investment income	97,219	219,885
		23,715,419	23,383,151
EXPENSES	Staff salaries and benefits/retiree and future benefits	10,708,685	10,303,016
	Building operations (Note 4)	2,444,678	2,362,885
	Purchased services	1,352,825	1,090,528
	Engineers Canada	938,579	901,420
	Amortization	924,528	978,437
	Chapters (Note 13)	793,066	722,121
	Volunteer expenses	786,767	761,264
	Occupancy costs (Note 4)	765,874	732,760
	Computers and telephone	715,813	773,951
	Legal (corporate, prosecution and tribunal)	567,744	649,465
	Transaction fees	508,253	508,034
	Contract staff	496,237	666,368
	Postage and courier	475,676	424,151
	Consultants	362,605	240,431
	Recognition, grants and awards	162,239	187,667
	Professional development	155,251	109,170
	Office supplies	131,955	121,723
	Printing	128,446	161,002
	Insurance	105,784	97,304
	Staff expenses	104,307	91,355
Advertising	83,942	90,348	
		22,713,254	21,973,400
	Excess of revenue over expenses before the undernoted	1,002,165	1,409,751
	Council discretionary reserve expenses (Note 8)	70,989	60,515
	Excess of revenue over expenses	931,176	1,349,236
	Remeasurement and other items	(2,136,510)	390,900
	Net assets, beginning of year	15,531,477	13,791,341
	Net assets, end of year	14,326,143	15,531,477

BALANCE SHEET

as at December 31, 2015

		2015	2014	
ASSETS	CURRENT	Cash in interest-bearing accounts	\$ 1,851,432	\$ 1,739,886
		Marketable securities at fair value	6,403,767	6,331,704
		Accounts receivable	527,314	498,159
		Prepaid expenses and deposits	225,778	204,332
		Other assets	390,279	443,952
			9,398,570	9,218,033
	Capital assets (Note 3)	37,711,302	37,062,729	
	TOTAL ASSETS	47,109,872	46,280,762	
LIABILITIES	CURRENT	Accounts payable and accrued liabilities (Note 15)	2,174,710	1,385,054
		Fees in advance and deposits	9,067,119	8,843,131
		Current portion of long-term debt (Note 5)	928,000	901,000
			12,169,829	11,129,185
	LONG TERM	Long-term debt (Note 5)	7,539,000	8,467,000
		Employee future benefits (Note 6)	13,074,900	11,153,100
	TOTAL LIABILITIES	32,783,729	30,749,285	
	Net assets (Note 7)	14,326,143	15,531,477	
	Total liabilities and net assets	47,109,872	46,280,762	

Approved by the board

STATEMENT OF CASH FLOWS

year ended December 31, 2015

		2015	2014
OPERATING	Excess of revenue over expenses	\$ 931,176	\$ 1,349,236
	Add (deduct) items not affecting cash		
	Amortization	1,798,805	1,790,891
	Amortization—other assets	67,395	56,323
	Employee future benefits expensed	1,274,700	1,418,300
	Change in unrealized losses on marketable securities	98,181	(68,450)
	Loss (gain) on disposal of marketable securities	(22,636)	37,612
		4,147,621	4,583,912
	Change in non-cash working capital items (Note 10)	963,043	(502,014)
		5,110,664	4,081,898
FINANCING	Repayment of mortgage	(901,000)	(878,000)
	Contributions to employee future benefit plans	(1,489,410)	(1,226,500)
		(2,390,410)	(2,104,500)
INVESTING	Net change in marketable securities	(147,608)	(950,351)
	Additions to capital assets	(2,447,378)	(2,124,541)
	Additions to other assets	(13,722)	(214,863)
		(2,608,708)	(3,289,755)
	Increase (decrease) in cash	111,546	(1,312,357)
	Cash, beginning of year	1,739,886	3,052,243
	Cash, end of year	1,851,432	1,739,886

NOTES TO THE FINANCIAL STATEMENTS

DECEMBER 31, 2015

1. NATURE OF OPERATIONS

The Association of Professional Engineers of Ontario (PEO) was incorporated by an act of the legislature of the Province of Ontario. Its principal activities include regulating the practice of professional engineering, and establishing and maintaining standards of knowledge, skill and ethics among its members in order to protect the public interest. As a not-for-profit professional membership organization it is exempt from tax under section 149(1) of the *Income Tax Act*.

2. SIGNIFICANT ACCOUNTING POLICIES

These financial statements have been prepared in accordance with Canadian accounting standards for not-for-profit organizations and reflect the following accounting policies:

(a) Financial instruments

PEO initially recognizes financial instruments at fair value and subsequently measures them at each reporting date, as follows:

Asset/liability	Measurement
Cash and marketable securities	Fair value
Accounts receivable	Amortized cost
Accounts payable and accrued liabilities	Amortized cost
Long-term debt	Amortized cost

Financial assets measured at amortized cost are assessed at each reporting date for indications of impairment. If such impairment exists the asset shall be written down and the resulting impairment loss shall be recognized in the statement of revenue and expenses and changes in net assets for the period.

Transaction costs are expensed as incurred.

(b) Hedge accounting

PEO entered into an interest rate swap in order to reduce the impact of fluctuating interest rates on its long-term debt. The policy of PEO is not to enter into interest rate swap agreements for trading or speculative purposes.

The interest rate swap held by PEO is eligible for hedge accounting. To be eligible for hedge accounting, an instrument must meet certain criteria with respect to identification, designation and documentation. In addition, the critical terms of the derivative financial instrument must match the specific terms and conditions of the hedged item. The fair

value of derivative instruments eligible and qualifying for hedge accounting is generally not recognized on the balance sheet. Gains and losses on such instruments are recognized in income in the same period as those of the hedged item.

Interest on the hedged item is recognized using the instrument's stated interest rate plus or minus amortization of any initial premium or discount and any financing fees and transaction costs. Net amounts receivable or payable on the interest rate swap are recorded on the accrual basis of accounting and are recognized as an adjustment to interest on the hedged item in the period in which they accrue.

PEO may only discontinue hedge accounting when one of the following situations arises:

- (a) The hedged item or the hedging item ceases to exist other than as designated and documented; or
- (b) The critical terms of the hedging item cease to match those of the hedged item, including, but not limited to, when it becomes probable that an interest-bearing asset or liability hedged with an interest rate swap will be prepaid.

When a hedging item ceases to exist, any gain or loss incurred on the termination of the hedging item is recognized as an adjustment of the carrying amount of the hedged item.

When a hedged item ceases to exist, the critical terms of the hedging item cease to match those of the hedged item, or it is no longer probable that an anticipated transaction will occur in the amount designated or within 30 days of the maturity date of the hedging item, any gain or loss is recognized in net income.

(c) Revenue recognition

Licence fee revenue, excluding the portion related to the building fund, is recognized as income on a monthly basis over the licence period. Building fund revenue is recognized into income at the commencement of the licence period. Other revenues are recognized when the related services are provided.

(d) Donated services

The association receives substantial donated services from its membership through participation on council and committees and as chapter executives. Donations of services are not recorded in the accounts of the association.

(e) Employee future benefits

Pension plans

The cost of PEO’s defined benefit pension plans are determined periodically by independent actuaries using the projected benefit method prorated on service. PEO uses the most recently completed actuarial valuation prepared for funding purposes (but not one prepared using a solvency, wind-up, or similar valuation basis) for measuring its defined benefit pension plan obligations. A funding valuation is prepared in accordance with pension legislation and regulations, generally to determine required cash contributions to the plan.

Other non-pension plan benefits

The cost of PEO’s non-pension defined benefit plan is determined periodically by independent actuaries. PEO uses an accounting actuarial valuation performed every three years for measuring its non-pension defined benefit plan obligations. The valuation is based on the projected benefit method prorated on service.

For all defined benefit plans PEO recognizes:

- (a) The defined benefit obligation, net of the fair value of any plan assets, adjusted for any valuation in the statement of changes in net assets; and
- (b) The cost of the plan for the year.

(f) Capital assets

Capital assets are recorded at cost. Amortization is calculated on the straight-line basis at the following annual rates.

Building	2%
Building improvements	5%
Building improvements—common area	3.3% to 10%
Computer hardware and software	33%
Furniture, fixtures and telephone equipment	10%
Audio visual	20%

The association’s investment in capital assets is included as part of net assets on the balance sheet.

(g) Use of estimates

The preparation of financial statements in conformity with Canadian accounting standards for not-for-profit organizations requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. Accounts requiring significant estimates and assumptions include capital assets, accrued liabilities and employee future benefits.

[FINANCIAL STATEMENTS]

3. CAPITAL ASSETS

			2015	2014
	Cost	Accumulated amortization	Net book value	Net book value
	\$	\$	\$	\$
Building	19,414,668	2,642,900	16,771,768	17,160,060
Building improvements	8,801,805	1,929,948	6,871,857	6,720,281
Building improvements—common area	8,729,628	1,923,392	6,806,236	5,024,462
Land	4,366,303	-	4,366,303	4,366,303
Computer hardware and software	2,402,030	2,078,747	323,283	283,030
Furniture, fixtures and telephone equipment	1,420,822	781,986	638,836	733,065
Audio visual	974,252	628,967	345,285	508,890
Work in progress	1,587,734	-	1,587,734	2,266,638
	47,697,242	9,985,940	37,711,302	37,062,729

4. BUILDING OPERATIONS

PEO maintains accounting records for the property located at 40 Sheppard Avenue West, Toronto, ON, as a stand-alone operation for internal purposes. The results of the operation of the building, prior to the elimination of recoveries and expenses related to PEO, are as follows:

	2015	2014
	\$	\$
Revenue		
Rental	748,664	802,831
Operating cost recoverable—tenants	1,120,249	1,045,263
Parking	130,500	136,950
Miscellaneous	127,603	98,021
	2,127,016	2,083,065
Operating cost recoverable—PEO	708,282	720,125
Total revenue	2,835,298	2,803,190
Recoverable expenses		
Utilities	516,349	493,924
Property taxes	449,510	452,923
Amortization	485,984	424,161
Payroll	236,916	245,526
Janitorial	204,674	219,356
Repairs and maintenance	179,295	121,885
Property management and advisory fees	82,618	80,878
Security	34,070	20,276
Administrative	20,045	25,009
Road and ground	18,720	32,552
Insurance	18,691	17,674
	2,246,872	2,134,164
Other expenses		
Interest expense on note and loan payable	441,172	484,986
Amortization of building	388,293	388,293
Amortization of deferred costs	61,172	56,323
Other non-recoverable expenses	15,451	19,244
	906,088	948,846
	3,152,960	3,083,010
Excess of revenue over expenses	(317,662)	(279,820)

For purposes of the statement of revenue, expenses and changes in net assets, the operating cost reimbursements from PEO have been eliminated. The portion of costs allocated to PEO is reallocated from building operations and is included in occupancy costs.

	2015	2014
	\$	\$
Building revenue per above	2,835,298	2,803,190
Eliminated PEO portion	(708,282)	(720,125)
	2,127,016	2,083,065
Building expenses per above	3,152,960	3,083,010
Eliminated PEO portion	(708,282)	(720,125)
	2,444,678	2,362,885

5. BUILDING FINANCING

In 2009, the association financed \$14,100,000 of the cost of its building acquisition with a credit facility from the Bank of Montreal, Capital Markets Division. The facility is secured by a first mortgage on the property located at 40 Sheppard Avenue West, a general security agreement, and a general assignment of tenant leases. The facility is repayable in monthly installments of principal plus interest maturing on March 11, 2019, and bears a floating interest rate based on variable bankers' acceptances. The balance outstanding at December 31, 2015 is \$8,467,000.

Principal repayments are due as follows:

	\$
2016	928,000
2017	952,000
2018	980,000
2019	5,607,000
	8,467,000

The association has entered into a swap agreement related to this loan, whereby the floating rate debt is swapped for a fixed rate debt with an interest rate of 4.95 per cent and settled on a net basis. The notional value of the swap is \$14,100,000. The start date of the swap was March 11, 2009, with a maturity date of March 11, 2019.

6. EMPLOYEE FUTURE BENEFITS

The association's pension plans and post-retirement benefits plan covering participating employees (full time and retirees) are defined benefit plans as defined in section 3463 of the *CPA Canada Handbook*. The pension plans provide pension benefits based on length of service and final average earnings. The post retirement benefits plan provides hospitalization, extended health care and dental benefits to active and retired employees. Participation in the pension plans and benefits plan (for post retirement benefits) has been closed to all new employees as of May 1, 2006. All employees joining after this date have the option of participating in a self-directed RRSP (registered retirement savings plan). During the year, the association recorded \$202,951 (2014-\$181,383) in employer contributions to the self-directed RRSP.

[FINANCIAL STATEMENTS]

The funded status of the association's pension plans and post-retirement benefit plan using actuarial assumptions as of December 31, 2015, was as follows:

	Basic pension plan	Supplemental pension plan	Other non-pension benefit plan	Total
	\$	\$	\$	\$
Accrued benefit obligation	(22,882,200)	(1,596,800)	(12,402,500)	(36,881,500)
Plan assets at fair value	22,024,600	1,782,000	-	23,806,600
Funded status—plan surplus (deficit)	(857,600)	185,200	(12,402,500)	(13,074,900)
Valuation allowance	-	-	-	-
Defined benefit asset, net of valuation allowance	(857,600)	185,200	(12,402,500)	(13,074,900)

The funded status of the association's pension plans and post-retirement benefit plan using actuarial assumptions as of December 31, 2014, was as follows:

	Basic pension plan	Supplemental pension plan	Other non-pension benefit plan	Total
	\$	\$	\$	\$
Accrued benefit obligation	(21,671,300)	(1,563,500)	(11,810,300)	(35,045,100)
Plan assets at fair value	22,081,200	1,810,800	-	23,892,000
Funded status—plan surplus (deficit)	409,900	247,300	(11,810,300)	(11,153,100)
Valuation allowance	-	-	-	-
Defined benefit asset, net of valuation allowance	409,900	247,300	(11,810,300)	(11,153,100)

PEO measures its defined benefit obligations and the fair value of plan assets for accounting purposes as at December 31 each year. The most recently completed actuarial valuation of the pension plans for valuation purposes was as of December 31, 2014. The most recent completed actuarial valuation of the non-benefit plan for accounting purposes was as of December 31, 2014.

7. NET ASSETS

The net assets of the association are restricted to be used at the discretion of council and includes the association's investment in capital assets of \$29,244,302 (2014—\$27,694,729).

8. COUNCIL DISCRETIONARY RESERVE

The council discretionary reserve is an internal allocation from the operating reserve used at the discretion of council to fund expenses related to special projects approved by council. Expenses from the discretionary reserve were as follows:

	2015	2014
	\$	\$
Legal reserve–Elliot Lake/other	45,061	3,339
Privacy policy review	24,689	45,913
Emerging Discipline Task Force	1,239	4,324
Experienced Practitioners Task Force	-	4,110
National Frame Work Task Force	-	2,829
	70,989	60,515

9. FULL-TIME SALARIES AND BENEFITS

During the year, the association incurred a total of \$10,734,613 (2014–\$10,367,673) for salary and benefits costs for its full-time staff, of which \$25,928 (2014–\$64,657) was directly attributable to special projects approved by council and disclosed under Note 8.

10. CHANGE IN NON-CASH WORKING CAPITAL ITEMS

	2015	2014
	\$	\$
Accounts receivable	(29,155)	(118,919)
Prepaid expenses and deposits	(21,446)	(31,139)
Accounts payable and accrued liabilities	789,656	(275,923)
Fees in advance and deposits	223,988	(76,033)
	963,043	(502,014)

11. CUSTODIAL ACCOUNT

The association maintains a separate bank account for the Council of Ontario Deans of Engineering. Cash totaling \$134,852 in this account (2014–\$128,207) is not reported on the association’s balance sheet, as it is held in trust for the Council of Ontario Deans of Engineering.

12. COMMITMENTS

The association has obligations under non-cancelable operating leases for various service agreements. The payments to the expiry of the leases and agreements are as follows:

	\$
2016	1,181,943
2017	606,934
2018	271,106
2019	233,280
2020	165,240
	2,458,503

13. CHAPTERS OF THE ASSOCIATION

The financial information of the 36 chapters of the association are individually not material and, therefore, have not been consolidated in these financial statements. Furthermore, management believes that the effort and cost required to prepare financial statements for each chapter for consolidation purposes far exceed the benefits of doing so.

During the year, the association paid chapter expenses totaling \$793,066 (2014–\$722,121), including \$510,000 (2014–\$500,000) in chapter allotments and \$283,066 (2014–\$222,121) in other disbursements to individual chapters. In 2015, the association also incurred additional costs of \$518,375 (2014–\$502,351) related to chapter operations including staff salaries and benefits, and for various support activities. These amounts have been included in the various operating expenses reported on the statement of revenue and expenses and changes in net assets.

14. FINANCIAL INSTRUMENTS AND RISK MANAGEMENT

Interest rate risk

PEO is exposed to interest rate risk, which is the risk that the fair values or future cash flows associated with its investments will fluctuate as a result of changes in market interest rates. Management addresses this risk through use of an investment manager to monitor and manage investments.

Liquidity risk

PEO’s objective is to have sufficient liquidity to meet its liabilities when due. PEO monitors its cash balances and cash flows generated from operations to meet its requirements. As at December 31, 2015, the most significant financial liabilities are: accounts payable and accrued liabilities, and long-term debt.

15. GOVERNMENT REMITTANCES

Accounts payables and accrued liabilities include \$206,097 (2014–\$225,477), with respect to government remittances payable at year end.

REGISTRAR'S FINANCIAL REPORT

FOR THE YEAR ENDED DECEMBER 31, 2015

PEO GENERATED AN EXCESS of revenue over expenses of \$1,002,165 before council discretionary reserve expenses for the 2015 fiscal year, as compared to a budgeted surplus of \$124,044. Highlights having an impact on performance include a reduction in expenses over budget of \$1,852,184, as management continued to control costs in light of economic conditions, offset by a decrease in revenues of \$974,063, primarily attributable to vacant space in PEO's building.

The excess of revenue over expenses was reduced by council discretionary reserve expenses of \$70,989. The investment in capital assets for the year was \$2,447,378 (\$2,124,541 in 2014) and PEO incurred no additional debt for these expenditures in 2015, as they were funded from PEO's cash reserves.

The closing balance in cash/investments was \$8,225,199 at the end of the year and net assets decreased to \$14,326,143, largely due to actuarial remeasurements of PEO's pension and benefits plans that resulted from a change in accounting standards that became effective in 2014.

REVENUE

Total revenue was \$23,715,419, which is 4 per cent below budget, due to unrealized rental revenue from vacant space that is yet to be leased. Approximately 64 per cent of revenue comprised P.Eng. licence revenue, which is consistent with budget expectations.

COST MANAGEMENT

Total expenses were \$22,713,254, which is \$1,852,184 or 8 per cent lower than budget. Major expense variances from budget are:

- Staff salaries and benefits/retiree and future benefits were \$1,173,531 lower than planned, offset by increased use of contract staff, which was \$231,499 above budget;
- Amortization costs were \$278,996 lower than budget;
- Volunteer expenses were \$137,798 lower than budget;
- Costs for purchased services were \$111,206 lower than budget;
- Computer and telephone expenses were \$110,077 lower than budget;
- PEO occupancy costs were \$85,731 lower than budget; and
- Chapters costs were \$57,079 lower than budget.

2015 BUDGET VARIANCES BY BUSINESS UNIT

Corporate Services

Expenditures were \$1,274,080 or 10 per cent under budget. The key variances within the department include lower than planned costs for retiree and staff future benefits of \$695,513, due to a change in accounting standards that positively impacted the future benefits expense; lower amortization costs, due to the timing in the completion of budgeted capital

projects (\$278,996); lower than budgeted costs for computers and telephone expenses because of lower costs for software, hardware and service maintenance contracts (\$116,060); lower than planned costs for building operations, largely due to lower amortization and non-recoverable expenses (\$52,378); lower facilities maintenance costs (\$54,621); a decrease in professional development costs (\$48,796); and lower than planned expenses for the internship program (\$86,301) and the Government Liaison Program (\$41,855). These savings were partially offset by higher than budgeted costs for maintaining PEO's web portal (\$35,675) and higher printing and photocopier costs (\$19,642).

Executive

Expenditures were \$45,127 or 6 per cent above budget, largely due to higher than budgeted audiovisual, meal, rental and other related costs for the president's townhall meetings (\$28,806), audit fees (\$9,936) and sponsorships and PR items (\$6,748). These increases were offset by lower than budgeted staff business expenses (\$16,110) for attending events representing PEO.

Licensing and Finance

Expenditures were largely in line with budget in 2015. Salaries and benefits costs were lower than budgeted (\$162,048) due to staff on maternity leave and positions that were filled later during the year. These costs were partially offset by higher than budgeted costs for contractors (\$67,352); for scanning records and setting, invigilating and marking exams (\$47,295); for mailing billings and membership cards and issuing licences, etc. (\$22,824); and transactions (\$21,442).

Regulatory Compliance

Expenditures were \$93,020 or 5 per cent below budget in 2015. Salaries and benefits were lower than budgeted (\$138,253) due to unfilled positions, which saving was offset by higher than

budgeted costs for contract staff (\$26,711) and legal costs for registration investigations and discipline prosecution (\$84,546).

Tribunals and Regulatory Affairs

Expenditures were \$514,267 or 15 per cent below budget. The key variances include lower than budgeted salaries and benefits (\$177,371) due to unfilled positions; lower than budgeted purchased services related to printing *Engineering Dimensions* and the *Journal of Policy Engagement* and meals and catering for committees and events (\$78,638); lower than budgeted volunteer expenses for meals, travel and accommodation for committee meetings and events (\$76,109); lower costs for independent counsel, tribunal fees and related costs for tribunal operations and the Registration and Discipline committees (\$72,526), and other savings across the department.

COUNCIL-DIRECTED INITIATIVES

For 2015, the net expenditures for the projects approved by council amounted to \$70,989. This figure includes \$45,061 for legal fees related to the conclusion of the Elliot Lake inquiry; \$24,689 for time spent by staff on review of the privacy policy and \$1,239 for time spent by staff on the Emerging Disciplines Task Force.

BUILDING OPERATIONS

The building generated \$2,835,298 in revenue, including PEO's share of recoverable expenses, but excluding the base rent that would have been paid if PEO had paid market rent for its space. Total recoverable expenses were \$2,246,872 and other expenses totalled \$906,088, thereby creating a deficiency of revenue over expenses of \$317,662 (after all expenses, including loan interest), as compared to a budgeted surplus of \$60,272. Total revenues were lower than budgeted by \$451,956 or 13.7 per cent, due to the loss of a major tenant and a delay in the leasing of other available space. Total expenses were under budget by 2.3 per cent. PEO's share of recoverable expenses totalled \$708,282. These costs were reclassified from building operations to occupancy costs in the financial statements. Since PEO is a not-for-profit organization, it received a preferred property tax rate (residential rate instead of commercial rate), thereby reducing PEO's overall occupancy cost. Total occupancy costs for 2015 were \$765,874, which included storage



and other occupancy costs. PEO's total accommodation expense (including interest) was \$1,207,046.

PEO occupied 39,100 square feet at December 31, 2015. The market rent of this space is approximately \$15 a square foot and operating costs are \$21.05 a square foot. Therefore, PEO's equivalent costs for rent and operating costs would have been \$1,409,555 for 2015, leading to a net value to PEO of \$202,509.

CAPITAL EXPENDITURES

Capital expenditures for the year totalled \$2,447,378, compared to \$2,124,542 in 2014.

Building improvements, which are improvements made to PEO's space, totalled \$593,219 for the year. The major project initiated in 2014 and closed in mid 2015 was the relocation and rebuild of the PEO reception area (\$551,486).

Base building improvements totalled \$2,267,757, which is recoverable from tenants. This includes HVAC upgrades on the fourth floor (\$966,574) and the eighth floor (\$416,241). Other projects are a gas-fired boiler replacement (\$493,020), upgrades to unit 105 (\$188,217) and some smaller improvements.

PEO invested \$237,773 in computer hardware and software during 2015. The projects consisted of outsourcing the IT infrastructure (\$92,733), desktop computer replacement (\$52,837) and several smaller projects.

Spending on audiovisual and furniture upgrades totalled \$27,534.

Work in progress (WIP) spending relates to the project to replace PEO LicenseEase database software with Aptify database software (\$272,748). This software replacement project is expected to be completed in March 2016.

All of PEO's capital expenditures in 2015 were funded from PEO's cash reserves.

CONCLUSION

The association has managed its affairs responsibly and has produced a sizable surplus for the year, leaving 2015 with a healthy reserve to carry out its regulatory mandate in the public interest. Σ

COUNCIL APPROVES STRATEGY TO LICENSE COMMUNICATIONS INFRASTRUCTURE ENGINEERING PRACTITIONERS

505TH MEETING, MARCH 10, 11, 2016

By Jennifer Coombes

COUNCIL HAS APPROVED adding a new strategy to PEO's 2015-2017 Strategic Plan to actively license those doing professional engineering in the emerging discipline of communications infrastructure engineering (CIE).

The new strategy, 2.4-Communications Infrastructure Engineering Outreach and Licensure, directs the chairs of the Emerging Disciplines Task Force (EDTF), and the Academic Requirements (ARC), Experience Requirements (ERC) and Licensing (LIC) committees to work with the deputy registrar, licensing and registration, to develop and implement a strategy to license a "critical mass" of practitioners in this discipline.

The strategy follows on from recommendations made in the CIE Task Group Phase 2 report, which

was presented to council at its November 2013 meeting. Recommended actions to implement this new strategy include:

- developing clear objectives and success criteria for approval by council;
- creating a communication and stakeholder relations plan for the regulation of CIE;
- assigning a full-time project manager to execute a communication and stakeholder relations plan; and
- tracking the achievement of plan objectives.

The deputy registrar, licensing and registration, will develop and implement this licensure strategy in consultation with the chairs of the EDTF, ARC, ERC and LIC to license a given number of CIE applicants in a set timeframe.

PEO DIRECTORS ON ENGINEERS CANADA BOARD

At the March meeting, council appointed David Brown, P.Eng., BDS, C.E.T., as a PEO director on the Engineers Canada board, effective May 28 at the 2016 Engineers Canada annual meeting of members. Council also re-appointed Rakesh Shreewastav, P.Eng., AVS, FEC, as a PEO director, beginning his new term May 28. Shreewastav has served on the Engineers Canada board since 2013.

OSPE MEMBERSHIP FEE REIMBURSEMENT

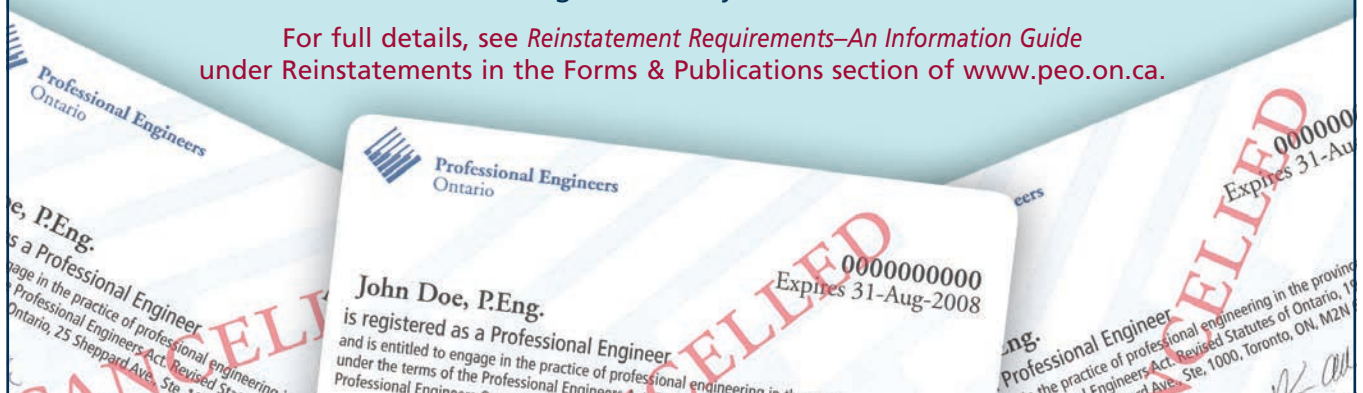
Council has decided PEO will, on request, reimburse Ontario Society of Professional Engineers (OSPE) membership fees for PEO P.Eng. councillors, while serving on council, and PEO P.Eng. staff, while employed by PEO, who join the engineering advocacy body. An \$8,100 budget for the 2016 fees has been earmarked from the budget surplus for this purpose. Σ

DID YOU KNOW?

Licence holders looking to reinstate their licences are subject to rules under Regulation 941.

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

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



CAREERS & CLASSIFIED

For information on career and classified advertising, contact:

Beth Kukkonen
Dovetail Communications
905-886-6640, ext. 306
fax: 905-886-6615
bkukkonen@dvetail.com

CONSULTING PRACTICE FOR SALE

Live in one of the best locations in Canada!

Thriving professional Consulting Structural Engineering practice in Victoria, BC. Established in 1980 and covering residential, commercial and light industrial projects in BC, mostly located on southern Vancouver Island. Available from June 2016, terms negotiable.

Contact romc@telus.net with subject Acquisition.

AD INDEX

Bluebeam Software www.bluebeam.com	p. 80
Chrysler Canada www.chrysler.ca	p. 11
Con Cast Pipe www.concastpipe.com	p. 23
Manulife Financial www.manulife.ca	p. 79
SAR Associates www.sarsystems.com	p. 16
TD Meloche Monnex www.melochemonnex.com	p. 15
Thurber Engineering Ltd. www.thurber.ca	p. 13
University of British Columbia www.ubc.ca	p. 17
University of Waterloo uwaterloo.ca	p. 2, 9

Did You Know? YOU'RE IN CHARGE OF YOUR SUBSCRIPTION



Manage your magazine subscription with the click of a button. Visit www.peo.on.ca and click on the Pay Fees/Manage Account tab to update your email address or change the *Engineering Dimensions* delivery options in your online profile.

WHOM TO CONTACT AT PEO

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

EXECUTIVE

Registrar
Gerard McDonald, MBA, P.Eng. 1102
Senior executive assistant
Becky St. Jean 1104

LICENSING AND REGISTRATION

Deputy registrar, licensing and registration
Michael Price, P.Eng., MBA, FEC 1060
Manager, admissions
Moody Farag, P.Eng. 1055
Manager, registration
Lawrence Fogwill, P.Eng. 1056
Manager, licensure
Pauline Lebel, P.Eng. 1049
Supervisor, examinations
Anna Carinci Lio 1095

REGULATORY COMPLIANCE

Deputy registrar, regulatory compliance
Linda Latham, P.Eng. 1076
Manager, enforcement
Cliff Knox, P.Eng., MBA 1074
Manager, complaints and investigations
Ken Slack, P.Eng. 1118

TRIBUNALS AND REGULATORY AFFAIRS

Deputy registrar, tribunals and regulatory affairs
Johnny Zuccon, P.Eng., FEC 1081
Director, policy and professional affairs
Bernard Ennis, P.Eng. 1079
Manager, tribunals
Salvatore Guerriero, P.Eng., LL.M. 1080
Manager, policy
Jordan Max 1065
Manager, standards & practice
José Vera, P.Eng., MEPP 647-259-2268

COMMUNICATIONS

Director, communications
Connie Mucklestone 1061
Editor, *Engineering Dimensions*
Jennifer Coombes 1062
Manager, communications
David Smith 1068

CORPORATE SERVICES

Chief administrative officer
Scott Clark, B.Comm, LLB, FEC (Hon) 1126
Manager, government liaison program
Jeannette Chau, MBA, P.Eng. 647-259-2262

Acting manager, EIT programs
Tracey Caruana, P.Eng. 1107
Director, people development
Fern Gonçalves, CHRL 1106
Committee Coordinator
Viktoria Aleksandrova 416-224-1100, ext. 1207
Recognition coordinator
Rob Dmochewicz, MPR 416-224-1100, ext. 1210
Human resources specialist
Olivera Tosic, CHRP 416-224-1100, ext. 1114
Manager, secretariat
Ralph Martin 1115
Manager, chapters
Matthew Ng, P.Eng., MBA 1117

FINANCE

Director, finance
Chetan Mehta, MS, MBA 1084
Manager, financial services & procurement
Peter Cowherd, CPA, CMA 1090

INFORMATION TECHNOLOGY

Director, information technology
Zico Sarmento 1109
Senior IT project manager
Paula Habas 1108

PROFESSIONAL DIRECTORY

Your business card here will reach 80,000 professional engineers. Contact: Beth Kukkonen, Dovetail Communications, 905-886-6640, ext. 306, fax: 905-886-6615, bkukkonen@dvtail.com

DEADLINE FOR SEPTEMBER/OCTOBER 2016 IS JULY 25, 2016.
DEADLINE FOR NOVEMBER/DECEMBER 2016 IS SEPTEMBER 19, 2016.

SteelBuildingExperts

Using Manufacturer Designed Building Components?

Project Support for Steel Buildings, Cold-formed, Deck, Diaphragm, Composite Cladding, General Review

steelbuildingexperts.ca • 905 617-2729

K.H.

DAVIS

ENGINEERING CONSULTANTS LTD
structural | houses | small projects

WE'RE
SPECIALISTS
IN RESIDENTIAL
PROJECTS.

416 489 1228 WWW.KHDAVIS.COM

Accused of Professional Misconduct?



We can help you protect your reputation. James Lane has acted for numerous engineers in defending professional negligence claims and for professionals in various disciplines in defending professional conduct charges.

BERSENAS
JACOBSEN
CHOUEST
THOMSON
BLACKBURN
LLP

BARRISTERS, SOLICITORS

416-982-3807
www.lexcanada.com
jlane@lexcanada.com



JOHN XU P.E., P.Eng.
BROKER, TOP PRODUCER, PLATINUM CLUB
約翰徐 (647)996-4222
WWW.JOHNDXU.COM ✉ JOHNDXU@YAHOO.COM

Advertise Your Home In Both English & CHINESE Media · Free Home Evaluation
HomeLife New World Realty Inc., Brokerage 正直的人品, 凶狠的投資眼光

Process and Environmental Controls

- Oil-in-water monitors
- Level Controls
- Leak Alarms
- Gas Detection



100% Canadian Designed and Manufactured www.arjayeng.com

www.concretefloors.ca

Please visit us online for technical information & support



The Concrete Floor Contractors Association
Tel: 905-582-9825 E-mail: info@concretefloors.ca



Terraprobe since 1977

Consulting Geotechnical & Environmental Engineering
Construction Materials Inspection & Testing

subsurface investigations, foundations, tunnels, erosion, slope stability studies,
Phase 1 & 2 environmental site assessments, contamination studies,
ground water availability, hydrogeology, septic tile bed design, pavements,
soil, asphalt, concrete, steel, roofing, shoring design, retaining wall design

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

Sound Analysis

Sound Experience

Sound Results

Sound Solutions to
Acoustical Challenges

VALCOUSTICS

Canada Ltd.

Consulting Acoustical Engineers

Architectural and Environmental
Acoustics/Vibration

T: 905 764 5223 F: 905 764 6813
www.valcoustics.com solutions@valcoustics.com

To advertise within
the Professional
Directory, contact:

Beth Kukkonen
bkukkonen@dvtail.com
905.886.6640, ext 306

Experts in Measurement, Analysis & Control



ACOUSTICS



NOISE



VIBRATION



905-826-4546
answers@hgcengineering.com
www.hgcengineering.com

[LETTERS]

AM I A "RISK TO THE PUBLIC"?

I attended a PEO town hall meeting where most attendees opposed the proposed CPD program, including me. And I ask: Where did this concept of "risk to the public" get hatched? And who constitutes the public? Very few ordinary citizens (usually considered the public) even know a professional engineer, much less hire one. Is this the public we engineers supposedly put at risk?

I have been a P.Eng. since 1961, and during the many years since then, I did not realize I was such a risk. And what sort of risk did I (do I) create?

Most professional engineers I know have kept up to date in their fields so basically ran their own professional development. And with so many variants in the professional engineering field, who has the temerity to be able to ascertain that the supposed "risk" I create is more/less than that of another engineer? Any bureaucracy needed to "herd" 80,000 professional engineers into risk slots and then mandate and supervise how they should be "professionally developed" is unmanageable, to say the least. I am sure that there would be a large fee assessed to engineers to support this bureaucracy.

Surely, if implemented, a CPD system would also affect professional liability insurance rates, and obviously should lower them.

And how will this public, now deemed at risk, know that the engineer they hire meets the CPD criteria? Perhaps we will get another title to put after "P.Eng." such as "O.K."

How did all this evolve from a long-term, problem-plagued building whose serious conditions were ignored for years by local councils and agencies, and then certified "O.K." by an unlicensed engineer, after which a partial collapse and fatalities occurred?

William A. Este, P.Eng., Parry Sound, ON

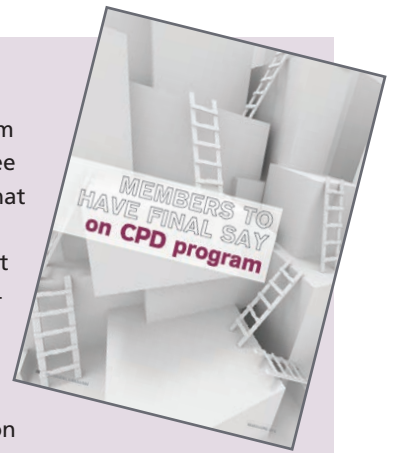
WELCOMING CPD

I see a lot of discussion over the CPD program. I am a recent grad, and although I am not excited to see more education ahead of me—after celebrating what I thought was an end of it—I welcome it. I don't think it is a complete fix, but it's a step in the right direction. Many of my peers went into apprenticeship programs after high school. The program provided professional direction, income, and exposed them to the field they would be working in right away. The entire engineering education system is missing this; most engineers never learn anything practical or receive any direction. The current system is more like the Wild West. You finish school and get a random engineering-related job, fill out some reports, write an ethics test and in four years you're a P.Eng.

Let me backtrack here. During my time at school I had many different professors, and met a lot of engineers through internships. These people all had expertise in a very niche field. For instance, my automotive professor once looked at a project I completed and asked me about where I had got the "crankshaft" I used in my project. It was a camshaft from a small block Chevy. I was stunned; he didn't know anything about engines? Yes, he was an automotive PhD, but he didn't know a camshaft from a crankshaft. I doubt he could even change his own oil. I'd bet Henry Ford knew how to change his own oil, so I don't see why a PhD automotive professor should be clueless about a camshaft.

Is it his fault? No. Nowhere in the education program for automotive engineering students is there a time you learn to change oil. The education system lacks practical knowledge. Every time I get a call from an engineer at work, the lack of practical knowledge frustrates me. Most of them are hopelessly clueless. The four years of work experience doesn't guarantee a single learning outcome. I hope the CPD program turns into something that changes the entire education system for engineers. And on that note, I will say I can see why a first-year apprentice in the trades earns more than the average engineer. Man, I'm going to love working outside for a change.

Matthew Dudman, EIT, Fenelon Falls, ON



STAINLESS STEEL FOR REBAR?

My specialty is finding nickel and chromite deposits and for many years I have wondered why stainless steel has not been used for rebar in construction or for water, oil and gas pipelines. In light of the current needs to replace infrastructure such as bridges, watermains and pipelines, would the use of stainless steel increase their lifespan and reduce long-term maintenance costs? Is there a simple answer that a fellow engineer might provide?

Scott Hogg, P.Eng., North York, ON



[LETTERS]

RE: RISK LEVEL AND CONTINUING PROFESSIONAL DEVELOPMENT

Your March/April 2016 issue of *Engineering Dimensions* reports professional development, applied voluntary or mandatory, as needed for “practice risk on the type and area of engineering work.”

These topics are related to the collapse of a parking deck on the retail mall at Elliot Lake’s former uranium-mine resource town, now “recycled” as a residential community for retired persons and seniors. The reported cause for failure was not technical design, but inspection by a Certificate of Authorization (C of A) member who disregarded repairing the corroded parking deck. Curiously, “risk assessment” reported so far does not include appraisal of the qualifications of a member both technically and conscientiously for providing services directly to the public.

Engineering evolved as a profession, rather than a technical skill, through elimination of risk to life and property by applying scientific principles practised with utmost responsibility for public well-being. Essential to the engineering profession is a dedication governed by personal mores and an active conscience, having impact far greater than can be imposed by statutory regulation on performance. The Canadian engineers’ iron ring proclaims this professional conscience emulated by Rudyard Kipling’s “Ritual of the Calling of an Engineer.”

While PEO regulations act retroactively in response to members deviating from multiple standards, public trust was given by PEO’s act for conscientious training, experience and examinations to allow competent performance on all engineering services.

Council, under the PEO act, early on created a consulting division with prescribed qualifications applicable to the practice of consultants. A C of A was also introduced. Business and member interest conflicting with professional responsibilities were reconstituted as CEO (Consulting Engineers of Ontario) and OSPE (Ontario Society of Professional Engineers). This change was made without retaining qualifications and examinations for a consulting practice formerly applicable to all members directly serving the public. The title of consulting engineer is awarded by council with all applicants being excused from examinations. Thus, there is no distinction or proscribed examinations between two types of members who offer services directly to the public:

1. C of A members with a title; and
2. C of A members without a title.

Considering the parking deck failure as an atypical professional error, identifying professional “risk” will have multiple components:

1. This unique residential town supports a community of vulnerable seniors who deserve special protection;
2. There are no examinations or supplementary licences that qualify members whose practice includes offering services directly to the public; and
3. Current provisions of the C of A allow excluding insurance for errors and omissions when accepted by a client who may not be well informed on risk for failure, which affects the public at large.

The greater risk to the public is held by the “gatekeeper” member responsible for the C of A practice. Member qualifications established by examination surely are a prerequisite to risk control and should be introduced for all Cs of A. Ongoing education is expected and essential for a professional to maintain public confidence in a vastly expanding field where professional expertise on public safety will be needed.

Roy H. Fletcher, P.Eng., FEC, Toronto, ON

Past chair, CED Subcommittee on Key Role and Examinations



BROKEN BOLT THEORY

I noticed the article by Michael Mastromatteo on the Nipigon River Bridge (*Engineering Dimensions*, March/April 2016, p. 16). Re the broken bolts, I had a similar problem way back in 1962 at the Lewiston-Queenston Bridge where we were using 12” A325 high tensile steel bolts. We noticed some bolts lying below the bridge and found them broken. Samples were sent to a number of New York state labs for chemical tests but the answer was not found. Then at the steel company that made them it was found that the foreman who was in charge was sick and his replacement who took over quenched the bolts as they came out of the furnace. He had been on anchor bolts before and that was the reason for the breakage. Thought you’d like to know this information just in case no answer is found.

Sam Elder, P.Eng., North York, ON

FUEL CELLS AT WHAT COST?

In the March/April issue of *Engineering Dimensions* a Queen's University academic presents an interesting proposal. It is suggested that the federal government be encouraged to fund research and development of a storage device for a fuel cell system to replace carbon producing energy derived from diesel systems used on remote Aboriginal reserves, about 300 in all. I presume such research would cost Canadian taxpayers hundreds of millions of dollars. Considering the funding presently allocated to the indigenous peoples, I find this proposal perplexing, to say the least.

Since the average unemployment rate on a remote reserve is in the order of 80 per cent, they pay no community tax; in fact they pay no tax on anything. The Canadian taxpayer is responsible for almost every dollar spent on the reserve from housing to food to snow machines, etc. But this is incidental.

As a result of the 2007 United Nations Declaration of Rights of Indigenous Peoples, the Aboriginals of Canada have declared rights to all of Canada, their so called "traditional lands" (Tom Flanagan, 2015, professor, University of Calgary). This declaration has resulted in the "consult and accommodate" rule enforced in particular by provinces of Ontario and BC. The rule applies to all natural resource projects, including mining, oil and gas, forestry and hydroelectric power, and all corridors projects, such as pipelines, power lines, railways and highways. In the consultation process, Aboriginals have free legal advice.

So from day one of a proposed mineral exploration project or a new pipeline, you are dealing with the best and most expensive legal people in the land. There is generally little delay in acquiring approval for initial exploration. However, if you get lucky and find a seemingly valuable deposit,



the negotiations become much more difficult and complex. Legal representatives for the Aboriginals are not prepared to present their requirements until hundreds of millions of dollars have been spent and the deposit is at the developmental stage. What are they looking for? A lot more than you expect.

The mineral resources at the Ring of Fire in Ontario is an example. The primary owner of this major new mineral belt, Cliffs Resources, walked away from the project after spending about a half billion dollars. A recent article in the *Timmins Press* provided the answer. The half dozen Aboriginal bands who considered the west James Bay Lowlands to be their traditional land are expecting management and maintenance control of a proposed new 200 km railroad into the deposit site. Lacking any experience with a railroad, the Aboriginals would have to contract the work to the ONR or CPR. The cost of transportation would be unknown but at least double normal cost. How do you prepare a mine feasibility report to satisfy financiers under such circumstances?

Now perhaps you can understand why there have been no new pipelines approved or mines commissioned in Ontario over the past five years. To suggest that the indigenous people of Canada are hard done by is very hard to fathom.

R. J. Bradshaw, P.Eng., Meaford, ON

FUEL CELLS NOT PRACTICAL

Re: "Fuel cell systems for remote communities," *Engineering Dimensions*, March/April 2016, p. 43

With all due respect, I was appalled that PEO would publish this article. For certain, it did not have peer review and to my mind it appears to mirror the level of term papers of senior high school.

It is superficial and devoid of reality. There are no figures, no costs, no list of references and it makes the assumption that fuel cell technology is at a mature and commercial stage. I struggle with the suggestion the author makes: "Because surplus hydrogen could be used to fuel automobiles in remote communities, the replacement of fossil fuel vehicles would further reduce pollution and decrease dependency on fuel imports," and "Installing a renewable hydrogen energy system could alleviate some of these problems by creating jobs, providing a sense of sustainability, fostering community pride and encouraging entrepreneurship."

Correct me if I am wrong, but we are talking about very small, very remote communities with periods of total seasonal darkness on permafrost with extreme winter temperatures and no readily accessible supply or technical support chain, yet reliability and the essential need for redundancy are not mentioned. Hydrogen has a very low calorific value and storage requires very high compressive pressures as well as metal hydride in the storage component. It is a gas very prone to leakage and can auto ignite. Fuel cell technology has not found practical applications outside of space missions, so most likely not an option in remote, inaccessible areas where it is difficult to maintain simpler, proven infrastructure technologies. But then the article does suggest sources of money for subsidy and "projects."

Please, engineers are held at marginal value by society. Let's not reinforce this by publishing articles just to fill space. Elio Comello, P.Eng., Camlachie, ON



AN INTEGRATED ENERGY SYSTEM

As a 55-year PEO member and purveyor of Canada's economic growth over the decades, I feel compelled to respond to the President's Message in the most recent *Engineering Dimensions* publication.

I compliment you with regards to efforts in maintaining a high standard and quality for our publication and leading the organization "in relevance and value of our profession" for the benefit of our society. I do have a significant difference of opinion with the remarks by Mr. Chong in his article where he said "bringing back Ontario's leadership in high technology and *shifting the country away from resource dependency.*"

This goal has merit but needs to be put into perspective. An argument for restoring growth, creating jobs, and increasing manufacturing competitiveness can be based upon the following simple equation: Productivity = Output/Input.

Canada's business CEOs put much emphasis on the denominator (input) and, when times get difficult, they reduce the denominator to stay competitive (and to further their own remuneration)—the unit cost of production is maintained by eliminating jobs (people cost). However, one can put emphasis on the numerator (output—where everyone benefits).

The most obvious mechanism for increasing the numerator is to encourage the creation of policies by the various levels of government and for CEOs to invest in and—here it comes—"add value" to those resources for which we already have established markets and customer relations. Basing economic

growth on resources, of which Canada has a bountiful inventory, and converting a significant portion into products that are further down the processing/fabricating/adding value chain would provide the means to stimulate economic development, provide a backbone for innovation and change Canada's reputation from being "hewers of wood, drawers of water and scrapers of tar."

To take advantage of our oil sands and continue to provide the world with the energy to lift millions out of poverty while meeting environmental constraints, Canada can offset GHG (greenhouse gas) impacts by, in parallel, developing the clean sources of energy, such as nuclear and water-based hydroelectricity—a Canadian integrated energy system. The system would need to be bereft of the silos at the provincial and federal ministerial levels that cater only to their individual constituencies rather than to the nation as a whole. This would be a real innovation!

If committed to such projects led by public/private co-operation, our nation would be consistent with its history and would provide the foundation for economic growth. There would follow unprecedented job and wealth creation through innovation, technology development, increased manufacturing competitiveness, favourable GDP impact and thereby support for small business entrepreneurship and service industry evolution.

In a carbon-constrained world, PEO has a role to ensure that it doesn't become an accessory to wealth destruction taking place on an extraordinary scale by exporting resources without adding value or to minimizing the potential inherent in those resources.

Walter Petryschuk, PhD, P.Eng., Sarnia, ON

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

Address letters to jcoombes@peo.on.ca.

whatif you were diagnosed with a critical illness?



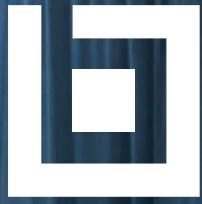
See how an Engineers Canada-sponsored Critical Illness Plan can help you.

1 877 598-2273 | manulife.com/PEO/CI



1 Canadian Cancer Statistics, 2013. 2 Heart & Stroke Foundation Statistics, 2013. 3 Colleen Nelson B.Ed, PBCE, "The Financial Hardship of Cancer in Canada: A Literature Review," Canadian Cancer Society, 2010. Underwritten by The Manufacturers Life Insurance Company. Manulife and the Block Design are trademarks of The Manufacturers Life Insurance Company and are used by it, and by its affiliates under licence. © 2016 The Manufacturers Life Insurance Company. All rights reserved.

The Manufacturers Life Insurance Company



BLUEBEAM
EXTREME
CONFERENCE
2016

AUGUST 15-17 • SAN DIEGO, CA

JOIN THE LEADING MINDS

FROM THE WORLD'S TOP ARCHITECTURE,
ENGINEERING & CONSTRUCTION FIRMS

Experience everything the conference has to offer:

Training Sessions • Industry Panels • Customer Roundtables • Keynote Address

Case Study Presentations • Guest Speakers • Networking Opportunities

...and more!

LEARN MORE

bluebeamextreme.com/peo



bluebeam®
A NEMETSCHEK COMPANY

No Limits®

© Copyright 2016 Bluebeam Software, Inc.